MONTANA BUREAU OF MINES AND GEOLOGY
Butte, Montana

WATER WELL LOG

<table>
<thead>
<tr>
<th>Owner</th>
<th>George Smith</th>
<th>Address</th>
<th>Stanford, Mont.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driller</td>
<td>O. C. Thatcher</td>
<td>Address</td>
<td>Stanford, Mont.</td>
</tr>
<tr>
<td>Date Started</td>
<td>Sept 24</td>
<td>Date Completed</td>
<td>Oct 26, 1937</td>
</tr>
<tr>
<td>Location</td>
<td>Sec 24, T. 15 R. 20</td>
<td>Sec NE 1/4 NW 1/4</td>
<td></td>
</tr>
</tbody>
</table>

Type of well: Rotary Drilled
Equipment used: Rotary on Truck

Water use: Domestic [ ]  Municipal [ ]  Stock [ ]  Irrigation [ ]
Industrial [ ]  Drainage [ ]  Other: [ ]

Casing: 3 ft. to 25 ft.  Type: galvanized  Size: 2 inch
Casing: [ ] ft. to [ ] ft.  Type: [ ]  Size: [ ]
Casing: [ ] ft. to [ ] ft.  Type: [ ]  Size: [ ]
Perforated or Screen: 25 to 255 ft.  Type: cut in pipe
Type of screen or perforations: [ ]
Static Water level, for non-flowing well: [ ] feet.
Shut-in pressure, for flowing well: [ ] lb./sq. in. on: [ ] (date)
Pumping water level: [ ] feet at: [ ] gal. per min.
How tested: [ ]
Length of test: [ ]
Remarks: (Gravel packing, cementing, packers, type of shut-off, depth of shut-off)

(over)
Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. Clarence R. Smith or Little & Davidson
   County of Berthoud State of Montana
   have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

   2. The beneficial use on which the claim is based: stockwater
      Continuously

   3. Date or approximate date of earliest beneficial use, and how continuous the use has been:
      \[ \frac{1}{2} = \frac{1}{2} + \frac{1}{2} \text{ per minute} \]
      Continuously

   4. The amount of groundwater claimed (in miner's inches or gallons per minute):
      \[ \frac{1}{2} = \frac{1}{2} + \frac{1}{2} \text{ per minute} \]

   5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof.

   6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal.

   7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater.

   8. The depth of water table.

   9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater.

   10. The estimated amount of groundwater withdrawn each year:
      \[ \frac{1}{2} = \frac{1}{2} + \frac{1}{2} \quad \frac{1}{2} = \frac{1}{2} + \frac{1}{2} \text{ per year} \]

   11. The log of formations encountered in the drilling of each well if available.

   12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record.

Signature of Owner: Clarence R. Smith
Date: Dec. 30, 1962

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights
(Under Chapter 237, Montana Session Laws, 1961)

Joe Kovach
of. Gift Edge Route, Lewistown

County of Fergus State of Montana

have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

1. The beneficial use on which the claim is based upon use.
   The red colors represent land owned by me.

2. Date or approximate date of earliest beneficial use; and how continuous the use has been. Used continuously for stock water. o represents springs all used for stock water.

3. The amount of groundwater claimed (in miner's inches or gallons per minute). 300 miner's inches for use of water from springs.

4. If used for irrigation, give the sewage and description of the lands to which water has been applied and name of the owner thereof. None for irrigation. Except for less than one acre for garden.

5. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal. There is one well marked "W" in NE1/4SW1/4, Section 30.

6. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater. Well sunk in 1948 - 64 feet deep. Well is used for domestic purposes.

7. The depth of water table. Approximately 65 feet to 80 feet.

8. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater. The well is a drilled well with a pump.

9. The log of formations encountered in the drilling of each well if available. Not available.

10. The estimated amount of groundwater withdrawn each year. Don't know how to estimate. Probably a barrel per day.

11. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record. No county record.

Signature of Owner: [Signature]
Date: December 11, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to County Clerk and Recorder; duplicate to the State Engineer; triplicate to the Montana Bureau of Mines and Geology and quadruplicate for the Appropiator.
### MONTANA BUREAU OF MINES AND GEOLOGY

Butte, Montana

#### WATER WELL LOG

<table>
<thead>
<tr>
<th>Owner</th>
<th>Eugene S. Wishk</th>
<th>Address</th>
<th>Butte, Montana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driller</td>
<td>Wm. H. Monroe &amp; Sons Co.</td>
<td>Address</td>
<td>Butte, Montana</td>
</tr>
<tr>
<td>Date Started</td>
<td>Sept. 30, 1957</td>
<td>Date Completed</td>
<td>Oct. 7, 1959</td>
</tr>
<tr>
<td>Location</td>
<td>Sec. 14, T. 15, R. 21 E. sec. 5 W. 5.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Type of well
- **Drilled**
- **Rotary**

#### Equipment used
- **Churn drill**, **rotary**, **other**

#### Water use
- **Domestic**
- **Municipal**
- **Stock**
- **Irrigation**
- **Industrial**
- **Drainage**
- **Other**

#### Casing
- **Dug, driven, bored, or drilled**
- **Churn drill, rotary, other**

#### Casing: ft. to ft.
- **Type**
- **Size**
- **Other**

#### Perforated or Screened: Ft. to Ft.
- **Type**
- **Size**

#### Static Water level, for non-flowing well:
- **feet**

#### Shut-in pressure, for flowing well:
- **date**
- **lb/sq. in.**

#### Pumping water level:
- **feet at**
- **gal. per min.**

#### How tested:

#### Length of test:

#### Remarks:
- **Gravel packing, cementing, packers, type of shut-off, depth of shut-off**

#### (over)
<table>
<thead>
<tr>
<th>Depth, feet</th>
<th>Description of Material Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 2</td>
<td>Surface soil</td>
</tr>
<tr>
<td>2 - 49</td>
<td>Brown sand &amp; shale</td>
</tr>
<tr>
<td>49 - 89</td>
<td>Shaly sand</td>
</tr>
<tr>
<td>89 - 90</td>
<td>Red shale</td>
</tr>
<tr>
<td>90 - 105</td>
<td>Shaly sand</td>
</tr>
<tr>
<td>105 - 115</td>
<td>Red sand</td>
</tr>
<tr>
<td>115 - 125</td>
<td>Shaly sand</td>
</tr>
<tr>
<td>125 - 135</td>
<td>Sand</td>
</tr>
<tr>
<td>135 - 140</td>
<td>Sand</td>
</tr>
<tr>
<td>140 - 170</td>
<td>Red shale &amp; salt</td>
</tr>
<tr>
<td>170 - 173</td>
<td>Pow sand</td>
</tr>
<tr>
<td>173 - 200</td>
<td>Pow shale</td>
</tr>
<tr>
<td>200 - 230</td>
<td>Shaly sand</td>
</tr>
<tr>
<td>230 - 235</td>
<td>Red sand</td>
</tr>
<tr>
<td>235 - 295</td>
<td>Shaly sand</td>
</tr>
<tr>
<td>295 - 305</td>
<td>Sand, excellent formation (water)</td>
</tr>
<tr>
<td>305 -</td>
<td>Salt &amp; pepper sand, T.D.</td>
</tr>
</tbody>
</table>
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights
(Under Chapter 237, Montana Session Laws, 1961)

EUGENE S. MACK & ROSE M. MACK
1. (Name of Appropriator) of GILT EDGE ROUTE, LEWISTOWN,
   (Address) (Town)

County of FERGUS State of MONTANA

have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

2. The beneficial use on which the claim is based
   Irrigation, stock water

3. Date or approximate date of earliest beneficial use: and how continuous the use has been
   Oct 7, 1959, continuous

4. The amount of groundwater claimed (in miner's inches or gallons per minute): 12 gallons per minute

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof: 5 acres - ESE1/4 of Section 14, T. 15, R. 21

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal
   Flowing well
   ESE1/4 of Section 14, T. 15, R. 21

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater

8. The depth of water table
   208'

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater: Type: Drilled, threaded, coupled, cased.

10. The estimated amount of groundwater withdrawn each year: 5 million gallons

11. The log of formations encountered in the drilling of each well if available
   See File & 7974, Document 99052, on file in the Office of Clerk and Recorder of Fergus County at Lewistown, Montana;

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record: See document 99052, File & 7974, Office of Clerk & Recorder of Fergus County, at Lewistown, Montana

   Signature of Owner: Rose M. MACK
   Date: AUG. 20, 1962

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder: duplicate to the State Engineer: Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriate.
State of Montana,
County of Fergus.

Filed: AUG 27 1962
at 12:25 o'clock A.M.

My Nathan
County Clerk and Recorder
State of Montana
Administrator of Groundwater Code
Office of State Engineer

Declaration of Vested Groundwater Rights
(Under Chapter 237, Montana Session Laws, 1961)

1. United States of America
   (Name of Appropriator)
   c/o U. S. Corps of Engineers
   Box 1425, Great Falls, Montana

   County of Cascade
   State of Montana

   I have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

<table>
<thead>
<tr>
<th>No.</th>
<th>SWk Sec.</th>
<th>T15N R 21EPM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based
   Domestic use

3. Date or approximate date of earliest beneficial use and how continuous the use has been
   30 September 1960
   Continuous use

4. The amount of groundwater claimed (in miner's inches or gallons per minute)
   2 gallons per minute

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof
   None

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal
   Electrical lift pump

7. The date of commencement and completion of the construction of the well, wells or other works for withdrawal of groundwater
   Started - 29 September 1960
   Completed - 30 September 1960

8. The depth of water table
   76 feet

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater
   Drilled vertical well - 122 feet

10. The estimated amount of groundwater withdrawn each year
    2850 gallons

11. The log of formations encountered in the drilling of each well if available

12. Such other information of a similar nature may be useful in carrying out the policy of this act, including reference to book and page of any county record

   Witness:
   Signature of Owner
   John E. McManus, Acts Chief
   Great Falls Real Estate Co.
   Date: 06/07/60

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder, duplicate to the State Engineer, Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.
State of Montana
County of Forsyth

Filed APR 11 1962
at 2:50 p.m. in the 3rd Dist.

Way Ratliff
County Clerk and Recorder
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights
(Under Chapter 207, Montana Session Laws, 1961)

Ben Cook
(Name of Appropriator)
of
(Address)
in Town
County of Fergus
State of Montana
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

2. The beneficial use on which the claim is based: Watering Stock and Domestic use

3. Date or approximate date of earliest beneficial use; and how continuous the use has been: 1914 on all three wells; used every year since that time.

4. The amount of groundwater claimed (in miner's inches or gallons per minute): 1 gallon per minute from each well.

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof: none.

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal: dipped out by hand and bucket.

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater: 1914.

8. The depth of water table: about 20 feet.

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater: 30-25' deep, 2' in diameter; rocking out and water removed by dipping or hand pump; 20-25' deep, 2' in diameter, stream of removal; 30-30' deep, 6' square; both 2 and 3 are rocked out and have the same means of removal.

10. The estimated amount of groundwater withdrawn each year: 1,576,800 gallons per year.

11. The log of formations encountered in the drilling of each well if available: not available.

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record: none.

Signature of Owner

Date

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; triplicate to the Montana Bureau of Mines and Geology, and quadruplicate for the Appropriator.
State of Montana, ss.
County of Fergus

Filed 10/17/1953

Mary Mathieson
County Clerk and Recorder

19th day of October, 1953.
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights
(Under Chapter 237, Montana Session Laws, 1961)

1. Name of Appropriaor ____________________________
   Address ____________________________
   (Name of Appropriator)
   (Address)

   County of ____________________________
   State of ____________________________

   have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

2. The beneficial use on which the claim is based ________________
   Stock Water

3. Date or approximate date of earliest beneficial use; and how continuous the use has been ________________
   Oct. 1955

4. The amount of groundwater claimed (in miner's inches or gallons per minute) ________________
   200 gal. per hr

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof ________________
   Not used for irrigation

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal
   Little pump; located in Section 16

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater ________________
   Started September, 1955; completed November, 1955

8. The depth of water table ________________
   10 ft

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater
   Type: Concrete wall and top; 2" pipe for pump; with annihole

10. The estimated amount of groundwater withdrawn each year ________________
    1,000,000

11. The log of formations encountered in the drilling of each well if available ________________

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record
    ________________

   Signature of Owner: ____________________________
   Date: ____________________________

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.
State of Montana,  
County of Fergus, ss.

Filed: AUG 27 1962 19
at 10:15 o'clock A.M.

Wayne Mathis  
County Clerk and Recorder

d. pl.
Montana Bureau of Mines and Geology
Butte, Montana

Water Well Log

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>Susan Allen</td>
</tr>
<tr>
<td>Address</td>
<td>Lewistown, Montana</td>
</tr>
<tr>
<td>Driller</td>
<td>C. C. Thatcher</td>
</tr>
<tr>
<td>Address</td>
<td>Stanford, Montana</td>
</tr>
<tr>
<td>Date Started</td>
<td>Jan. 2, 1968</td>
</tr>
<tr>
<td>Date Completed</td>
<td>Jan. 8, 1968</td>
</tr>
<tr>
<td>Location</td>
<td>Sec. 17 T. 16 N. R. 21 E. 14 sec. SNE</td>
</tr>
<tr>
<td>Type of well</td>
<td>Drilled</td>
</tr>
<tr>
<td>Equipment used</td>
<td>Rotary</td>
</tr>
<tr>
<td>Water use</td>
<td>Domestic</td>
</tr>
<tr>
<td></td>
<td>Municipal</td>
</tr>
<tr>
<td></td>
<td>Stock (x)</td>
</tr>
<tr>
<td></td>
<td>Irrigation</td>
</tr>
<tr>
<td></td>
<td>Industrial</td>
</tr>
<tr>
<td></td>
<td>Drainage</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Casing:</td>
<td>0 ft. to 465 ft.</td>
</tr>
<tr>
<td></td>
<td>Type: Screened</td>
</tr>
<tr>
<td></td>
<td>Size: 2&quot;</td>
</tr>
<tr>
<td>Casing:</td>
<td>466 ft. to 865 ft.</td>
</tr>
<tr>
<td></td>
<td>Type: Screened</td>
</tr>
<tr>
<td></td>
<td>Size:</td>
</tr>
<tr>
<td>Perforated or Screened:</td>
<td>466 ft. to 865 ft.</td>
</tr>
<tr>
<td></td>
<td>Type of screen or perforations:</td>
</tr>
<tr>
<td></td>
<td>Perforated pipe</td>
</tr>
<tr>
<td>Static Water level, for non-flowing well:</td>
<td>Feet.</td>
</tr>
<tr>
<td>Shut-in pressure, for flowing well:</td>
<td>Lb. sq. in. on: (date)</td>
</tr>
<tr>
<td>Pumping water level</td>
<td>Flowing 18 feet at 18 gal. per min.</td>
</tr>
<tr>
<td>How tested:</td>
<td></td>
</tr>
<tr>
<td>Length of test:</td>
<td></td>
</tr>
<tr>
<td>Remarks:</td>
<td>(Gravel packing, cementing, packers, type of shut-off, depth of shut-off)</td>
</tr>
<tr>
<td></td>
<td>Cemented manual shut-off 50 feet down.</td>
</tr>
<tr>
<td>Depth, feet</td>
<td>Description of Material Drilled</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>0 - 8</td>
<td>Overburden</td>
</tr>
<tr>
<td>8 - 30</td>
<td>Soft sandstone producing a small trace of water</td>
</tr>
<tr>
<td>30 - 55</td>
<td>Sandy shale</td>
</tr>
<tr>
<td>56 - 75</td>
<td>Bluish grey shale</td>
</tr>
<tr>
<td>76 - 110</td>
<td>Grey and white shale</td>
</tr>
<tr>
<td>110 - 132</td>
<td>Sandy grey shale</td>
</tr>
<tr>
<td>132 - 195</td>
<td>Red shale</td>
</tr>
<tr>
<td>196 - 220</td>
<td>Sandstone</td>
</tr>
<tr>
<td>220 - 265</td>
<td>Sandstone and sandy shale</td>
</tr>
<tr>
<td>265 - 268</td>
<td>Hard and medium hard sandstone</td>
</tr>
<tr>
<td>265 - 300</td>
<td>Hard sandstone</td>
</tr>
<tr>
<td>300 - 340</td>
<td>Hard sandstone with small streaks of sandy shale</td>
</tr>
<tr>
<td>340 - 350</td>
<td>Sandy shale</td>
</tr>
<tr>
<td>350 - 390</td>
<td>Sandstone and sandy shale</td>
</tr>
<tr>
<td>390 - 419</td>
<td>Grey and white shale</td>
</tr>
<tr>
<td>419 - 425</td>
<td>Grey and white shale with small amount of bentonite</td>
</tr>
<tr>
<td>425 - 465</td>
<td>Sandy shale with stringers of sandstone</td>
</tr>
<tr>
<td>465 - 475</td>
<td>Soft sandstone</td>
</tr>
<tr>
<td>465 - 495</td>
<td>Hard sandstone</td>
</tr>
</tbody>
</table>
**WATER WELL LOG**

**Owner:** Pearl L. Duke  
**Address:** Lewistown, Montana

**Driller:** O. C. Thatcher  
**Address:** Stanford, Montana

**Date Started:** January 14, 1955  
**Date Completed:** July 1, 1955

**Location:** Sec. 15  
**T. 15 N.  
**R. 21 W. 14 sec.  
**Section:** 21  
**Township:** 15  
**Range:** 21

**Type of well:** Drilled  
**Equipment used:** Rotary

**Water use:**  
- Domestic  
- Municipal  
- Stock  
- Irrigation  
- Industrial  
- Drainage  
- Other

**Casing:**  
- Type: standard  
- Size: 4\text{in.}

**Perforated or Screened:**  
- Ft. to ft.  
- Size: 21/4\text{in.} staggered

**Static Water level, for non-flowing well:** 15 feet.

**Shut-in pressure, for flowing well:**  
- lb. sq. in.:  
- Date: (date)

**Pumping water level:**  
- 147 feet at 5 gal. per min.

**How tested:** Bailage

**Length of test:** 2 hours

**Remarks:** (Gravel packing, cementing, packers, type of shut-off, depth of shut-off)

(over)
### Log of Well

<table>
<thead>
<tr>
<th>Depth, feet</th>
<th>Description of Material Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Overburden</td>
</tr>
<tr>
<td>14</td>
<td>Sandstone</td>
</tr>
<tr>
<td>22</td>
<td>Red Shale</td>
</tr>
<tr>
<td>55</td>
<td>Sandy Shale</td>
</tr>
<tr>
<td>95</td>
<td>Soft Sandstone</td>
</tr>
<tr>
<td>105</td>
<td>Sandy Shale</td>
</tr>
<tr>
<td>114</td>
<td>Soft Sandstone</td>
</tr>
<tr>
<td>165</td>
<td>Sandstone (water)</td>
</tr>
<tr>
<td>205</td>
<td>Grey and White Shale</td>
</tr>
<tr>
<td>255</td>
<td>Coal</td>
</tr>
<tr>
<td>270</td>
<td>Grey Shale with Coal</td>
</tr>
<tr>
<td>310</td>
<td>Black Shale</td>
</tr>
<tr>
<td>330</td>
<td>Sandstone</td>
</tr>
<tr>
<td>365</td>
<td>Grey Shale</td>
</tr>
<tr>
<td>395</td>
<td>Sandstone</td>
</tr>
<tr>
<td>407</td>
<td>Grey and White Shale</td>
</tr>
<tr>
<td>460</td>
<td>Sandstone</td>
</tr>
<tr>
<td>467</td>
<td>Grey and White Shale</td>
</tr>
<tr>
<td>473</td>
<td>Sandstone</td>
</tr>
<tr>
<td>483</td>
<td>Grey Shale</td>
</tr>
<tr>
<td>495</td>
<td>Sandstone</td>
</tr>
<tr>
<td>500</td>
<td>Grey Shale</td>
</tr>
<tr>
<td>501</td>
<td>Grey Shale with layers of Sandstone and Limestone</td>
</tr>
</tbody>
</table>

Well pumps approximately 5 gallons per minute. Cased with 1" galvanized pipe.
Notice of Completion of Groundwater Appropriation by Means of Well
(Under Chapter 237, Montana Session Laws, 1961)

Owner: [Name]
Address: [Address]

Driller: [Name]
Address: [Address]

Date of Notice of Appropriation of Groundwater: [Date]

Type of well: [Type]
Equipment Used: [Type]

Water Use: Domestic [ ] Municipal [ ] Other [ ] Irrigation [ ]
Industrial [ ] Drainage [ ] Stock [ ]

Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, gravel, rock or sand, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which water rises in the well.

<table>
<thead>
<tr>
<th>Size of Drilled Hole</th>
<th>Size and Weight of Cutting</th>
<th>From (Feet)</th>
<th>To (Feet)</th>
<th>PERFORATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 1/4</td>
<td></td>
<td>11 1/4</td>
<td>0</td>
<td>Torch 19</td>
</tr>
</tbody>
</table>

Static Water Level for non-flowing Well: 13 feet.

Shut-in Pressure for Flowing Well: [Pressure]

Pumping Water Level: 10 feet at: 10 gal. per minute.

Discharge in gal. per min. of flowing well: [Discharge]

How Tested: [Method]

Length of Test: [Length]

Remarks: [Remarks]

Driller's License Number: [Number]

Driller's Signature: [Signature]

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; triplicate to the Montana Bureau of Mines and Geology and quadruplicate for the Appropriator.
STATE OF MONTANA

ADMINISTRATOR OF GROUNDWATER CODE

OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights
(Under Chapter 217, Montana Session Laws, 1961)

1. Name of Appropriator: Ben Cook
   (Address):
   (Town):
   County: Fergus
   State: Montana

   Have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

   2. The beneficial use on which the claim is based: Watering, Stock and Domestic purposes.

   3. Date or approximate date of earliest beneficial use, and how continuous the use has been: 1933, 1934, 1935, 1936.

   4. The amount of groundwater claimed (in miner's inches or gallons per minute): 1 gallon per minute.

   5. If used for irrigation, give the acreage and description of the lands to which water has been applied, and name of the owner thereof: None.

   6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal: All are flowing wells developed from springs.

   7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater: Wells 1, 2, 3, 4 about 1933 and well 5 1962.

   8. The depth of water table: Ground level on all except well 2 - 8' deep; and well 3 - 25' deep.

   9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater: Well 1, 2, 3, 4 in diameter and in cemented; surface; well 2 - rocked out and dipped over by buckets; well 3 - rocked out and dipped out by buckets; well 4 - surface and runs out naturally; well 5 surface and runs out.

   10. The estimated amount of groundwater withdrawn each year: 9,562,000 gallons per year.

   11. The log of formations encountered in the drilling of each well if available: None.

   12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record: None.

   Signature of Owner: ____________________________
   Date: ____________________________

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder, duplicate to the State Engineer; triplicate to the Montana Bureau of Mines and Geology, and quadruplicate for the Appropriator.
State of Montana.
County of Fergus.

Filed OCT 17 1963
at 3:00 o'clock P.M.

[Signature]
County Clerk and Recorder
Form No. 15
5-60

<table>
<thead>
<tr>
<th>T.</th>
<th>N</th>
<th>R.</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>21</td>
<td>21</td>
<td>E</td>
</tr>
</tbody>
</table>

County: Fergus

MONTANA BUREAU OF MINES AND GEOLOGY
Butte, Montana

WATER WELL LOG

<table>
<thead>
<tr>
<th>Owner</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melville Snider</td>
<td>Grass Range, Montana</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Driller</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wellman &amp; Kunson Drig. Co.</td>
<td>Grass Range, Montana</td>
</tr>
</tbody>
</table>

Date Started: October 22-1961
Date Completed: October 27-1961

Location: Sec. 24 T. 15 N. R. 21 E. 1/4 sec. NE^4, NW^4

<table>
<thead>
<tr>
<th>Type of well Drilled</th>
<th>Equipment used</th>
<th>Water use:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rotary</td>
<td>Domestic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water use:</th>
<th>Domestic</th>
<th>Municipal</th>
<th>Stock</th>
<th>Irrigation</th>
<th>Industrial</th>
<th>Drainage</th>
<th>Other</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Casing:</th>
<th>Type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ft. to 15 ft.</td>
<td>Steel</td>
<td>6 inch</td>
</tr>
<tr>
<td>0 ft. to 148 ft.</td>
<td>Steel 11 Lb.</td>
<td>4 1/2 o. d.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perforated or Screened:</th>
<th>Ft. to Ft.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Type of screen or perforations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cone packer at 146 ft. Cone packer at 15 ft. Cemented</td>
</tr>
</tbody>
</table>

Static Water level, for non-flowing well: ___________ feet.

Shut-in pressure, for flowing well: approx. 30 lb./sq. in. on: 10/27/61

Pumping water level ___________ feet at ___________ gal. per min.

How tested:

Length of test ___________

Remarks: (Gravel packing, cementing, packers, type of shut-off, depth of shut-off)

(over)
# Log of Well

<table>
<thead>
<tr>
<th>Depth, feet</th>
<th>Description of Material Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>From</td>
<td>To</td>
</tr>
<tr>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>18</td>
<td>35</td>
</tr>
<tr>
<td>35</td>
<td>45</td>
</tr>
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<td>45</td>
<td>75</td>
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<td>75</td>
<td>130</td>
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<tr>
<td>120</td>
<td>132</td>
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<td>132</td>
<td>136</td>
</tr>
<tr>
<td>136</td>
<td>147</td>
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<td>190</td>
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<tr>
<td>190</td>
<td>200</td>
</tr>
<tr>
<td>200</td>
<td>204</td>
</tr>
</tbody>
</table>
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights
(Under Chapter 237, Montana Session Laws, 1961)

1. Melville Snider of Rural-
   Grass Range
   (Name of Appropriator) (Address) (Town)
   County of Fergus
   State of Montana

   have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

   2. The beneficial use on which the claim is based
      Stock water & Irrigation & Sub-irrigation

   3. Date or approximate date of earliest beneficial use; and how continuous the use has been
      October 30, 1961
      Artesian Irrigation from spring May 15, 1946
      Dug well used for stock water & irrigation as needed. dnr. October 16, 1958

   4. The amount of groundwater claimed (in miner's inches or gallons per minute)
      15 gal. Per min. Artesian well 200 gal. per minute over all

   5. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal
      Flowing

   6. The depth of water table
      186 Ft. Artesian well + Spring & well 12 ft.

   7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater
      October 27 - Completed - October 30, 1961
      Spring May 15, 1946 Dug well October 16, 1958

   8. The depth of water table

   9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater
      8 & 5/8 - 204 Ft.

   10. The estimated amount of groundwater withdrawn each year
      150,000 Barrels

   11. The point or points encountered in the drilling of each well if available
      Spudded into the Colorado Shale & T.D. In The Second Cat Creek. Spring in gravel.

   12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record


Signature of Owner
Melville Snider
Date February 1, 1962

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the School of Mines and Quadruplicate for the Appropriator.
<table>
<thead>
<tr>
<th>Sec.</th>
<th>Name of Apprpiator</th>
<th>Type of Form</th>
<th>County File No.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## NOTICE OF COMPLETION OF GROUNDWATER APPROPRIATION BY MEANS OF WELL

*Developed after January 1, 1962*  
*(Under Chapter 237 Montana Session Laws, 1961, as amended)*

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located, last copy to be retained by driller.

Please answer all questions. If not applicable, so state, otherwise the form may be returned.

<table>
<thead>
<tr>
<th>Owner:</th>
<th>Address:</th>
<th>Date well started, completed:</th>
</tr>
</thead>
</table>

**Type of well:**
- Drilled, Driven, Bored or Drilled

**Equipment used:**
- Chisel, Rotary or Other

**Water Use:**
- Domestic, Municipal, Stock, Irrigation

**Indicate location of well and place of use, if possible.**

---

**ESTIMATED ANNUAL WITHDRAWAL:**

<table>
<thead>
<tr>
<th>Size of Drilled Hole</th>
<th>Size and Weight of Casing</th>
<th>From (Feet)</th>
<th>To (Feet)</th>
<th>KINDS</th>
<th>FROM (Feet)</th>
<th>TO (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 1/4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Static water level:**
- 0 ft.

**Pumping water level:**
- 0 ft.

**Water Sample:**
- 0 ft.

**Remarks:**
- Gravel packing, cementing, packer, type of shutoff

**Power:**
- 0 HP

**Indicate location of well and place of use, if possible.**

---

**Owner:**

**Address:**

**Date well started, completed:**

---

**License No.:**

---

**Driller's Signature:**

---

---
Notice of Completion of Groundwater Appropriation by Means of Well

MONTANA WATER CONSERVATION BOARD

DEVELOPED AFTER JANUARY 1, 1962

(Under Chapter 237 Montana Session Laws, 1961, as amended)

Top of Ground

<table>
<thead>
<tr>
<th>Elevation above sea level</th>
</tr>
</thead>
</table>

Shale, bentonite streaks crding to strata shale sand

First Cat Creek Sand very poor porsole. 10'-20' sub angular sand

Little H2O indicated

Silty sand lenses hard shale lenses Top of Kootenai

Red clay streaks some chart

Reddish shale dirty limey sand streaks intervals of chert

Very hard limey sand Cap rock of second bench of second Sand of the Kootenai Formation

Limey sand to very firm sand and lime streaks

Grayish sand and limey streaks Sand Fractured and good porosity

Shut-in Pressure for Flowing Well

Pumping Water Level

Discharge in gal. per minute

Tested

Remarks: (Gravel packing, cementing, packers, type of shutoff)

Cemented

Cemented

Cove catcher at 520'-558'

(Continue on reverse side)

USE—If used for irrigation, industrial, drainage or other. Explain, state number of acres and location or other data (i.e.: Lot, Block and Addition).

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located, tissue copy to be returned by driller.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.
State of Montana,
County of Fergus

MAR 6 1970
Piled 12:00 o'clock A.M.

Mary Walker
County Clerk and Recorder

39099
Notice of Completion of Groundwater Appropriation by Means of Well

Notice of Appropriation of Groundwater

Owner: Ayers Ranch Colony
Address: Grass Range, Mont.

Wellman & Munson DRC
Address: Grass Range, Mont.

Date of Notice of Appropriation of Groundwater: Not applicable

Date well started: 11/4/63
Date completed: 11/18/63

Type of well: Drilled
Equipment Used: Rotary
(Dug, driven, bored or drilled)

Water Use: Domestic [ ] Municipal [ ] Other [X] Irrigation [ ]
Industrial [ ] Drainage [ ] Stock [ ]

Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, gravel, rock or sand, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which water rises in the well.

Showing Strata and Water Levels

<table>
<thead>
<tr>
<th>Depth (Feet)</th>
<th>Character</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 5/8</td>
<td>Torch</td>
</tr>
<tr>
<td>110</td>
<td>Torch</td>
</tr>
<tr>
<td>4½</td>
<td>Torch</td>
</tr>
</tbody>
</table>

Static Water Level for non-flowing Well: 190 feet.
Shut-in Pressure for Flowing Well: Approx. 20 Lbs.
Pumping Water Level: feet at gal. per minute.
Discharge in gal. per min. of flowing well: 1½
How Tested: Length of Test: 
Remarks: (Gravel packing, cementing, packers, type of shut-off, location of place of use of groundwater if not at well, and any other pertinent information, including number of acres irrigated, if used for irrigation)

3 cone packers - 3 1/4-5/8 cements
Stock - water well

Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom. 190 ft.

Driller's License Number
Driller's Signature

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder, duplicate to the State Engineer, Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appraiser.
State of Montana,
County of Fergus,

Filed JAN 3 1964 19
at 10 o'clock A.M.

Clerk and Recorder

COPY
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights
(Under Chapter 237, Montana Session Laws, 1961)

FILE NO. 1350

County Ferrys

1. Ayers Ranch Colony of Rural - Grass Range
   (Name of Appropriator) (Address) (Town)

   County of Ferrays State of Montana have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

2. The beneficial use on which the claim is based

3. Date or approximate date of earliest beneficial use; and how continuous the use has been
   (Continuous)
   November 7, 1961

4. The amount of groundwater claimed (in miner's inches or gallons per minute) 3 Gal. Per Min.

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater
   Spudded In: October 31, 1961 - Completed: November 7, 1961

8. The depth of water table 435 Ft.

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater
   5 & 5/8 - 450 Ft.

10. The estimated amount of groundwater withdrawn each year 33,000 Barrels

11. The log of formations encountered in the drilling of each well if available
   Spudded into the Colorado Chalk & T.B. In The Second Cut Creek Sand.

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record

   Signature of Owner: John Stark
   Date: 1-26-62

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the School of Mines and Quadruplicate for the Appropriator.
Filed: JAN 29 1962
at 8:00 o'clock A.M.

[Signature]  
County Clerk and Recorder

[Date]
**STATE OF MONTANA**

**ADMINISTRATOR OF GROUNDWATER CODE**

**OFFICE OF STATE ENGINEER**

**Notice of Completion of Groundwater Appropriation by Means of Well**

**DEVELOPED AFTER JANUARY 1, 1962**

(Under Chapter 237, Montana Session Laws, 1961)

Owner: Ayers Colby Ranch  
Address: Grass Range, Mont.

Driller: Munson Drilling Co.  
Address: Grass Range, Mont.

Date of Notice of appropriation of groundwater: Not Applicable

Date well started: Sept. 5, 1966  
Date completed: Sept. 8, 1966

Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, gravel, rock or sand, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which the water rises in the well.

### Table: Perforations

<table>
<thead>
<tr>
<th>Size of Drilled Hole</th>
<th>Size and Weight of Casing</th>
<th>From (Feet)</th>
<th>To (Feet)</th>
<th>PERFORATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 Inch Hole</td>
<td>7&quot;-13/&quot;</td>
<td>0</td>
<td>32</td>
<td>Cemented 0</td>
</tr>
<tr>
<td>5 5/8&quot; Hole</td>
<td>4 1/2&quot;&quot;</td>
<td>32</td>
<td>192</td>
<td>Regular 157</td>
</tr>
</tbody>
</table>

Static Water Level for non-flowing well: 15 feet.

Shut-in Pressure for Flowing Well: 10 psi

Pumping Water Level: 160 feet

Discharge in gal. per min. of flowing well: 48 HRS

Test Pump Length of Test: 48 HRS

Remarks: (Gravel packing, cementing, packers, type of shutoff)

Cave cather at 1578 feet

Indicate location of well and place of use, if possible. Each small square represents 40 acres.

### Diagram:

- N
- W
- X
- Y

Horizontal = 1/2"  
Vertical = 1/4"

Show exact depth of bottom.

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located, tissue copy to be retained by driller.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Driller's License Number:  
Driller's Signature:  
Driller's Date: 1/1/77
Notice of Completion of Groundwater Appropriation by Means of Well

(under Chapter 237, Montana Session Laws, 1961)

Owner: Harry Severseen
Address: Grass Range, Montana

Driller: George O. Singley
Address: Lewistown, Montana

State of Montana
Administrator of Groundwater Code
Office of State Engineer

Notice of Notice of Appropriation of Groundwater

Type of Well: Drilled
Equipment Used: Rotary

Date Well Started: Nov. 25, 1962
Date Completed: Dec. 6, 1963

Top of Groundwater

1. Topsoil
2. Drift
3. Blue shale
4. White rock and sand
5. Hard blue shale
6. Red, white and green shale

Light green sandy shale

Light green sandstone

Red shale

Hard white rock

Hard rock, some sandstone

Shale

Hard white dolomite

Shale

Hard white calcite

Hard rock

Hard rock

Shale

Hard rock

Hard rock

White rock

White rock

White rock

White rock

White rock

Third Cat Creek sandstone

Shale

Sandstone

Red shale

Red shale

White shale

Water Use:
Domestic
Municipal
Other
Irrigation

Industrial
Drainage
Stock

Note: Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, gravel, rock or sand, etc.

Show depth at which water is encountered, thickness and character of water-bearing strata and height to which water rises in the well.

<table>
<thead>
<tr>
<th>Size of Dug Hole</th>
<th>Size and Weight of Casing</th>
<th>From (Feet)</th>
<th>To (Feet)</th>
<th>PERFORATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>415</td>
<td>455</td>
<td>1</td>
<td>270</td>
<td>455</td>
</tr>
<tr>
<td>417</td>
<td>428</td>
<td>2</td>
<td>485</td>
<td>455</td>
</tr>
<tr>
<td>428</td>
<td>455</td>
<td>3</td>
<td>485</td>
<td>455</td>
</tr>
</tbody>
</table>

Static Water Level for non-flowing Well: None

Shut-in Pressure for Flowing Well: 25

Pumping Water Level: feet at gal. per minute.

Discharge in gal. per min. of flowing well: 15

How Tested: Measured

Length of Test:

Remarks: (Gravel packing, cementing, packers, type of shutoff, location of place of use of groundwater if not at well, and any other pertinent information, including number of acres irrigated, if used for irrigation).

Driller's License Number

Driller's Signature

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; triplicate to the Montana Bureau of Mines and Geology and quadruplicate for the Appropriator.
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights
(Under Chapter 237, Montana Session Laws, 1961)

1. Name of Appropriator, (Name of Appropriator)
of
County of . State of .

2. The beneficial use on which the claim is based

3. Date or approximate date of earliest beneficial use; and how continuous the use has been

4. The amount of groundwater claimed (in miner's inches or gallons per minute)

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater

8. The depth of water table

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater

10. The estimated amount of groundwater withdrawn each year

11. The log of formations encountered in the drilling of each well if available

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record

Signature of Owner
Date 11/14/1960

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the School of Mines and Quadruplicate for the Appropriator.
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights
(Under Chapter 237, Montana Session Laws, 1961)

(Name of Appropriator) (Address) (Town)
County of: State of: have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

2. The beneficial use on which the claim is based

3. Date or approximate date of earliest beneficial use; and how continuous the use has been

4. The amount of groundwater claimed (in miner's inches or gallons per minute)

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater

8. The depth of water table

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater

10. The estimated amount of groundwater withdrawn each year

11. The log of formations encountered in the drilling of each well if available

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record

Signature of Owner
Date

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the School of Mines and Quadruplicate for the Appropriator.
State of Montana, County of Lewis

Filed DECEMBER 19, 1967
at 3:15 p.m., Clerk of M.

Mary Rutland
County Clerk and Recorder
STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER  

Notice of Completion of Groundwater Appropriation by Means of Well  
(Under Chapter 237, Montana Session Laws, 1963)

Top of Ground  
(Elev. above sea level 1005.6)  

Surface Soil  

Red Clay  

Blue Grey Limestone  

Silty Shale  

Greenish lime Selenite  

Sandy Clay  

Hard Dolomite  

Firm Sand  

Sand Good渗透性 Water  

<table>
<thead>
<tr>
<th>Depth of Drilled Hole</th>
<th>Size and Weight of Casing</th>
<th>Feet</th>
<th>Size of Perforations</th>
<th>From</th>
<th>To</th>
<th>Length of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>55/6</td>
<td>9,50 4</td>
<td>0</td>
<td>186</td>
<td>Open Hole</td>
<td>186</td>
<td>210</td>
</tr>
</tbody>
</table>

Static Water Level for non-flowing Well: feet.  
Shut-in Pressure for Flowing Well: Approx. 20 ft.  
Pumping Water Level: feet at gal per minute.  
Discharge in gal. per min. of flowing well: 10  
How Tested: Length of Test.  
Remarks: Gravel packing, cementing, packers, type of shutoff, location of place of use of ground water if not at well, and any other pertinent information, including number of acres irrigated, if used for irrigation: 3 Cone Packers. 3 Cks. Cement...

Show exact depth of bottom: 210 T.D.

Wellman & Lunson Drlg. Co. Inc.

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.

Please answer all questions. If not applicable, state so, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; triplicate to the Montana Bureau of Mines and Geology and quadruplicate for the Appropriator.
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights
(Under Chapter 237, Montana Session Laws, 1961)

Count of __________

State of __________

have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

2. The beneficial use on which the claim is based __________

3. Date or approximate date of earliest beneficial use; and how continuous the use has been __________

4. The amount of groundwater claimed (in miner's inches or gallons per minute) __________

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof __________

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal __________

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater __________

8. The depth of water table __________

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater __________

10. The estimated amount of groundwater withdrawn each year __________

11. The log of formations encountered in the drilling of each well if available __________

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record __________

Signature of Owner __________
Date __________

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the School of Mines and Quadruplicate for the Appropriator.
FROM THE STATE ENGINEER
COUNTY OF MONTANA
APPLICATION FOR GROUNDWATER CONSUMPTION

Type of Claim: Groundwater

1. **Civil Action**
   - Name of Applicator:
   - Address:
   - City:
   - County:
   - State:

   County of: Mont.

   State of: MT

   have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

<table>
<thead>
<tr>
<th>N</th>
<th>E</th>
<th>W</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Claimed by:**
- **Groundwater:**
- **Address:**
- **City:**
- **County:**
- **State:**

2. The location on which the claim is based:

3. Date of appropriation:

4. The amount of groundwater claimed (in miner's inches or gallons per minute):

5. Date of earliest beneficial use:

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal:

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater:

8. The depth of water table:

9. The type, size, and depth of each well or other works for the withdrawal of groundwater:

10. The estimated amount of groundwater withdrawn each year:

11. The following form is to be used for this purpose:

12. Any other information that may be useful in carrying out the policy of this act, including reference to book and page of any county record:

**Signature of Owner:**

**Date:**

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, a check mark is necessary. Otherwise, the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; triplicate to the School of the State Engineer.
<table>
<thead>
<tr>
<th>Sec.</th>
<th>Name of Appropriator</th>
<th>Type of Form</th>
<th>County File No.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>Fry, Weldon</td>
<td>Net. Vestry</td>
<td>24-26-30</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>D. D. Smith</td>
<td>Net. Vestry</td>
<td>169-33-0</td>
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<tr>
<td>36</td>
<td>John M. Smith</td>
<td>Net. Vestry</td>
<td>179-36-0</td>
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<tr>
<td>37</td>
<td>Foster, J.</td>
<td>Net. Vestry</td>
<td>189-36-0</td>
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<tr>
<td>38</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>199-36-0</td>
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<tr>
<td>39</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>209-36-0</td>
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<tr>
<td>40</td>
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<td>219-36-0</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Johnson, R.</td>
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<tr>
<td>42</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>239-36-0</td>
<td></td>
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<tr>
<td>43</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
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<td>44</td>
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<td>269-36-0</td>
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<tr>
<td>46</td>
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<td>279-36-0</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>289-36-0</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>299-36-0</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>309-36-0</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>319-36-0</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>329-36-0</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>339-36-0</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>349-36-0</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>359-36-0</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>369-36-0</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>379-36-0</td>
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<tr>
<td>57</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>389-36-0</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>Johnson, R.</td>
<td>Net. Vestry</td>
<td>399-36-0</td>
<td></td>
</tr>
</tbody>
</table>

13 Town Board & Trustees     6W3  17836
MONTANA BUREAU OF MINES AND GEOLOGY

WATER WELL LOG

<table>
<thead>
<tr>
<th>Owner:</th>
<th>George B. Frater</th>
<th>Address:</th>
<th>711 E. Browning Ave.</th>
<th>Livingstone, Mont.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driller:</td>
<td>D. H. Retzer</td>
<td>Address:</td>
<td>Winnetka, Montana</td>
<td></td>
</tr>
<tr>
<td>Date Drilled:</td>
<td>April 17, 1947</td>
<td>Date Completed:</td>
<td>May 17, 1947</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td>T. 15 North, R. 23 East</td>
<td>County:</td>
<td>Sherburne</td>
<td></td>
</tr>
</tbody>
</table>

Type of well drilled: rotary

Equipment used: rotary

Water use: Domestic [ ] Municipal [ ] Stock [ ] Irrigation [ ]

Industrial [ ] Distance [ ] Other [ ]


Casing: 26 ft. to 31 ft. C 7 A Type: 7 5/8 in.

Perforated or Screened: Pt.

Type of screen or perforations: none

Static Water level, for non-flowing well: 53 ft. 7 in. Above land.

Shut-in pressure, for flowing well: 25 psi

Pumping water level: 15 ft. Above land.

How tested:

Length of test: 3 days

Remarks: (Gravel packing, cementing, packers, type of shut-off, depth of shut-off)

Set 78 ft., 5 inches B, casing 6 inches on latter; cemented with 13 sacks concrete to collar on casing 8 feet below ground level; well flowed 1,200 gallons per minute; pressure: closed in 55 pounds; test for water from 547 feet to 560 feet; found lining to water; washed sand and gravel with water; well would not flow below 50 feet; test at 100 feet in 14 hours; record came from 500-550 showed pressure while drilling; well pumped 100 feet 30 minutes and out of date.

(over)
<table>
<thead>
<tr>
<th>Depth, Feet</th>
<th>Description of Material Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>clay and surface sand</td>
</tr>
<tr>
<td>17</td>
<td>gravel and clay</td>
</tr>
<tr>
<td>32</td>
<td>black shale and bentonite</td>
</tr>
<tr>
<td>39</td>
<td>black shale with streaks of bentonite and hard sand</td>
</tr>
<tr>
<td>138</td>
<td>black shale with streaks of hard sandy shale</td>
</tr>
<tr>
<td>159</td>
<td>black and grey shale with streaks of hard sandy shale</td>
</tr>
<tr>
<td>252</td>
<td>hard black and brown shale</td>
</tr>
<tr>
<td>330</td>
<td>off black shale</td>
</tr>
<tr>
<td>362</td>
<td>black shale with streaks of bentonite</td>
</tr>
<tr>
<td>394</td>
<td>hard and black sandy shale</td>
</tr>
<tr>
<td>446</td>
<td>black shale with streaks of bentonite and pyrrhotite</td>
</tr>
<tr>
<td>515</td>
<td>black and grey shale with streaks of sand</td>
</tr>
<tr>
<td>545</td>
<td>black shale</td>
</tr>
<tr>
<td>585</td>
<td>clay and streaks of black shale (or gray and red sand)</td>
</tr>
<tr>
<td>595</td>
<td>black shale with streaks of grey sand</td>
</tr>
<tr>
<td>630</td>
<td>blue shale with streaks of bentonite and iron pyrites</td>
</tr>
<tr>
<td>675</td>
<td>grey shale with streaks of sand</td>
</tr>
<tr>
<td>700</td>
<td>red shale</td>
</tr>
<tr>
<td>708</td>
<td></td>
</tr>
<tr>
<td>708</td>
<td>variegated shale (i.e., white, red, green)</td>
</tr>
<tr>
<td>740</td>
<td>grey and white shale</td>
</tr>
<tr>
<td>770</td>
<td>hard blue or grey line</td>
</tr>
<tr>
<td>784</td>
<td>hard grey shale</td>
</tr>
<tr>
<td>792</td>
<td>hard blue or grey line</td>
</tr>
<tr>
<td>792</td>
<td>soft sand (poppy and salt sand)</td>
</tr>
<tr>
<td>808</td>
<td>red shale</td>
</tr>
</tbody>
</table>
## WATER WELL LOG

**Owner:** J. B. Frasier  
**Address:**  
**Livingston-Boles**

**Driller:** Drilling Contractors  
**Address:**  
**Location:** Butte, Montana

- **Date Started:** April 12, 1947  
- **Date Completed:** May 17, 1947  
- **Location:** Sec. 13, T.15 N., R.23 E., 1/2 sec.

<table>
<thead>
<tr>
<th>Owner</th>
<th>J. B. Frasier</th>
<th>Address</th>
<th>Livingston-Boles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driller</td>
<td>Drilling Contractors</td>
<td>Address</td>
<td>contestant, montana</td>
</tr>
<tr>
<td>Date Started</td>
<td>April 12, 1947</td>
<td>Date Completed</td>
<td>May 17, 1947</td>
</tr>
<tr>
<td>Location</td>
<td>Sec. 13, T.15 N., R.23 E., 1/2 sec.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Type of well drilled:** Driven  
**Equipment used:** Drill (churn, rotary, etc.)

**Water use:** Domestic  
- Municipal  
- Stock  
- Irrigation  
- Industrial  
- Drainage  
- Other:

**Casing:**
- From ft. to ft.  
- Type  
- Size

**Perforated or Screened:** From ft. to ft.  
- Type  
- Size

**Type of screen or perforations:**

**Static Water level, for non-flowing well:** feet.

**Shut-in pressure, for flowing well:** P (date) lb. sq. in. on:

**Pumping water level:** feet at gal. per min.

**How tested:**

**Length of test:**

**Remarks:** Gravel packing, cementing, packers, type of shut-off, depth of shut-off

Set 77 feet; incl. 6 feet casing with float shot on bottom; cemented with 11 bags cement; top collar on casing 30 feet below ground level; well flowed of gallons per minute; pressure--closed in 45 rounds; tested for water from 547 feet to 576 feet; charged from mud to water; washed sand 3 hours with water; well would not flow; balked hole to 375 feet; water raised 200 feet in 14 hours; second test from 70 - 80% showed pressure while drilling; well pushed 10'-15' pounds mud out of hole.
### Log of Well

<table>
<thead>
<tr>
<th>Depth, feet</th>
<th>From</th>
<th>To</th>
<th>Description of Material Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>17</td>
<td></td>
<td>clay and surface sand</td>
</tr>
<tr>
<td>17</td>
<td>32</td>
<td></td>
<td>gravel and clay</td>
</tr>
<tr>
<td>32</td>
<td>39</td>
<td></td>
<td>black shale and bentonite</td>
</tr>
<tr>
<td>39</td>
<td>338</td>
<td></td>
<td>black slate with streaks of bentonite and sand</td>
</tr>
<tr>
<td>338</td>
<td>159</td>
<td></td>
<td>black slate with streaks of Iron sandy shale</td>
</tr>
<tr>
<td>159</td>
<td>251</td>
<td></td>
<td>sand and gray shale with streaks of Iron sandy shale</td>
</tr>
<tr>
<td>251</td>
<td>320</td>
<td></td>
<td>black and brown shale</td>
</tr>
<tr>
<td>320</td>
<td>325</td>
<td></td>
<td>black shale</td>
</tr>
<tr>
<td>325</td>
<td>334</td>
<td></td>
<td>black slate with streaks of bentonite</td>
</tr>
<tr>
<td>334</td>
<td>348</td>
<td></td>
<td>sand and black sandy shale</td>
</tr>
<tr>
<td>348</td>
<td>358</td>
<td></td>
<td>black slate with streaks of bentonite and lymph</td>
</tr>
<tr>
<td>358</td>
<td>545</td>
<td></td>
<td>black and gray shale with streaks of sand</td>
</tr>
<tr>
<td>545</td>
<td>547</td>
<td></td>
<td>black shale</td>
</tr>
<tr>
<td>547</td>
<td>595</td>
<td></td>
<td>sand with streaks of black shale (part of chalcedony sand)</td>
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<td>595</td>
<td>605</td>
<td></td>
<td>black slate with streaks of grey and</td>
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<td>672</td>
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<td>blue shale with streaks of bentonite and Iron pyrites</td>
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<td>722</td>
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<td>grey shale with streaks of hemp</td>
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<td></td>
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</tr>
<tr>
<td>890</td>
<td>1110</td>
<td></td>
<td>red sand</td>
</tr>
</tbody>
</table>
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights
(Under Chapter 287, Montana Session Laws, 1961)

1. Name of Appropriator: [Name of Appropriator]
   (Address): [Address]
   (Town): [Town]

   County of: [County]
   State of: [State]

   have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

   2. The beneficial use on which the claim is based
      **STATE WATER & DOMESTIC**

   3. Date or approximate date of earliest beneficial use: January 1, 1962

   4. The amount of groundwater claimed (in miner's inches or gallons per minute): 10 gallons per minute

   5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof

   6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal
      **ARTESIAN** 200 feet

   7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater
      [Completion Date]

   8. The depth of water table
      500 feet

   9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater
      Drilled well: 50 casing: pump house

   10. The estimated amount of groundwater withdrawn each year
       4,000,000 gallons

   11. The log of formations encountered in the drilling of each well if available
       not available

   12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record

   **FROM LUCY K. KELLOGG NO. 2, INC.**
   Signature of Owner: [Signature]
   Date: 12/24/12

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the School of Mines and Unduplicate for the Appropriator.
STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEERS

Notice of Completion of Groundwater Appropriation  
Without Well

Date of Appropriation of Groundwater: 1957

Killer Kreek n. 177
Box 1352 Billings, Montana

Contractor or any other

Address of Contractor: Box 1352 Billings, Montana

Date Started: 1956

Date Completed: 1957

continuous development

Describe means of obtaining groundwater without a well "as by irrigation and other natural processes". Include depth to water where applicable: developed spring

Quantity of water developed and used with explanation of method

estimate approximate lengths of periods of use: year around use

continuous flow adequate for 300 head of livestock

These are springs in the creek bed of McDonald Creek developed for livestock; also springs in pastures also developed for livestock.

Signature of contractor: FRATER LAND & LIVESTOCK CO., INC.

Date: 12/31/63

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state; otherwise the form will be returned.

Original to the County Clerk and Recorder, duplicate to the State Engineer, triplicate to the Montana Bureau of Mines and Sociology and Quadruplicate for the Appropriator.