

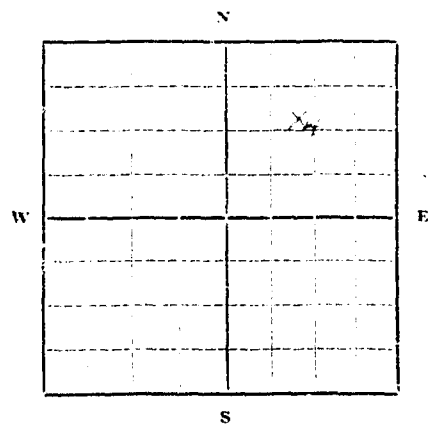
Helena Independent Record  
File No. **16855**  
DUPLICATE

T. R. 12  
County

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER  
**Declaration of Vested Groundwater Rights**  
(Under Chapter 237, Montana Session Laws, 1961)

**RECEIVED**  
DEC 23 1963  
**STATE ENGINEER**

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



SW 1/4 NW Sec. 17, T. 15, R. 12  
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 irrigation
3. Date or approximate date of earliest beneficial use; and how continuous the use has been 4-12-49  
Continuously
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 5.24 gpm
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 Well
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater Well 7-5-1949 Completed Dec 12 1949
8. The depth of water table 9.5'
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 2 1/2 inch 25' deep
10. The estimated amount of groundwater withdrawn each year 100,000 gallons
11. The log of formations encountered in the drilling of each well if available 2.31-2.40 Soft yellowish sandstone 2' to 3' 2.40-2.45 Sandstone 2' to 3' 2.45-2.50 Sandstone 2' to 3' 2.50-2.55 Sandstone 2' to 3' 2.55-2.60 Sandstone 2' to 3' 2.60-2.65 Sandstone 2' to 3' 2.65-2.70 Sandstone 2' to 3' 2.70-2.75 Sandstone 2' to 3' 2.75-2.80 Sandstone 2' to 3' 2.80-2.85 Sandstone 2' to 3' 2.85-2.90 Sandstone 2' to 3' 2.90-2.95 Sandstone 2' to 3' 2.95-3.00 Sandstone 2' to 3' 3.00-3.05 Sandstone 2' to 3' 3.05-3.10 Sandstone 2' to 3' 3.10-3.15 Sandstone 2' to 3' 3.15-3.20 Sandstone 2' to 3' 3.20-3.25 Sandstone 2' to 3' 3.25-3.30 Sandstone 2' to 3' 3.30-3.35 Sandstone 2' to 3' 3.35-3.40 Sandstone 2' to 3' 3.40-3.45 Sandstone 2' to 3' 3.45-3.50 Sandstone 2' to 3' 3.50-3.55 Sandstone 2' to 3' 3.55-3.60 Sandstone 2' to 3' 3.60-3.65 Sandstone 2' to 3' 3.65-3.70 Sandstone 2' to 3' 3.70-3.75 Sandstone 2' to 3' 3.75-3.80 Sandstone 2' to 3' 3.80-3.85 Sandstone 2' to 3' 3.85-3.90 Sandstone 2' to 3' 3.90-3.95 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28.35-28.40 Sandstone 2' to 3' 28.40-28.45 Sandstone 2' to 3' 28.45-28.50 Sandstone 2' to 3' 28.50-28.55 Sandstone 2' to 3' 28.55-28.60 Sandstone 2' to 3' 28.60-28.65 Sandstone 2' to 3' 28.65-28.70 Sandstone 2' to 3' 28.70-28.75 Sandstone 2' to 3' 28.75-28.80 Sandstone 2' to 3' 28.80-28.85 Sandstone 2' to 3' 28.85-28.90 Sandstone 2' to 3' 28.90-28.95 Sandstone 2' to 3' 28.95-29.00 Sandstone 2' to 3' 29.00-29.05 Sandstone 2' to 3' 29.05-29.10 Sandstone 2' to 3' 29.10-29.15 Sandstone 2' to 3' 29.15-29.20 Sandstone 2' to 3' 29.20-29.25 Sandstone 2' to 3' 29.25-29.30 Sandstone 2' to 3' 29.30-29.35 Sandstone 2' to 3' 29.35-29.40 Sandstone 2' to 3' 29.40-29.45 Sandstone 2' to 3' 29.45-29.50 Sandstone 2' to 3' 29.50-29.55 Sandstone 2' to 3' 29.55-29.60 Sandstone 2' to 3' 29.60-29.65 Sandstone 2' to 3' 29.65-29.70 Sandstone 2' to 3' 29.70-29.75 Sandstone 2' to 3' 29.75-29.80 Sandstone 2' to 3' 29.80-29.85 Sandstone 2' to 3' 29.85-29.90 Sandstone 2' to 3' 29.90-29.95 Sandstone 2' to 3' 29.95-30.00 Sandstone 2' to 3' 30.00-30.05 Sandstone 2' to 3' 30.05-30.10 Sandstone 2' to 3' 30.10-30.15 Sandstone 2' to 3' 30.15-30.20 Sandstone

16855

COF

State of Montana, } ss.  
County of Fergus.

Filed DEC 18 1963  
at 10:20 o'clock A.M.  
Way Rethman  
County Clerk and Recorder

#200-5

File No. 44717T. 15 R. 23

DUPLICATE

County King

LOG

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
STATE WATER CONSERVATION BOARDNotice of Completion of Groundwater  
Appropriation by Means of Well  
DEVELOPED AFTER JANUARY 1, 1962

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

Top of Ground

(Elev. above sea level.....)

0 1 Topsoil  
1 4 Silty clay  
4 15 Gravel  
15 90 Gravel  
90 140 Flint and gravel  
140 150 Gravel

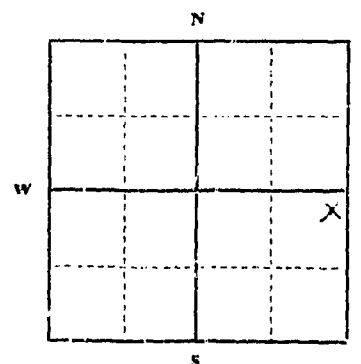
Owner W. J. Smith Address 1000 1st St.Driller W. J. Smith Address 1000 1st St.File No. 44717Date of Notice of appropriation of groundwater 10/15/71

for record

S. 13 day of NovemberDate well started 10/15/71 Date completed November 3, 1971A. D. 19 71, at 3:50o'clock 4 M.Type of well Drilled Equipment used Rotary  
(Dug, driven, bored or drilled) (Churn drill, rotary or other)Water use: Domestic ☒ Municipal ☐ Stock ☒ Irrigation ☐  
Industrial ☐ Drainage ☐ Other ☐

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.

Size of Drilled Hole	Size and Weight of Casing	From (Feet)	To (Feet)	PERFORATIONS		
				Kind Size	From (Feet)	To (Feet)
7-8/8		0	60			
5-8/8		60	140			
	4" OD 4 ID above 140 - 1/2" gal. 1"	140	140	5/16" holes	90	140



NE 1/4 Sec. 12, T22N, R22E  
Indicate location of well and place of use, if possible. Each small square represents 40 acres.

Static Water Level for non-flowing well None feet.Shut-in Pressure for Flowing Well 0Pumping Water Level 60 feetat 75 gal. per minute.Discharge in gal. per min. of flowing well 30How Tested Surged with BucketLength of Test 1 min.

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

Cemented with 5 sacks cement

(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).

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 10Driller's Signature W. J. Smith

49582

62707

State of Montana, } ss.  
County of Fergus.

Filed 11/11/1971 19\_\_\_\_  
at 3:50 o'clock P.-M.  
*Wm. Rathbun*  
County Clerk and Recorder  
62707

File No. **9055**

DUPLICATE

T 15 R 23

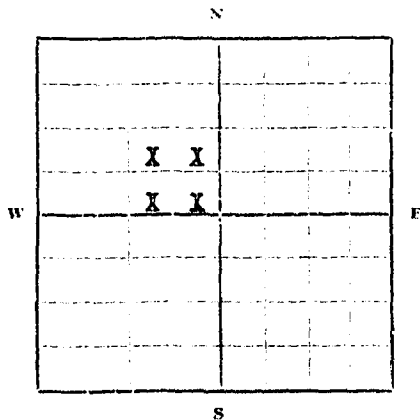
County **Fergus**

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

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

STATE ENGINEER

1. **Mabel C. Ryan** of **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:



1/4 Sec. 30 T. 15. R. 23.

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 stock water and irrigation**
3. Date or approximate date of earliest beneficial use; and how continuous the use has been  
**October 26, 1950 -- used continuously--daily**
4. The amount of groundwater claimed (in miner's inches or gallons per minute) **50 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 **used SE 1/4 Section 30, Township 15 North, Range 23 East**
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal **artesian well--flowing**
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater **commenced prior to and completed October 26, 1950**
8. The depth of water table **520 feet depth**
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 **2 1/2" I.D. pipe**
10. The estimated amount of groundwater withdrawn each year **all water put to beneficial use (flows 50 gallons per minute)**
11. The log of formations encountered in the drilling of each well if available  
**well drilled by Livingston, of Winnett, 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.

Signature of Owner *Mabel C. Ryan*

Date *March 26, 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.

9055

COPY

State of New York } ss.  
County of Fergus }

Filed MAR 26 1962 19

at 3:00 o'clock P. M.  
May Rathen  
County Clerk and Recorder

\$200.00

File No. **17574**

DUPLICATE

T.....R.....

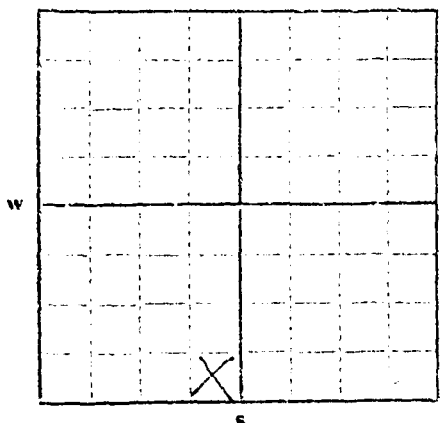
County.....

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

**Declaration of Vested Groundwater Rights**

(Under Chapter 237, Montana Session Laws, 1961)

1. **Joe Grogan** of **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:



SE 1/4 SW Sec 21 T 15 R 23

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. **Livestock & household water**
3. Date or approximate date of earliest beneficial use; and how continuous the use has been. **Sept. 12, 1950**  
**Daily use**
4. The amount of groundwater claimed (in miner's inches or gallons per minute). **20 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.  
**No**
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal.  
**Artesian**
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater. **August 20, 1950 - Sept. 12, 1950**
8. The depth of water table. **550'**
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. **552' deep 4" casing**
10. The estimated amount of groundwater withdrawn each year. **4,320,000**
11. The log of formations encountered in the drilling of each well if available. **Water is produced from the 3rd Cat Creek Sand in the Kutne Formation.**
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 *Joe Grogan*

Date *Dec 13, 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 Quadreplicate for the Appropriator.

1963

17574

COPY

State of Montana, }  
County of Fergus, } ss.

Filed..... DEC 31 1968 .....

at 10:30 o'clock A. M.

# J. E. Ed.

MAY RATHBUN  
County Clerk and Recorder



File No. 4056

DUPLICATE

T 15 N R 23 E

County Fergus

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

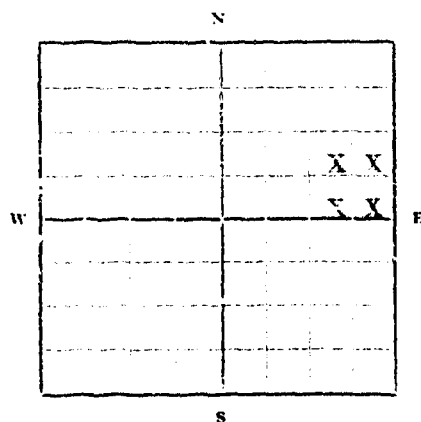
**Declaration of Vested Groundwater Rights**

(Under Chapter 237, Montana Session Laws, 1961)

Barbara Ryan Richards,

1. George William Ryan, Mabel C. Ryan of 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:



1/4 Sec. 21 T 15 R 23

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 stock water and irrigation

3. Date or approximate date of earliest beneficial use; and how continuous the use has been  
November 1, 1947 — used continuously—daily

4. The amount of groundwater claimed (in miner's inches or gallons per minute) 55 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 used SE 1/4 NE 1/4 Section 21, Township 15 North, Range 23 East

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

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater commenced prior to and completed November 1, 1947

8. The depth of water table 730 feet depth

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 1/2" O.D. casing in well

10. The estimated amount of groundwater withdrawn each year all water put to beneficial use (flows 55 gallons per minute)

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

well drilled by Livingston & Boles, of Winnett, 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.

Barbara Ryan Richards  
George William Ryan  
Mabel C. Ryan

Signature of Owner By Mabel C. Ryan

Date March 22, 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.

9056

COPY.

RECORDED  
COUNTY CLERK  
MAR 26 1902  
FILED  
at 3:00 o'clock P.M.  
May Nathan  
County Clerk and Recorder

\$2.00 per -

File No. 4051

T 15 R 23

DUPLICATE

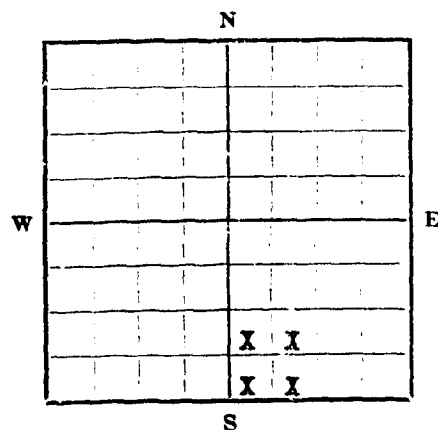
County Fergus

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

### Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. Mabel C. Ryan of 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:



$\frac{1}{4}$  Sec 21 T 15 R 23

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 stock water and irrigation
3. Date or approximate date of earliest beneficial use; and how continuous the use has been  
1883
4. The amount of groundwater claimed (in miner's inches or gallons per minute)  
55 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  
used SW $\frac{1}{4}$  Sec 21, Township 15 North, Range 23 East
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal  
natural spring existing — flowing
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater  
1883
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  
Box & Curb — lateral ditches
10. The estimated amount of groundwater withdrawn each year all water put to beneficial use  
(flows 55 gallons per minute)
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 Mabel C. Ryan

Date March 22, 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.

9051 COPY

Filed 27 1957  
at 3:00 P.M.  
*May Nathan*  
County Clerk and Recorder

#2nd pt.

File No. 9057

T. 15 R. 23

DUPLICATE

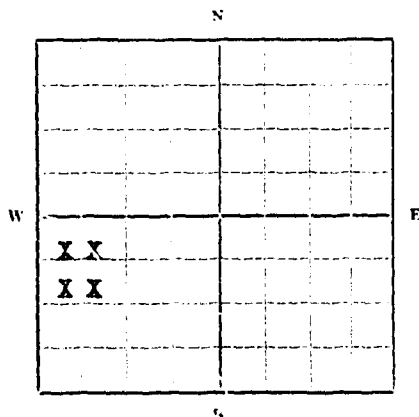
County Fergus

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

**Declaration of Vested Groundwater Rights**

(Under Chapter 237, Montana Session Laws, 1961) STATE ENGINEER

1. Mabel C. Ryan of 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:



$\frac{1}{4}$  Sec. 22 T. 15 R. 23

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 stock water and irrigation
3. Date or approximate date of earliest beneficial use; and how continuous the use has been December, 1952--used continuously--daily
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 50 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 used NW $\frac{1}{4}$ SW $\frac{1}{4}$  Section 22, Township 15 North, Range 23 East
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal artesian well--flowing
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater commenced prior to and completed December, 1952
8. The depth of water table 733 feet depth
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 4 $\frac{1}{2}$ " O.D. pipe
10. The estimated amount of groundwater withdrawn each year all water put to beneficial use (flows 50 gallons per minute)
11. The log of formations encountered in the drilling of each well if available well drilled by Flank Oil Co. and Munson & Wellman, Grass Range, 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.

Signature of Owner Mabel C. Ryan

Date March 26, 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.

9057

COPY

County of Perry, Ga.

MAR 26 1962

Filed

at 3:00

o'clock P.M.

May Plathman  
County Clerk and Recorder

\$2.00 pd.

(Under Chapter 237, Montana Session Laws, 1961)

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

9052 COPY

State of Montana } ss.  
County ofergus }  
Filed MAY 26 1862 19  
at 3:00 o'clock P.M.  
May Rathun  
County Clerk and Recorder

#200-*pr*



File No. 9055T. 15 R. 23

DUPLICATE

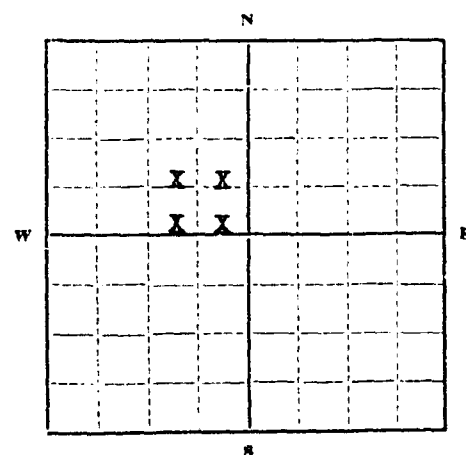
County Fergus

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

# Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. Mabel C. Ryan of 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:

1/4 Sec. 30 T. 15 R. 23

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 stock water and irrigation
3. Date or approximate date of earliest beneficial use; and how continuous the use has been. 1883
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 60 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  
used SE 1/4 Section 30, Township 15 North, Range 23 East
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal  
natural spring — flowing
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater. 1883
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.  
Box & curb — lateral ditches
10. The estimated amount of groundwater withdrawn each year. all water put to beneficial use  
(flows 60 gallons per minute)
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 Mabel C. RyanDate March 26, 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.

9053

COP

State of Montana, } ss.  
County of Fergus.

Filed MAR 26 1962 19  
at 3:00 o'clock P. M.  
May Rathner  
County Clerk and Recorder

\$200.00

File No. **9054**

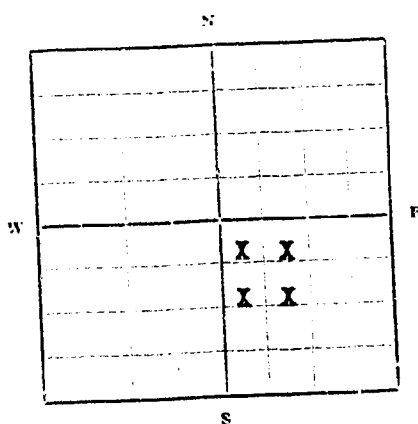
DUPLICATE

T 15 N R 23 E  
County **Fergus**

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

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

1. **Mabel C. Ryan** of **Grass Range** (Address) **Town**  
(Name of Appropriator) State of **Montana**  
County of **Fergus** have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



$\frac{1}{4}$  Sec 32 T 15 R 23  
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 stock water and irrigation**
3. Date or approximate date of earliest beneficial use; and how continuous the use has been  
**January 22, 1949 -- used continuously--daily**
4. The amount of groundwater claimed (in miner's inches or gallons per minute) **50 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 **used NW 1/4 Sec 32, Township 15 North, Range 23 East**
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal **artesian well--flowing**
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater **commenced prior to and completed January 22, 1949**
8. The depth of water table **416 feet depth**
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 **3 1/2" O.D. casing**
10. The estimated amount of groundwater withdrawn each year **all water put to beneficial use (flows 50 gallons per minute)**
11. The log of formations encountered in the drilling of each well if available  
**well drilled by Livingston & Boles, of Winnett, 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.

Signature of Owner **Mabel C. Ryan**  
Date **March 26, 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.

to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the School of Mines  
duplicate for the Appropriator.

9054

COEY

State of Missouri } ss.  
County of Ferguson }

Filed MAR 26 1962 19  
at 3:00 o'clock P. M.

May Rathbun  
County Clerk and Recorder

4200

County... ..

# WATER WELL LOG


Driller Arthur J. Carthage Address Box 2, Washburn, Mead

Date Started 7-18-55 Date Completed 4-19-58

Location: Sec. 33 T. 15 R. 23 1/4 sec. 11 1/2 21 1/2  
21 1/2 21 1/2 21 1/2 21 1/2

Type of well..... Equipment used.....  
(Dug, driven, bored, or drilled) (Cable drill, rotary, other)

Water use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐

Industrial ☐ Drainage ☐ Other: .....

Casing: 4 1/2 ft. to 58 ft. Type 1 7/8" Black Size 1 1/2" O.D. / 1 1/4" I.D.

Casing:.....ft. to.....ft.      Type..... Size.....

Casing:.....ft. to.....ft. Type.....Size.....

Perforated or Screened: Ft. 30 to ft. 38 Ft. to ft.

Type of screen or perforations.....

Static Water level, for non-flowing well: ..... fee

Shut-in pressure, for flowing well: ..... lb./sq. in. On: .....

Sampling water level 20 feet 20 feet 20 feet 20 feet

1000

84

mean  $\pm$  SD, and maximum percentage increase in heart rate of about 100% (range 40–160%)

James Webb

(over)

1. The first group of respondents (n = 10) was asked to identify the most important factors influencing their decision to use a particular technology. The factors identified were: ease of use, cost, reliability, security, and compatibility. The second group (n = 10) was asked to identify the most important factors influencing their decision to use a particular technology. The factors identified were: ease of use, cost, reliability, security, and compatibility. The third group (n = 10) was asked to identify the most important factors influencing their decision to use a particular technology. The factors identified were: ease of use, cost, reliability, security, and compatibility.

\_\_\_\_\_

## Log of Well

Depth, feet		Description of Material Drilled
From	To	
0	10	Dark brown sand
10	20	Yellow sandstone
20	30	Gravel
30	40	Gravel
40	50	Gravel
50	60	Gravel
60	70	Gravel
70	80	Gravel
80	90	Gravel
90	100	Gravel

State of Montana,  
County of Fergus, } ss

Filed MAY 11 1908

at 10:10 o'clock A.M.

DORIS L. MANE  
County Clerk and Recorder

By May Rutledge  
Deputy

-504 P.O.

91650

Sec 33 T. 15 N. R. 23 E.

County PERMITS

MONTANA BUREAU OF MINES AND GEOLOGY  
Butte, Montana

STATE ENGINEER

WATER WELL LOG


Owner *John L. L. L.* Address *Grass Range, Montana*  
Driller *Richard L. L.* Address *Box 456, Mont*  
Date Started *4-14-58* Date Completed *4-27-58*  
Location: Sec. *33* T. *15* R. *23* Sec. *14* original *townsite, Grass Range*  
County *Permits* Montana.

Type of well *Drilled* Equipment used *Rotary*  
(Dug, driven, bored, or drilled) (Churn drill, rotary, other)

Water use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐  
Industrial ☐ Drainage ☐ Other:

Casing: *5 1/2" x 1/2"* ft. to *173* ft. Type *1 1/2" 14 lb* Size *4 1/2" OD - 7 1/2" ID*

Casing: ft. to ft. Type Size

Casing: ft. to ft. Type Size

Perforated or Screened: Ft. to ft. Ft. to ft.

Type of screen or perforations *open hole production*

Static Water level, for non-flowing well: *22* feet.

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

Pumping water level: *40* feet at *6* gal. per min.

How tested: *pumped*

Length of test: *1 hour*

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

*casing cemented to 6' above cement at bottom of*  
*1/2" casing in 5' hole 4' above cement of 7' hole*  
*test on pump*

(over)

91632

State of Maryland  
County of Prince Georges

Filed  
1/50

Witness  
County Clerk and Recorder

Log of Well  
Description of Material Drilled

From  
Depth, feet  
To



County Fergus 33

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
MONTANA WATER RESOURCES BOARD

NOTICE OF COMPLETION OF GROUNDWATER APPROPRIATION WITHOUT WELL

Developed After January 1, 1962

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

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

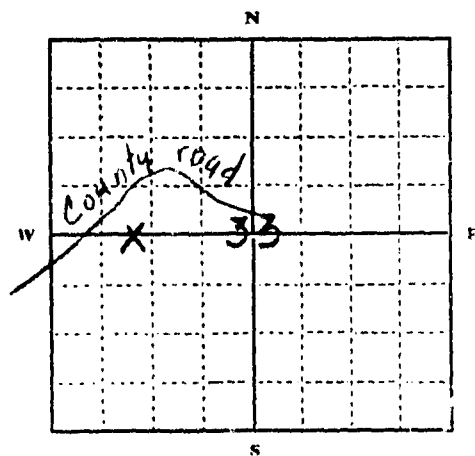
Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

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

For Administrator's Use

File 43790  
September 24, 1971  
425 PM

GW 1 .....



NW  $\frac{1}{4}$  SW  $\frac{1}{4}$  Sec. 33  
T. 15 N R. 23 E

INDICATE POINT OF APPROPRIATION  
AND PLACE OF USE, IF POSSIBLE.  
Elevation of spring, if known or esti-

mated .....

NOTICE: This document  
claims an appropriation of  
waters from the year 1968.

Owner ROBERT D. FLEHARTY and EVA M. FLEHARTY

Address Grass Range

Contractor (if any) no

Address of Contractor -

Date Started 1968 Date Completed 1968

1. Describe means of obtaining groundwater (as by sub-irrigation,  
developed spring, drains, etc.) developed spring

2. Means of withdrawing water (gravity, pump, canal, etc.) gravity

3. Depth of water table comes to surface at spring

4. Use of the water household, livestock water,  
irrigation of garden and hay meadow

5. Amount of groundwater claimed (in miner's inches or gallons  
per minute) 180 gallons per minute during  
peak irrigation

6. If used for irrigation, give number of acres and description  
of land 400 acres of NE  $\frac{1}{4}$  and  
S  $\frac{1}{2}$  of Section 33.

7. Estimate amount of water used each year Entire flow is  
used for purposes shown in #4 above

8. Months of year spring flows flows full year

Signature of Owner Robert D. Fleharty

Date Sept 10-1971

425 PM

43790

COPY

State of Montana, } ss.  
County of Fergus }

Filed SEP 24 1971 19  
at 4:25 o'clock P. M.

B200 pd Wm. R. Kettner  
County Clerk and Recorder

County San Diego

INVESTIGATED

STATE ENGINEER


Driller \_\_\_\_\_ Address \_\_\_\_\_

Location: Sec. 33 T. 14 R. 23  $\frac{1}{4}$  sec. NW NE

Water use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐

Casing: 6 ft. to 74 ft. Type 116 3/4" Size 4 1/2"

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

Casing: \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Type \_\_\_\_\_ Size \_\_\_\_\_

Perforated or Screened: Ft. \_\_\_\_\_ to ft. \_\_\_\_\_. Ft. \_\_\_\_\_ to ft. \_\_\_\_\_

Type of screen or perforations\_\_\_\_\_

Static Water level, for non-flowing well: 11 feet

Shut-in pressure, for flowing well: \_\_\_\_\_ lb./sq. in. on: \_\_\_\_\_ (date)

Pumping water level 40 feet at 10 gal. per min.

How tested: 100% by 10/1/10

Length of test 1.1.6

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

(over)

Log of Well

Depth, feet		Description of Material Drilled
From	To	
0	3.0	Surface
3.0	5.0	Gravel
5.0	8.0	Gravel
8.0	11.0	Gravel
11.0	14.0	Gravel
14.0	17.0	Gravel
17.0	20.0	Gravel
20.0	23.0	Gravel
23.0	26.0	Gravel
26.0	29.0	Gravel
29.0	32.0	Gravel
32.0	35.0	Gravel
35.0	38.0	Gravel
38.0	41.0	Gravel
41.0	44.0	Gravel
44.0	47.0	Gravel
47.0	50.0	Gravel
50.0	53.0	Gravel
53.0	56.0	Gravel
56.0	59.0	Gravel
59.0	62.0	Gravel
62.0	65.0	Gravel
65.0	68.0	Gravel
68.0	71.0	Gravel
71.0	74.0	Gravel
74.0	77.0	Gravel
77.0	80.0	Gravel
80.0	83.0	Gravel
83.0	86.0	Gravel
86.0	89.0	Gravel
89.0	92.0	Gravel
92.0	95.0	Gravel
95.0	98.0	Gravel
98.0	101.0	Gravel
101.0	104.0	Gravel
104.0	107.0	Gravel
107.0	110.0	Gravel
110.0	113.0	Gravel
113.0	116.0	Gravel
116.0	119.0	Gravel
119.0	122.0	Gravel
122.0	125.0	Gravel
125.0	128.0	Gravel
128.0	131.0	Gravel
131.0	134.0	Gravel
134.0	137.0	Gravel
137.0	140.0	Gravel
140.0	143.0	Gravel
143.0	146.0	Gravel
146.0	149.0	Gravel
149.0	152.0	Gravel
152.0	155.0	Gravel
155.0	158.0	Gravel
158.0	161.0	Gravel
161.0	164.0	Gravel
164.0	167.0	Gravel
167.0	170.0	Gravel
170.0	173.0	Gravel
173.0	176.0	Gravel
176.0	179.0	Gravel
179.0	182.0	Gravel
182.0	185.0	Gravel
185.0	188.0	Gravel
188.0	191.0	Gravel
191.0	194.0	Gravel
194.0	197.0	Gravel
197.0	200.0	Gravel

5/10/61  
 J. B. O. O'Brien  
 County Clerk and Recorder  
 June 1, 1961  
 J. B. O. O'Brien  
 County Clerk and Recorder

6218  
COPY

File No. 14288

Approved Stock Form - State Publishing Co., Helena, Montana - 3687

File No. ....

T. .... R. ....

DUPLICATE

County. ....

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. Victor Strommer of Grass Range  
(Name of Appropriator) (Address) (Town)  
County of Fergus State of Mont  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:


outlet # 1

NE 1/4 Sec. 33 T. 15 R. 23 E.

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

- The beneficial use on which the claim is based. domestic
- Date or approximate date of earliest beneficial use; and how continuous the use has been. From June 30, 1961
- The amount of groundwater claimed (in miner's inches or gallons per minute).....
- If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof.....
- The means of withdrawing such water from the ground and the location of each well or other means of withdrawal. pump
- The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater. June 28-1961 - completion June 30-1961
- The depth of water table. 109 to 121, stands at 13 ft. of surface
- 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, 123 ft  
steel casing to 75 ft. cemented.
- The estimated amount of groundwater withdrawn each year.....
- The log of formations encountered in the drilling of each well if available. 0-30 ft surface silt  
30-33 gravel, 33-37 shale, 37-41 sandy shale,  
41-47 sand, 47-54 silty shale, 54-62 shale, 62-75 silty shale,  
75-101 sandy shale, 101-103 hard sand rock,  
103-109 hard sand rock, 109-121 gravel and water, 121-123 bentonite
- 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. Victor Strommer

Date. May 9, 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 the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

136

14288 COPY

State of Montana, } ss.  
County of Ferns.

MAY 10 1963

Filed.....19

at 10:30 o'clock A. M.

Wesley R. Rother  
County Clerk and Recorder

82<sup>nd</sup> ph

GV

Approved Stock Form—State Publishing Co., Helena, Montana—39089

File No. 5260T. 15N R. 23E

DUPLICATE

County FERGUS

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

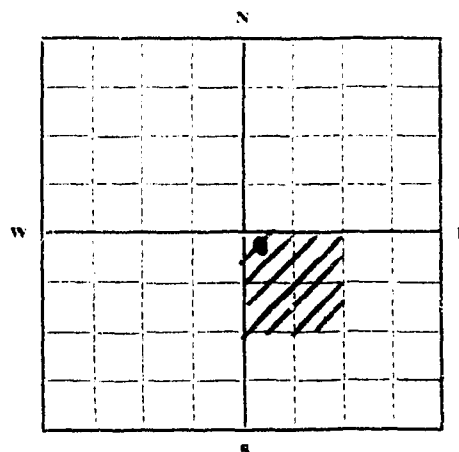
RECEIVED  
AUG 23 1963

**Declaration of Vested Groundwater Rights**

(Under Chapter 237, Montana Session Laws, 1961)

STATE ENGINEER

1. BLAINE I. WOODARD of 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:



NW 1/4 Sec. 33 T. 15N R. 23E

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.....  
Stock watering and household use
3. Date or approximate date of earliest beneficial use; and how continuous the use has been.....  
Fall of 1949 - continuously used ever since
4. The amount of groundwater claimed (in miner's inches or gallons per minute).....  
40 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.....  
See question No. 2
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal.....  
Artesian flowing wells
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater.....  
See question No. 3
8. The depth of water table.....approximately 300 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.....  
3 1/2" casing to the water table with artesian flow
10. The estimated amount of groundwater withdrawn each year.....Continuous artesian flow
11. The log of formations encountered in the drilling of each well if available.....  
The legal information required by the State is on file in Helena
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

Blaine I. Woodard

Date August 21, 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 the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

15260

COPY

State of Montana, } ss.  
County of Fergus }

Filed AUG 22 1900

at 10:00 o'clock A.M.

May Rathbone  
County Clerk and Recorder

200



File No. 15253

DUPLICATE

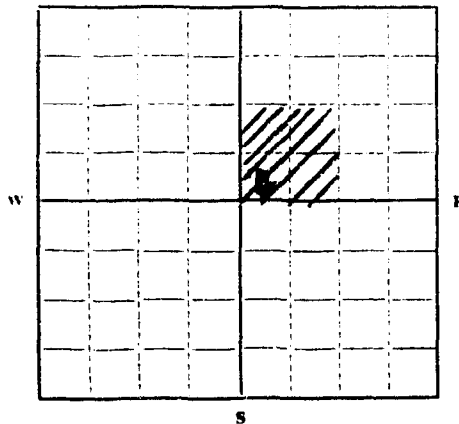
T. 15N R. 23ECounty FERGUS

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

RECEIVED  
AUG 23 1963

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

1. BLAINE L. WOODARD of Grass Range, Montana  
(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:



SW 1/4 NE 1/4 Sec. 33 T15N R. 23E

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.....  
Stock watering and household use
3. Date or approximate date of earliest beneficial use; and how con-  
tinuous the use has been.....  
Approximately 50 years ago and in continuous use since  
that date
4. The amount of groundwater claimed (in miner's inches or gallons  
per minute)..... 40 Gallons a 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  
See question No. 2
6. The means of withdrawing such water from the ground and the  
location of each well or other means of withdrawal.....  
Artesian flowing wells
7. The date of commencement and completion of the construction of the well, wells, or other works for with-  
drawal of groundwater..... See question No. 3
8. The depth of water table..... 200 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.....  
4" casing to the water table with artesian flow
10. The estimated amount of groundwater withdrawn each year..... Continuous artesian flow
11. The log of formations encountered in the drilling of each well if available.....  
The legal information required by the State is on file in Helena
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

*Blaine L. Woodard*

Date August 21, 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 the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology; and Quadruplicate for the Appropriator.

15268

COPY

State of Michigan  
(County of ...)

Filed Aug 22 1963 1963  
at 10:00 o'clock A.M.  
*Way Nathan*  
County Clerk and Recorder

9200-*pt*

Form No. 15  
5-60

T. \_\_\_\_\_ R. \_\_\_\_\_  
County Blaine

MONTANA BUREAU OF MINES AND GEOLOGY  
Butte, Montana

WATER WELL LOG

STATE ENGINEER


Owner Marion Kruger Address Grand Range Mont.  
Driller William M. Munson, Jr. Address \_\_\_\_\_  
Date Started Mar 22 1961 Date Completed Mar 24 1961  
Location: Sec. 1 T. 1 R. 1 sec. 4  
South of Grand Range Mont.

Type of well drilled Equipment used Rotary  
(Dug, driven, bored, or drilled) (Churn, drill, rotary, other)

Water use: Domestic ☐ Municipal ☐ Stock ☐ Irrigation ☐  
Industrial ☐ Drainage ☐ Other Drinking water

Casing: 0 ft. to 6.3 ft. Type 11.75" Blk St. Size 1" O.D.

Casing: \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Type \_\_\_\_\_ Size \_\_\_\_\_

Casing: \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Type \_\_\_\_\_ Size \_\_\_\_\_

Perforated or Screened: Ft. \_\_\_\_\_ to ft. \_\_\_\_\_. Ft. \_\_\_\_\_ to ft. \_\_\_\_\_

Type of screen or perforations \_\_\_\_\_

Static Water level, for non-flowing well: 22 feet.

Shut-in pressure, for flowing well: \_\_\_\_\_ lb./sq. in. on: \_\_\_\_\_ (date)

Pumping water level 24 feet at 15 gal. per min.

How tested: Barometer - Pump

Length of test 2 hrs. flowing 2 hrs. pumping

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

13 ft. casing & shoe - cemented & bentonite slurry seal  
formation shut off

1 gal. of Chlorine & Chlorine used to disinfect casing  
and bailed out with water  
(over)

## Log of well

[illegible]

5403

507

100-443887-100

## STATE ENGINEER


Owner John H. Swanson Address El Paso, Kansas  
Driller W. C. G. & W. Swanson Address El Paso, Kansas  
Date Started July 1, 1961 Date Completed July 5, 1961  
Location: Sec. 1 T. 1 R. 1  $\frac{1}{4}$  sec. 1

Type of well Drilled Equipment used Rotary  
(Pneum., driven, cased, or drilled) (Chain, drill, potter, other)

Water use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐  
Industrial ☐ Drainage ☐ Other ☐

Casing: 2 ft. to 7.5 ft. Type 11.6 Std 17C Size 4 1/2

Casing: \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Type \_\_\_\_\_ Size \_\_\_\_\_

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

Perforated or Screened: Ft.            to ft.            . Ft.            to ft.

Type of screen or perforations

Static Water level, for non-flowing well: 17 feet.

Shut-in pressure, for flowing well: \_\_\_\_\_ lb./sq. in. on: \_\_\_\_\_ (date)

Pumping water level 3.5 feet at 6 gal. per min.

How tested: Exhibit 7 Sample

Length of test adequate

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

Committee

(over)

## Log of Well

Depth, feet		Description of Material Drilled
From	To	
0	5	Surface soil
5	12	conglomerate
12	18	well-sorted sand
18	41	gravel
41	43	shale
43	44	hard sand
44	46	sand
46	55	shale
55	57	sandy shale
57	65	shale
65	75	silty shale
75	103	sandy shale
103	111	hard sandstone
111	124	benitic sand
124	128	shale
128	132	hard sand
132	143	benitic sand
143	144	hard sand
144	146	hard gravel gravelly (under)
146	151	benitic sand
151	153	red clay

State of New York  
 County of Hamilton  
 4/22/61  
 Filed  
 JUL 31 1961  
 County Clerk and  
 Notary Public

4/20/25

County Clerk and Recorder

1:30

Filed JUL 1 1961

Chesley C. Rogers

541-61-1111

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5217

Copy

Form No. 18  
8-60

T. 15N R. 1E  
County Fergus

MONTANA BUREAU OF MINES AND GEOLOGY  
Butte, Montana

WATER WELL LOG


Owner L. W. Westberg Address Grass Range, Montana  
Driller Wellman & Munson Drlg. Co. Address Grass Range, Montana  
Date Started September 28-1961 Date Completed October 3-1961  
Location: Sec. \_\_\_\_\_ T. \_\_\_\_\_ R. \_\_\_\_\_  $\frac{1}{4}$  sec. \_\_\_\_\_

Lot ( 18 ) Block ( 15 ) Townsite of Grass Range  
Type of well Drilled Equipment used Rotary  
(Aug., driven, bored, or drilled) (Chain, mill, rotary, other)

Water use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐  
Industrial ☐ Drainage ☐ Other \_\_\_\_\_

Casing: 0 ft. to 63 ft. Type Steel 11 Lb. Size 4 $\frac{1}{2}$  o. d.

Casing: \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Type \_\_\_\_\_ Size \_\_\_\_\_

Casing: \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Type \_\_\_\_\_ Size \_\_\_\_\_

Perforated or Screened: Ft. \_\_\_\_\_ to ft. \_\_\_\_\_. Ft. \_\_\_\_\_ to ft. \_\_\_\_\_

Type of screen or perforations \_\_\_\_\_

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

Shut-in pressure, for flowing well: \_\_\_\_\_ lb./sq. in. on: \_\_\_\_\_  
(line)

Pumping water level 52 feet at 12 gal. per min. \_\_\_\_\_

How tested: Bailer & Pump

Length of test Adequate

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

Cemented

(over)

## Log of Well

[illegible]

COL

1325



GROUNDWATER INDEX

Page      of     

County                      Twp.            Rge.           

Sec.	Name of Appropriator	Type of Form	County File No.	Remarks
1				
2				
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County... FLANGUS

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
MONTANA WATER RESOURCES BOARD

# 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.

Owner Earl H. Hassett

Address Grass Range, Ontario **42383**

Date well started May, 1950

completed June, 1951

Type of well ..... drilled

(Dug, driven, bored or drilled)

Equipment used \_\_\_\_\_ rotary drill rig

(Churn drill, rotary or other)

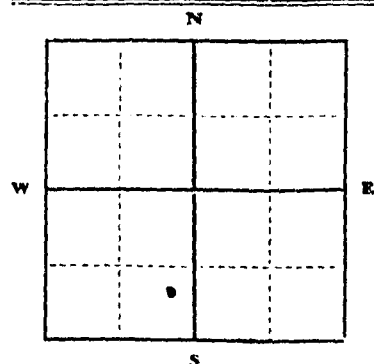
Water Use: Domestic ☒ Municipal ☐ Stock ☒ Irrigation ☐

Industrial ☐ Drainage ☐ Other ☐\* Garden./Lawn ☐

\* Describe

**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).

ESTIMATED ANNUAL WITHDRAWAL 525,000 gallons

[illegible]

Static water level .....ft.\*

Pumping water level .....ft.\*

at .....gallons per minute,  
measured .....minutes after pumping  
began.

\*Measured from ground level.

Well developed by .....

for .....hours.

Power..... Pump..... HP

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

SD 1/4 SW 1/4 Sec 34

T. 15 N R. 24 E  
S W

INDICATE LOCATION OF WELL AND PLACE OF USE, IF POSSIBLE.  
EACH SMALL SQUARE REPRESENTS 40 ACRES.

Driller's Signature W.L. Livingston (Deceased)

Driller's Address Formerly of Minnett, Montana

LICENSE NO. ....

### DRILLER'S LOG

Indicate the character, color, thickness of strata such as soil, clay, sand, gravel, shale, sandstone, etc. Show depth at which water is found and height to which water rises in well.

Top of Ground

(Elev. above sea level)

[illegible]

200' Show exact depth of bottom

5,021

COPY

47383

State of Montana, }  
County of Fergus, } ss.

Filed AUG 2 1972

at 3:20 o'clock P. M.

Way Kithman  
County Clerk and Recorder

The GN-4 form, by law was no longer to be used after January 1, 1972. Therefore, if you decide to file your groundwater right properly you should file on a GN-2 form or Notice of Completion of Groundwater Appropriation by Means of Well. We would recommend that you complete all blanks as accurately and completely as possible and attach any available proof (such as an affidavit) that the date of first beneficial use did actually date back to 1951 as indicated on your form. It is to your advantage to file and attach additional proof, if available, in case there is a dispute over groundwater in your area. Enclosed please find one set of the GN-2 form and a pamphlet entitled, Appropriation and Regulation of Ground Water. The first three and one-half pages of the pamphlet should be of most interest to you. Note the red under-

May 30, 1972

Mr. Earl H. Bassett  
Grass Range  
Montana 59032

Dear Mr. Bassett:

This is in reference to the enclosed "prepared" Notice of Appropriation, that you filed on November 10, 1972, at 2:00 PM in the Fergus County Court-house at Lewistown, Montana.

The "prepared" Notice of Appropriation that you filed is very similar to a Notice of Appropriation used for filing on surface water. Montana does have a Groundwater Code (passed in 1961) which does provide for the appropriation and regulation of groundwater. The Groundwater Code provides for specified forms to be used for filing on groundwater and which should have been used in your case. It is unlikely that the form you prepared would be recognized under the Groundwater Code.

There was a period of time from January 1, 1962 to January 1, 1966 that was intended for appropriators to file on vested groundwater rights on a form known as the GW-4 form or Declaration of Vested Groundwater Rights. This is the period of time you should have filed your well which was drilled in 1951.

The GW-4 form, by law was no longer to be used after January 1, 1966. Therefore, if you decide to file your groundwater right properly you should file on a GW-2 form or Notice of Completion of Groundwater Appropriation By Means of Well. We would recommend that you complete all blanks as accurately and completely as possible and attach any available proof (such as an affidavit) that the date of first beneficial use did actually date back to 1951 as indicated on your form. It is to your advantage to file and attach additional proof, if available, in case there is a dispute over groundwater in your area.

Enclosed please find one set of the GW-2 form and a pamphlet entitled, Appropriation and Regulation of Ground Water. The first three and one-half pages of the pamphlet should be of most interest to you. Note the red underlined areas which relate specifically to your particular case.

When you have completed the form, it should be recorded and filed with the Fergus County Clerk & Recorder at Lewistown, Montana.

Note that the GW-2 form has five (5) pages or sheets to a set. You may discard or destroy the last page or green sheet, since it is usually kept by the licensed commercial well driller and most likely the well driller is unknown

Mr. Earl H. Bassett  
Grass Range, MT  
May 30, 1972  
Page 2

or deceased. The GW-2 form is to be filled out by the well driller or other person doing the actual well construction, although the person who drilled the well is presumably not available, you will have to fill out the form the best you can.

The remaining four pages should be taken to the courthouse for filing. At the courthouse the first page (white) or original is kept for a permanent record; the second page (yellow) or duplicate is sent to this office by the Clerk & Recorder; the third page (blue) or triplicate is sent to the Montana Bureau of Mines and Geology in Butte by the Clerk & Recorder; and the fourth page (pink) is your personal copy for your records.

The purpose of this letter is to inform you of the proper filing procedures as prescribed by Montana's Groundwater Code and to protect your groundwater right.

If we can be of further service, please feel free to contact us at any time.

Sincerely,

Ronald J. Guse  
Groundwater Rights Coordinator  
WATER RESOURCES DIVISION

RJG/lk

Enclosures (3)

RECEIVED

NOV 16 1977

### TABLE OF APPROPRIATIONS

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

On the 11th day of May, 1911, that the undersigned, a resident of the United States, and more particularly of the State of Montana, has at this \_\_\_\_\_ day of November, 1911, caused to be analyzed \_\_\_\_\_ of the water listed as \_\_\_\_\_ located in \_\_\_\_\_ Section 9, Township \_\_\_\_\_ North Range \_\_\_\_\_ East, \_\_\_\_\_ County, Montana. The results of such analysis of the water is as follows:

the following: (1) the number of claims is small; (2) the number of claims is large; (3) the number of claims is small and the number of claimants is large; and (4) the number of claims is large and the number of claimants is large. The results show that the number of claims is a more important factor than the number of claimants in determining the number of claims. The number of claims is also a more important factor than the number of claimants in determining the number of claims. The number of claims is also a more important factor than the number of claimants in determining the number of claims.

the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 250 million to 450 million. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion.

~~CONFIDENTIAL~~

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The *Agrobacterium* strains were grown in the YEA medium for 24 h at 28°C. The cell concentration of the strains was adjusted to 10<sup>8</sup> cells/ml. The cell suspension was mixed with the plant tissue and incubated for 24 h at 28°C. The plant tissue was then cultured on the selective medium. The transformation efficiency was determined as the number of transformants per 100 mg of plant tissue. The data are the mean values of three independent experiments.

1. Definition of the problem

1.  $\lim_{n \rightarrow \infty} \frac{1}{n} \sum_{k=1}^n f\left(\frac{k}{n}\right) = \int_0^1 f(x) dx$

Edna L. Smith

[illegible]

Carl H. Bassett

102

Bruce F. Parry

100-443887-100

44220

MONTANA WATER RESOURCES BOARD  
RECEIVED

## NOTICE OF APPROPRIATION

NOV 16 1971

TO ALL WHOM IT MAY CONCERN:

NOTICE IS HEREBY GIVEN That the undersigned, a citizen of the United States, and more than twenty-one years of age, has on this 10<sup>th</sup> day of November, 1971, claimed, located and appropriated all of the water rising from a well located in the SE1/4, Section 9, Township 15 North Range 24 East, N.P.M., Fergus County, Montana. The pertinent facts concerning such appropriation of the water in said well are as follows, to-wit:

1. Quantity of water claimed: 1 cu. ft.
2. Purpose for which water is claimed: for the purpose of watering stock;
3. Place of intended use:  
TOWNSHIP 15 NORTH OF RANGE 24 EAST, N.P.M.  
Section 9: SE1/4;
4. Means of diversion: By taking the water directly from the well and putting it into a stock watering trough;
5. Date of appropriation: November 10<sup>th</sup>, 1971;
6. Name of appropriator: Earl H. Bassett.

THAT the above-described well was drilled in 1961 and it has a metal casing and is 200 feet deep.

*Earl H. Bassett*

STATE OF MONTANA )

COUNTY OF FERGIS )

EARL H. BASSETT, having been duly sworn upon oath, deposes and says: that he is the above-named appropriator of certain water in Petroleum County and the one who has made the above Notice of Appropriation; that all things contained in the Notice of Appropriation are true of his own knowledge.

*Earl H. Bassett*

SUBSCRIBED AND SWORN TO before me this 10<sup>th</sup> day of November, 1971.

(NOTARIAL SEAL)

*Bridley F. Parry*

Notary Public for the State of Montana  
Residing at Lewistown, Montana  
My Commission expires June 21, 1972

State of Montana

County of Fergus

I, the undersigned, Notary Public for the State of Montana, do hereby certify that the foregoing is a true and correct copy of the original of the above-captioned document as the same appears in my files and records.

In testimony whereof, I have hereunto set my hand and the seal of my office at Lewistown, Montana, this 10th day of November, 1971.

Bridley F. Parry

Notary Public for the State of Montana

File No. \_\_\_\_\_

T. 15 R. 24

DUPLICATE

County. Feather

## LOG

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
STATE WATER CONSERVATION BOARDNotice of Completion of Groundwater  
Appropriation by Means of Well  
DEVELOPED AFTER JANUARY 1, 1962

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

Top of Ground

(Elev. above sea level.....)

0 1 Topsoil  
1 40 Surface drift  
20 400 Colorado shale  
300 840 First Cat Creek sand  
400 840 Water 570' 2 qts. min. Teigen Land and  
500 840 Top of Red Beds Owner: W. J. Teigen Address: Helena, Montana  
600 845 Second Cat Creek sand  
700 845 Very fine white rock Driller: George W. Shirley Address: Helena, Montana  
800 845 Third Cat Creek sand  
900 845 Fractured  
940 845 Date of Notice of appropriation of groundwater: None  
945 845 Date well started: Aug 22, 1962 Date completed: Aug 22, 1962  
945 845 Water: None - approx.  
945 845 70 Gal. min.

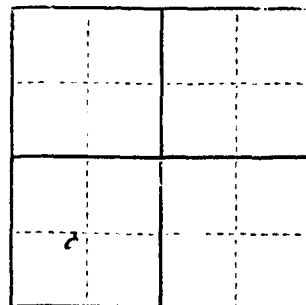
Type of well: Drilled Equipment used: Rotary  
(Dug, driven, bored or drilled) (Churn drill, rotary or other)

Water use: Domestic ☐ Municipal ☐ Stock ☒ Irrigation ☐  
Industrial ☐ Drainage ☐ Other ☐

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.

Size of Drilled Hole	Size and Weight of Casing	From (Feet)	To (Feet)	PERFORATIONS		
				Kind Size	From (Feet)	To (Feet)
7-1/8		0	40			
5-1/8		40	845			
5-1/8		845	907			
	6" steel	above				
		845	40			
	4" Galv	13'				
		above	940			

Doc. No. 42099  
Filed for record  
Date 3rd day of July  
A.D. 1972 at 4:20  
o'clock P.M.



Sw 1/4 Sec 15 T. 15 R. 24  
Indicate location of well and place of use, if possible. Each small square represents 40 acres.

Static Water Level for non-flowing well  
None feet.

Shut-in Pressure for Flowing Well 60

Pumping Water Level None feet  
at None gal. per minute.

Discharge in gal. per min. of flowing well  
75

How Tested As a Pumped

Length of Test 2 min.

Remarks: (Gravel packing, cementing, packers, type of shutoff) R.P. Cemented

(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).

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.

19  
Driller's License Number

Driller's Signature

50,794



47000

COPY

State of Montana, 1<sup>st</sup> Jan.  
County of Hergus.  
Filed JUL 3 1912  
at 4:20 o'clock P.  
Wm. Rothman  
County Clerk and Ex.

8200 pt

T. 15 R. 24 East 17

County FARMER

MONTANA BUREAU OF MINES AND GEOLOGY  
Butte, Montana

RECEIVED  
JUN 10 1960

WATER WELL LOG

STATE ENGINEER


Owner G. Edward Delaney Address Grass Range, Mont.

Driller William J. Hanson, Inc. Co. Address Grass Range, Mont.

Date Started May 2, 1960 Date Completed May 24, 1960

Location: Sec. 18 T. 15 R. 24 1/4 sec. N. 1/4 of S. 1/4

Type of well Drilled Equipment used Rotary  
(Dug, driven, bored, or drilled) (Churn drill, rotary, other)

Water use: Domestic ☒ Municipal ☐ Stock ☒ Irrigation ☐  
Industrial ☐ Drainage ☐ Other:

Casing: 0 ft. to 48 ft. Type Steel Size 6 5/8

Casing: 0 ft. to 507 ft. Type Steel Size 4 1/2

Casing: ft. to ft. Type Size

Perforated or Screened: Ft. to ft. Ft. to f

Type of screen or perforations

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

Shut-in pressure, for flowing well: Approx. 30 lb./sq. in. on: May 24, 1960  
(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)

Surf. Pipe Cemented

Sone. Pack. at 542

(over)

Log of Well

Depth, feet		Description of Material Drilled
From	To	
0	18	Surface Gravel
18	28	Coarse Sand
28	33	Pea Gravel
33	35	Boulders
35	37	Coarse Sand and Shale
37	37	Shale
37	77	Shale
77	107	Shale and Bentonite
107	147	Shale and Lime Stringers
147	167	Black Shale
167	207	Black Shale and Bentonite
207	287	Brownish Black Shale
287	307	Black Shale
307	327	Black Shale and Sand Lenses
327	367	" " " " Line Stringers
367	387	" " " " Bentonite
387	427	" " " " Bentonite
427	467	" " " " Sand Stringers
467	507	" " " " Bentonite
507	527	" " " " "
527	547	" " " " "
547	585	Black Shale and Sand
585	589	Good Sand, Good Porosity, Water Flowed
589	600	Silty Sand and Shale
600	620	" " " " "
620	620	End of Log TOTAL DEPTH

State of Montana,  
County of Park,  
Filed 1/30/60  
1960  
M. J. D. M.  
M. J. D. M.  
M. J. D. M.

1551 Copy

File No. **17900**T **15** R **24E**

DUPLICATE

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

RECEIVED  
Fertus  
JUN 16 1960

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

(Under Chapter 237, Montana Session Laws, 1961)

Top of Ground  
(Elev. above sea level.....)

0  
6 Surface Soil

6  
13 Gumbo

13  
27 Gravel

27  
32 Clay

32  
370 Black Colorado Shale

370  
380 Sandy Shale

380  
415 Sand Good Porosity  
Water Flowed

415  
420 Red Shale T. D.

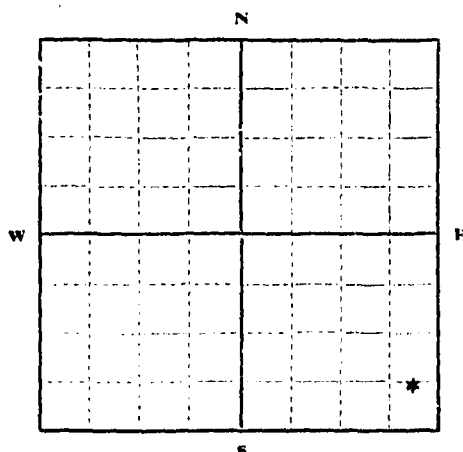
Owner George E. Delaney Address Grass Range, Mont.Driller Wellman & Munson Drlg. Address Grass Range, Mont.Date of Notice of Appropriation of Groundwater ( Not Applicable )Date well started 6/2/60 Date Completed 6/12/60

Type of well Drilled Equipment Used Rotary  
(dug, driven, bored or (Churn, drill, rotary or  
drilled) other)

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.

Size of Drilled Hole	Size and Weight of Casing	From (Feet)	To (Feet)	PERFORATIONS		
				Kind Size	From (Feet)	To (Feet)
8 3/4	18 6"	0	42			
5 5/8	11 4 1/2"	0	420	Torch	370	415



SE 1/4 Sec 18 T15 R24E

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

Show exact depth of bottom. 420 T.D.

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

Shut-in Pressure for Flowing Well Approx. 30#

Pumping Water l. vel.....feet at .....gal. per minute.

Discharge in gal. per min. of flowing well 4 1/2

How Tested.....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 similar pertinent information, including number of

acres irrigated, if used for irrigation).....

3 Cone Packers - 3 Sks. Cement

26

Driller's License Number

*R. C. Wellman*  
Driller's Signature  
R. C. Wellman

Wellman &amp; Munson 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, 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.

38778

17900

COPY

State of Montana, } ss.  
County of Fergus.

Filed..... 1964 19  
at..... 12:02 o'clock P.M.

*May Rathen*  
County Clerk and Recorder

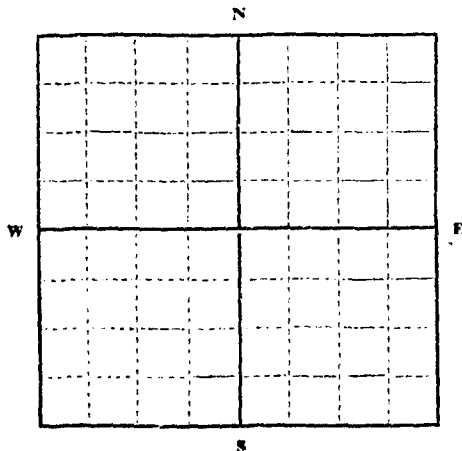
*820-2*

File No. **17835**

DUPLICATE

T. **15N** R. **2/E** Sec. **19**  
15N 23E Sections  
County **Terrell** (see Below)STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER**Notice of Completion of Groundwater Appropriation  
Without Well**

(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater **1952**  
**FRASER LAND & LIVESTOCK CO. INC.**  
Owner Address **Box 1352-Billings**Contractor (if any) **E. B. Fraser**Address of Contractor **Box 1352 Billings, Montana**Date Started **1952** Date Completed **continuous develop-  
ment & upkeep**Describe means of obtaining groundwater without a well "as by  
sub-irrigation and other natural processes". Include depth to  
water when applicable. **developed springs**1/4 Sec. **19** T. **15N** R. **23E**Indicate point of appropriation  
and place of use, if possible.**Sections 13, 14, 24, 25 in  
T 15N R 23E.****Lot 1, 4, part of NE 1/4  
Section 19, Twp 15N Rge 24E**Quantity of water developed and used with explanation of method  
used to measure or estimate such amount. If use is intermittentestimate 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 Owner **FRASER LAND & LIVESTOCK CO., INC.**  
**E. B. Fraser**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 Geology and Quadruplicate for the Appropriator.

17836

COPY

State of Montana, } ss.  
County of Fergus.

Filed JAN 2 1964 19  
at 10:30 o'clock A. M.

Clay Rothman  
County Clerk and Recorder

#200-12

GW

File No. 1972

DUPLICATE

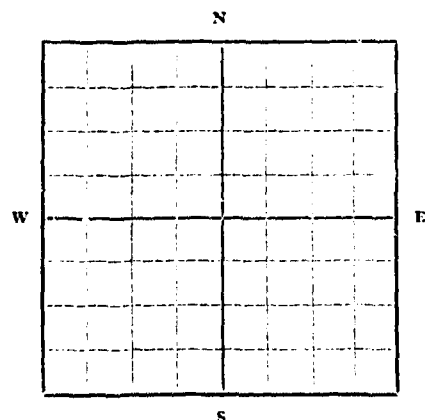
T R  
County **Fergus**

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

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

STATE ENGINEER

1. **Joe Delaney** of **Grass Range, Montana**  
(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:



**NE 1/4 40 Sec. 20 T. 15N R. 24E**

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 **Stock**
3. Date or approximate date of earliest beneficial use; and how continuous the use has been **Oct. 5, 1961**
4. The amount of groundwater claimed (in miner's inches or gallons per minute) **30 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 **None**
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal **Pumping**
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater **Oct. 4, 1961** **Oct. 5, 1961**
8. The depth of water table **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 **Drilled, 6", 40 feet.**
10. The estimated amount of groundwater withdrawn each year **365,000**
11. The log of formations encountered in the drilling of each well if available **1-Topsoil; 10-Sandy clay  
30-Quicksand; 37-Gravel water; 40-Blue shale.**
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 *Joe Delaney*

Date **March 19, 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.



8972 COT

State of Tennessee }  
County of Monroe }

Filed MAR 20 1962 19  
at 9:15 o'clock A.M.

Wey R. Nathan  
County Clerk and Recorder

\$200.00

File No. **17194**

**DUPLICATE**

County.

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, 1961)

Owner Raymond C. Richard Delaney      Address      Brass Range, Mont.

Driller G. L. Drilling Address Winnett, Montana

Date of Notice of Appropriation of Groundwater

Date well started 10/31/63 Date Completed 11/15/63

Type of well drilled (dug, driven, bored or drilled)	Equipment Used <u>Rotary</u> (Churn, drill, rotary or other)
---	---

Water Use: Domestic ☐ Municipal ☐ Stock ☒ Irrigation ☐  
Industrial ☐ Drainage ☐ Other ☐

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.

Top of Ground  
94001  
(Elev. above sea level )

SHALE, GREY, BEAT-SHENS

BLACK SHALE (GREY, BEAT-SHENS)  
LT GREY DECHARD SAND

MED SAND LT GREY SAND (CRACKS, FINE)  
(SAND-ROCK)

RED SAND, GREY & TAN CLAY, BEAT-SHENS  
MED SAND, GREY & TAN CLAY, BEAT-SHENS  
MED COARSE GRN. PAPER SAND  
SHALE, GREY & BEAT-SHENS

HARD GREY SAND, SHALE, GREY & BEAT-SHENS  
MED COARSE TAN & GREY SAND  
TAN CLAY, SHALE, GREY & BEAT-SHENS  
SHALE, HARD FINE SAND

COARSE SORT SAND & PAPER SAND  
RED, GREEN GREY & SHALE (CRACKS)  
YELLOW SHALE.

1026 TOTAL DEPTH

OFFICE OF STATE ENGINEER

JAN 2 1964

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

(Under Chapter 237, Montana Session Laws, 1961)

Owner Raymond J. Richard Delaney Address Brass Range, Mont

Driller G. L. Drilling Address Winnett, Montana

Date of Notice of Appropriation of Groundwater \_\_\_\_\_

Date well started 10/31/63 Date Completed 11/15/63

Type of well Drilled Equipment Used Rotary  
(dug, driven, bored or (Churn, drill, rotary or  
drilled) other)

Water Use: Domestic ☐ Municipal ☐ Stock ☒ Irrigation ☐  
Industrial ☐ Drainage ☐ Other ☐

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.

	Size of Drilled Hole	Size and Weight of Casing	From (Feet)	To (Feet)	PERFORATIONS		
					Kind Size	From (Feet)	To (Feet)
	6 3/4"	4 1/2 "	0	1026	slot	912	1026
		2 1/2 "					
		black					
		seamless					
		casing					

Static Water Level for non-flowing Well. \_\_\_\_\_ feet.

### Shut-in Pressure for Flowing Well

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

Discharge in gal. per min. of flowing well . . . 56 gals. min.

How Tested	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 similar pertinent information, including number of

acres irrigated, if used for irrigation) **Larkin**

Fig #21 casing anchor packer set at 942

SE 1/4 NW Sec 26 T15N R24E  
Indicate location of well and  
place of use, if possible. Each  
small square represents 10 acres.

Show exact depth of bottom.

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 School of Mines and Quadruplicate for the Appropriator.

17135

17194

COPY

State of Montana, Inc.  
(County of Lincoln)

Filed DEC 20 1963 To

a 9:40 a.m.

Way Nathan  
County Clerk and Recorder

\* 200 pr

27021

File No.

12 1966

T. 15 R. 24 S. 2

DUPLICATE

County. Levy

LOG

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

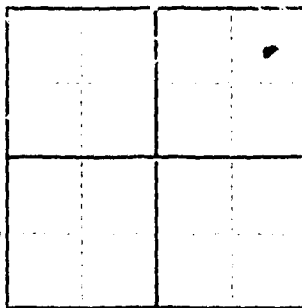
Under Chapter 237, Montana Session Laws, 1961)

Top of Ground		(Elev. above sea level)
0	1	Topsoil
1	23	Clay
23	35	Gravel
35	110	Blue shale Hard slate streaks
110	111	Rock
111	125	Shale
125	130	Bentonite
130	135	Shale slaty hard
135	136	Hard sand rock
136	175	Soft shale
175	180	Bentonite
180	220	Shale streaked with Bentonite
220	260	Sandstone Hard shale
260	261	Mowry
261	280	Extremely hard rock
280	300	Sandy shale, hard
300	315	Black shale and Bentonite streaks
315	376	Hard sandy shale
376	386	Soft black shale
386	405	Hard white rock
405	418	Hard black shale
418	507	Soft black shale
507	510	Hard white rock, sandy
510	515	First Cat Creek
515	521	Hard grey shale
521	575	Rock stringers
575	577	Grey-green-red speckled shale
577	585	Top of Red Bear
585	640	Salt & Pepper Sand
640	651	Red-green-black speckled shales
651	663	Hard rock grey
663	673	Grey rock sandy
673	708	Shale, Red-Black-Purple some whites
708	730	White hard sand
730	740	Top of second Cat Creek Sand Water
740	749	Red rock
749	755	Hard sandrock Water
755	762	Hard white rock
762	765	Sandstone
765	771	Red shale hard
771	776	Grey shale hard
776	778	Grey sand Water
778	805	Red sandy rock
805	830	Red-Black-Purple Speckled shale hard
		Red rock
		Shale red
		Sandrock hard
		Sandstone Water
		Total Depth

Owner Teigen Ranch Address Teigen, Montana  
Driller George O. Singley Address Leviston, Montana  
Date of Notice of appropriation of groundwater None  
Date well started June 6, 1966 Date completed June 25, 1966  
Type of well Drilled Equipment used Rotary  
(Dug, Driven, bored or drilled) (Churn drill, rotary or other)  
Water use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐  
Industrial ☐ Drainage ☐ Other ☐

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.

Size of Drilled Hole	Size and Weight of Casing	From (Feet)	To (Feet)	PERFORATIONS		
				Kind Size	From (Feet)	To (Feet)
7-7/8	above ground	0	42			
	round 1"		43			
	6-5/8 OD					
	6 1/2 ID 11 1/2					
	4 1/2 OD 4 1/2 ID					
	Galv. 1"					
	above ground		640			



NE 1/4 Sec. 25 T. 15 R. 24  
Indicate location of well and place of use, if possible. Each small square represents 40 acres.

Static Water Level for non-flowing well None feet.  
Shut in Pressure for Flowing Well 50 feet.  
Pumping Water Level None feet.  
at None gal. per minute.  
Discharge in gal. per min. of flowing well 22  
How Tested Measured and Bailing  
Length of Test 1 hr.  
Remarks: (Gravel packing, cementing, packers, type of shutoff) Cemented with 10 sacks

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).

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.

19  
Driller's License Number

George O. Singley  
Driller's Signature