



# WATER-RIGHT DOCKET

## Buffalo National River

Docket No: 26

KYLES LANDING WELL.

Supporting Hydro Data

00-00-0000: buffalo national river, kyles well sample analysis

### Buffalo National River Kyles Well

KYLES

Interval  
Depth

Sample Description

|                 |                                                                                                                                                                |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0-10            | Sandy loam with very fine grains, well rounded sand, non-swelling brown clay                                                                                   |
| 10-20           | No change                                                                                                                                                      |
| 20-30           | Sandy loam, <del>μ</del> -very fine grains, well rounded sand and angular chert pebbles, non-porous grey to color less.                                        |
| Powell Dolomite |                                                                                                                                                                |
| 30-40           | Dolomite, very fine, angular, non-porous spicular, buff to grey, some dense cream chert pebbles.                                                               |
| 40-50           | Dolomite, <del>μ</del> -very fine, subangular, non-porous flaky, buff to grey.                                                                                 |
| 50-60           | No change.                                                                                                                                                     |
| 60-70           | Dolomite, <del>μ</del> -very fine, fragmental subangular, microsurf <del>ic</del> osic, dark grey.                                                             |
| 70-80           | Shale, sublighnographic, angular, flaky, non-porous, banded dark grey light grey with cream chert inclusions, slightly <del>dolomite</del> <i>calcareous</i> . |
| 80-90           | Dolomite <del>μ</del> -fine, angular non-porous, spicular lt. grey to cream.                                                                                   |
| 90-100          | Dolomite, <del>μ</del> -fine, angular some fine rounded sandgrains.                                                                                            |
| 100-110         | Shale, sublithic, sharp to angular flakes, black to grey.                                                                                                      |
| 110-120         | Dolomite, <del>μ</del> -very fine, flaky non-porous, banded dark grey to cream.                                                                                |
| 120-130         | Shale, sublithic, angular subcrystalline, flaky black to grey.                                                                                                 |
| 130-140         | Dolomite, <del>μ</del> -very fine, irregular cutting shapes, light grey.                                                                                       |
| 140-150         | Shale, sublithic, angular, light blue to grey.                                                                                                                 |
| 150-160         | Shale slightly dolomitic, angular flaky, non-porous, black.                                                                                                    |

|         |                                                                                                                  |
|---------|------------------------------------------------------------------------------------------------------------------|
| 160-170 | Dolomite, <del>M</del> -very fine, flaky non-porous banded, spotted, light grey dark grey.                       |
| 170-180 | Dolomite <del>M</del> -very fine subangular, microsu <sup>C</sup> rosic banded spotted, light grey to dark grey. |
| 180-190 | No change.                                                                                                       |
| 190-200 | Shale, sublithic, angular, flaky, non-porous, dark grey.                                                         |
| 200-210 | No change.                                                                                                       |

CUSTOMER **National Park Service**  
 ADDRESS **P.O. Box 728**  
 CITY  
 ATTENTION **Santa Fe, NM 87501**  
 INVOICE NO. **Gary Moore**  
**101206**

# REPORT OF ANALYSIS

|                                  |                                     |                              |
|----------------------------------|-------------------------------------|------------------------------|
| SAMPLES RECEIVED <b>12/31/80</b> |                                     | CUSTOMER ORDER NUMBER        |
| TYPE OF ANALYSIS <b>Water</b>    |                                     | Date Collected <b>8/8/80</b> |
| <u>Sample Identification</u>     | <u>Type of Analysis</u>             | <u>mg/l</u>                  |
| Kyles Landing Well               |                                     |                              |
| by: G. Moore                     | Bicarbonate (as CaCO <sub>3</sub> ) | 160                          |
|                                  | Calcium                             | 45                           |
|                                  | Carbonate                           | < 1.0                        |
|                                  | Chloride                            | 16                           |
|                                  | Fluoride                            | 0.31                         |
|                                  | Hardness (as CaCO <sub>3</sub> )    | 218                          |
|                                  | Calcium (Hardness)                  | 112                          |
|                                  | Magnesium (Hardness)                | 91                           |
|                                  | Non-Carbonates                      | 58                           |
|                                  | Iron                                | < 0.01                       |
|                                  | Manganese                           | < 0.001                      |
|                                  | Nitrogen, Nitrate (as N)            | < 0.1                        |
|                                  | pH Units                            | 8.0                          |
|                                  | Potassium                           | 3.7                          |
|                                  | Silica                              | 9.8                          |
|                                  | Sodium                              | 10                           |
|                                  | Solids, Total Dissolved             | 233                          |
|                                  | Specific Conductance umhos/cm       | 430                          |
|                                  | Sulfate                             | 47                           |



Controls for Environmental Pollution, Inc.

P.O. Box 5351 • 1925 Rosina • Santa Fe, New Mexico 87502  
 Telephone 505/982-9841

APPROVED BY *Elmer D. Martinez*  
 1/29/81 Elmer D. Martinez, Operations Division  
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[illegible]

Location: *Kyles Landing*  
 Date: *8-8-1980*  
 Observers: *Christensen, Moore*

## RECOVERY DATA

| Clock Time<br>(hour) | Time, Pump Start<br>(t, min) | Time, Pump Stop<br>(t', min) | Ratio<br>(t/t') | Water Level<br>(BTC, ft.) | RESIDUAL<br>DRAWDOWN, ft<br><del>Drawdown from<br/>Pumping Curve</del> | Calculated<br>Recovery |
|----------------------|------------------------------|------------------------------|-----------------|---------------------------|------------------------------------------------------------------------|------------------------|
| 1510                 | 10                           | 0                            | —               | 191.75                    | 156.17                                                                 |                        |
| 1511                 | 11                           | 11.0                         | 11.0            | 186.54                    | 150.96                                                                 |                        |
|                      | 12                           | 2                            | 6.00            | 177.17                    | 141.59                                                                 |                        |
|                      | 13                           | 3                            | 4.33            | 167.58                    | 132.00                                                                 |                        |
|                      | 14                           | 4                            | 3.50            | 161.17                    | 125.59                                                                 |                        |
|                      | 15                           | 5                            | 3.00            | 154.88                    | 119.30                                                                 |                        |
|                      | 16                           | 6                            | 2.67            | 151.81                    | 116.23                                                                 |                        |
|                      | 17                           | 7                            | 2.43            | 148.71                    | 113.13                                                                 |                        |
|                      | 18                           | 8                            | 2.25            | 145.33                    | 109.75                                                                 |                        |
|                      | 19                           | 9                            | 2.11            | 143.17                    | 107.59                                                                 |                        |
| 1520                 | 20                           | 10                           | 2.00            | 139.25                    | 103.67                                                                 |                        |
|                      | 22                           | 12                           | 1.83            | 133.79                    | 98.21                                                                  |                        |
|                      | 24                           | 14                           | 1.71            | 127.92                    | 92.34                                                                  |                        |
|                      | 26                           | 16                           | 1.63            | 122.92                    | 87.34                                                                  |                        |
|                      | 28                           | 18                           | 1.56            | 116.92                    | 81.34                                                                  |                        |
| 1530                 | 30                           | 20                           | 1.50            | 112.96                    | 77.38                                                                  |                        |

**RESIDUAL  
DRAWDOWN**  
~~Drawdown from~~  
~~Pumping Curve~~

[illegible]

Location: Kyles Landing  
Date: 8-8-80  
Observers: Christensen, Moore

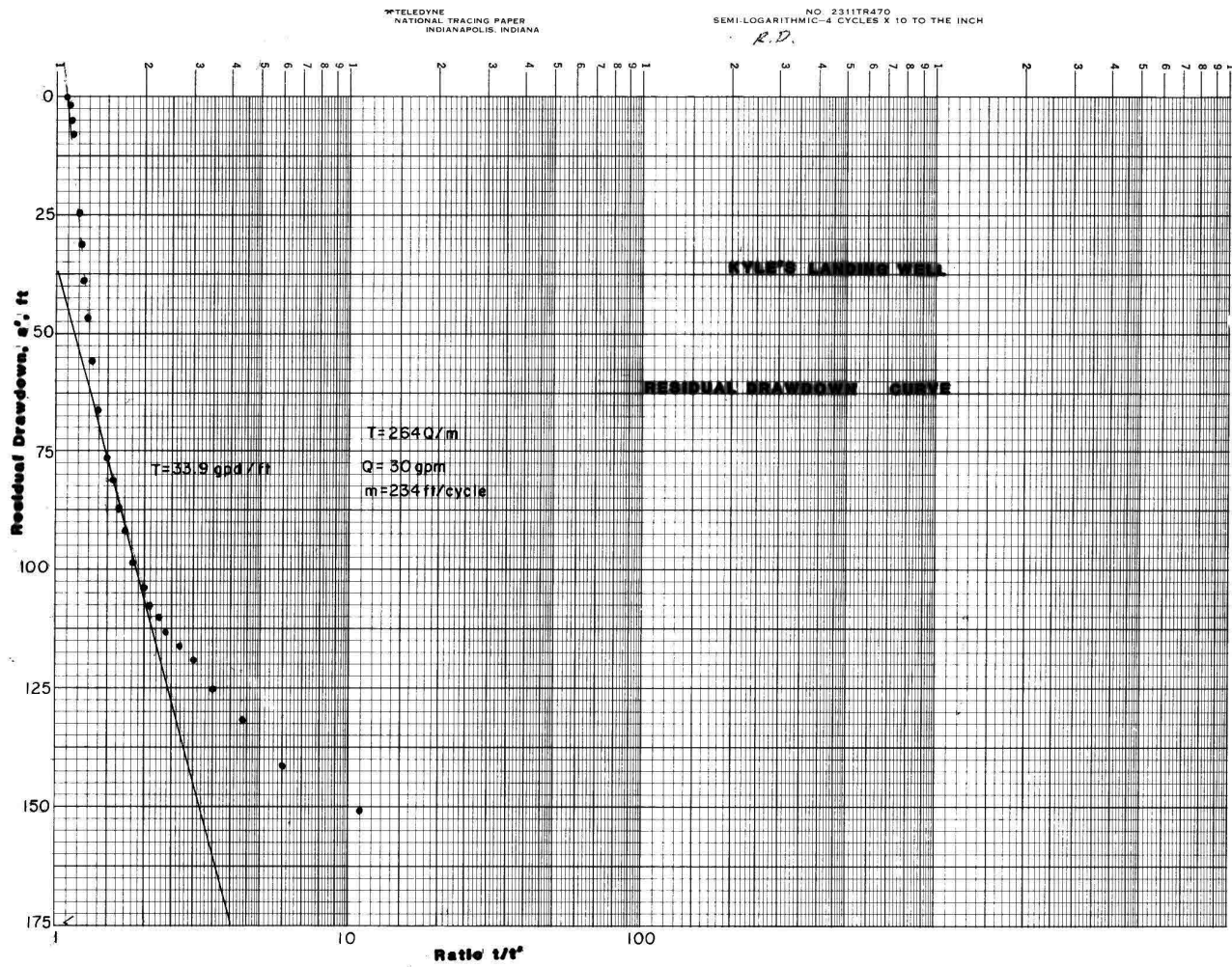
DRAWDOWN DATA

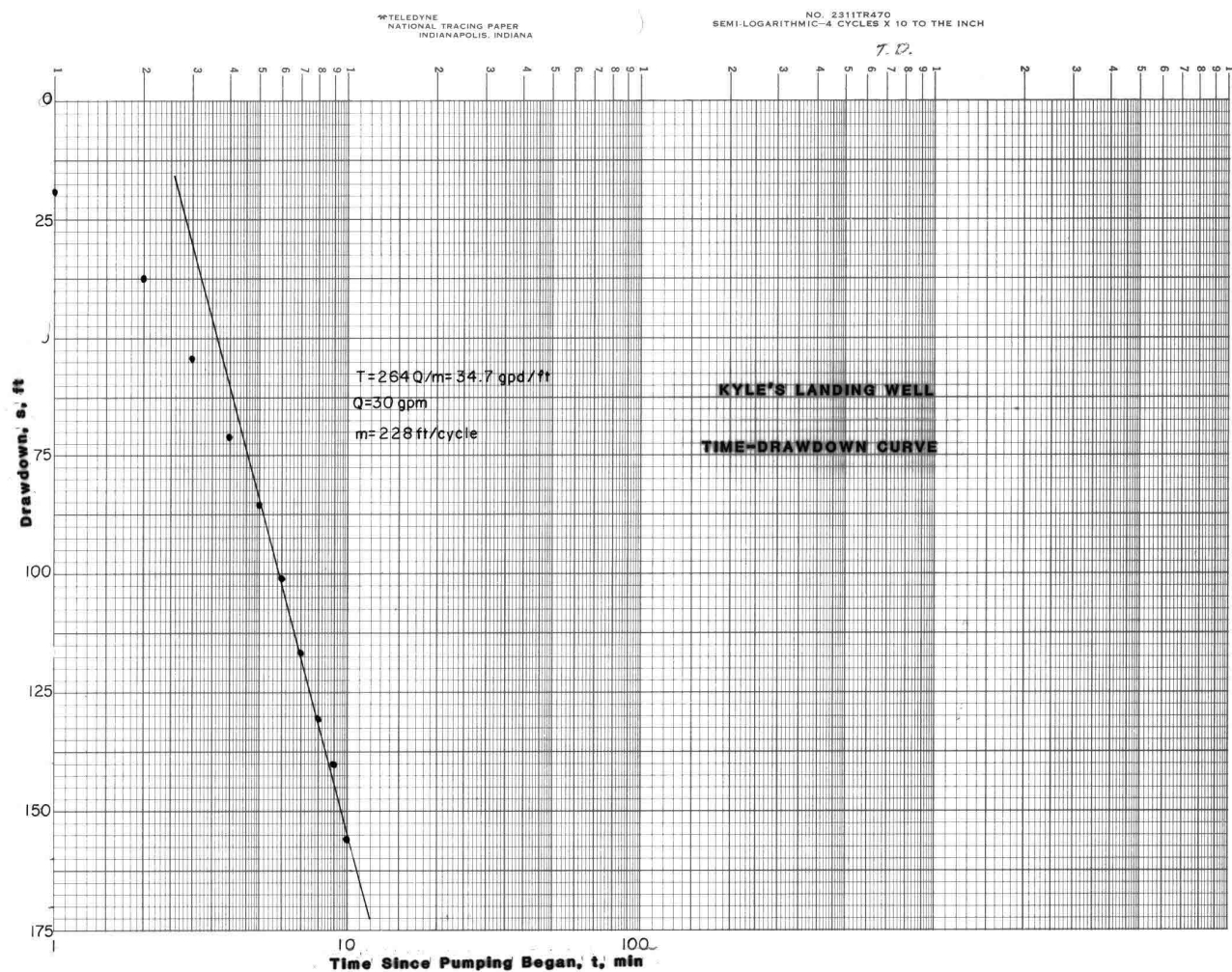
| <u>Clock Time</u><br><u>(hour)</u> | <u>Pumping Time</u><br><u>(min)</u> | <u>Water Level</u><br><u>BTC (feet)</u> | <u>Drawdown</u><br><u>(feet)</u> | <u>Specific</u><br><u>Capacity</u> | <u>Remarks</u>               |
|------------------------------------|-------------------------------------|-----------------------------------------|----------------------------------|------------------------------------|------------------------------|
| 1500                               | 0                                   | 35.58                                   | 0                                |                                    | SWL=35.58 Static Water Level |
|                                    | 1                                   | 54.29                                   | 18.71                            |                                    |                              |
|                                    | 2                                   | 73.13                                   | 37.55                            |                                    |                              |
|                                    | 3                                   | 90.00                                   | 54.42                            |                                    |                              |
|                                    | 4                                   | 106.70                                  | 71.13                            |                                    |                              |
|                                    | 5                                   | 121.25                                  | 85.67                            |                                    | BP=100 psi                   |
|                                    | 6                                   | 137.50                                  | 101.92                           |                                    |                              |
|                                    | 7                                   | 152.50                                  | 116.92                           |                                    | BP=100 psi                   |
|                                    | 8                                   | 165.67                                  | 130.09                           |                                    |                              |
|                                    | 9                                   | 175.63                                  | 140.05                           | 0.21 gpm/ft                        | 30 gpm                       |
| 1510                               | 10                                  | 191.75                                  | 156.17                           | 0.19                               | pump off; well dry           |

Location: Kyles Landing  
 Date: 8-8-80  
 Observers: Christensen, Moore

RECOVERY DATA

| <u>Clock Time</u><br><u>(hour)</u> | <u>Time, Pump Start</u><br><u>(t, min)</u> | <u>Time, Pump Stop</u><br><u>(t', min)</u> | <u>Ratio</u><br><u>(t/t')</u> | <u>Water Level</u><br><u>(BTC, ft.)</u> | <u>Residual</u><br><u>Drawdown</u> | <u>Calculated</u><br><u>Recovery</u> |
|------------------------------------|--------------------------------------------|--------------------------------------------|-------------------------------|-----------------------------------------|------------------------------------|--------------------------------------|
| 1510                               | 10                                         | 0                                          |                               | 191.75                                  | 156.17                             |                                      |
| 1511                               | 11                                         | 1                                          | 11.0                          | 186.54                                  | 150.96                             |                                      |
|                                    | 12                                         | 2                                          | 6.00                          | 177.17                                  | 141.59                             |                                      |
|                                    | 13                                         | 3                                          | 4.33                          | 167.58                                  | 132.00                             |                                      |
|                                    | 14                                         | 4                                          | 3.50                          | 161.17                                  | 125.59                             |                                      |
|                                    | 15                                         | 5                                          | 3.00                          | 154.88                                  | 119.30                             |                                      |
|                                    | 16                                         | 6                                          | 2.67                          | 151.81                                  | 116.23                             |                                      |
|                                    | 17                                         | 7                                          | 2.43                          | 148.71                                  | 113.13                             |                                      |
|                                    | 18                                         | 8                                          | 2.25                          | 145.33                                  | 109.75                             |                                      |
|                                    | 19                                         | 9                                          | 2.11                          | 143.17                                  | 107.59                             |                                      |
| 1520                               | 20                                         | 10                                         | 2.00                          | 139.25                                  | 103.67                             |                                      |
|                                    | 22                                         | 12                                         | 1.83                          | 133.79                                  | 98.21                              |                                      |
|                                    | 24                                         | 14                                         | 1.71                          | 127.92                                  | 92.34                              |                                      |
|                                    | 26                                         | 16                                         | 1.63                          | 122.92                                  | 87.34                              |                                      |
|                                    | 28                                         | 18                                         | 1.56                          | 116.92                                  | 81.34                              |                                      |
| 1530                               | 30                                         | 20                                         | 1.50                          | 112.96                                  | 77.38                              |                                      |
| 1535                               | 35                                         | 25                                         | 1.40                          | 101.79                                  | 66.21                              |                                      |
|                                    | 40                                         | 30                                         | 1.33                          | 91.46                                   | 55.88                              |                                      |
|                                    | 45                                         | 35                                         | 1.29                          | 82.50                                   | 46.92                              |                                      |
|                                    | 50                                         | 40                                         | 1.25                          | 74.31                                   | 38.73                              |                                      |
|                                    | 55                                         | 45                                         | 1.22                          | 67.33                                   | 31.75                              |                                      |
| 1600                               | 60                                         | 50                                         | 1.20                          | 60.19                                   | 24.59                              |                                      |
| 1621                               | 81                                         | 71                                         | 1.14                          | 43.19                                   | 7.61                               |                                      |
| 1626                               | 86                                         | 76                                         | 1.13                          | 40.75                                   | 5.17                               |                                      |
| 1636                               | 96                                         | 86                                         | 1.12                          | 37.38                                   | 1.80                               |                                      |
| 1722                               | 142                                        | 132                                        | 1.08                          | 35.75                                   | 0.17                               |                                      |





#### Docket Information

Number of Documents in Docket 10

Documents Dated from 8/8/1980 to 1/29/1981

Docket Compiled: 4/11/2011