

5185

STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within in-
strument was filed in this office on

SEP 23 1969

at 3:10 o'clock P.M.

J. L. LENNON

County Clerk and Recorder.

By *[Signature]*
Deputy.

File No. _____

DUPLICATE

T 21 MR 2E 35

County Cascade

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Top of Ground

(Elev. above sea level _____)

From surface to 125 ft.
Glacial Drift humbo

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

(Under Chapter 237, Montana Session Laws, 1961)

Owner Alvin H. Johnson Address Heart Falls, Mont.Driller Thomas B. Franklin Address Heart Falls, Mont.Date of Notice of Appropriation of Groundwater May 17, 1968Date well started May 19, 1968 Date Completed May 22, 1968

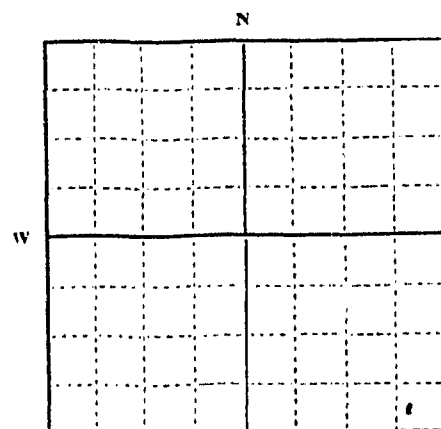
Type of well Drilled, Driven Equipment Used Cable Tools
(dug, driven, bored or drilled) (Churn, drill, rotary or other)

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) |
| 5 inch | 5 inch Oil well casing 17 lbs. per ft. | Surface | 130 ft. | None | None | None |

125
From 125 ft. to 130 ft.
Water Bearing sand,
Shovel



SE 1/4 Sec. 35 T4N R2E
Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom.

130 ft.Static Water Level for non-flowing Well 2 feet.Shut-in Pressure for Flowing Well NonePumping Water Level 20 feet at 30 gal. per minute.Discharge in gal. per min. of flowing well NoneHow Tested Bailer Length of Test 2 hrs.

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) Irrigationof lawn, trees and shrubs.

84
Driller's License Number

Thomas B. Franklin
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.

44,923

5154

STATE OF MONTANA, } ss.
County of Cascade. }

I hereby certify that the within in-
strument was filed in this office on

JAN 15 1969

Date

at 11:50 o'clock A.M.

J. L. LENNON

County Clerk and Recorder

By

R E Bateman

Deputy.

File No. _____

T 21N R 2E

DUPLICATE

County Cascade

LOG MONTANA DEPARTMENT OF THE
RESOURCES

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
STATE WATER CONSERVATION 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)

Earl A. and/or
Pauline M. Johnson

Owner _____ Address _____

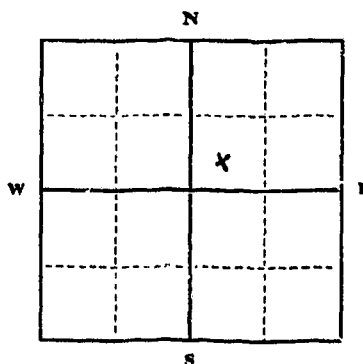
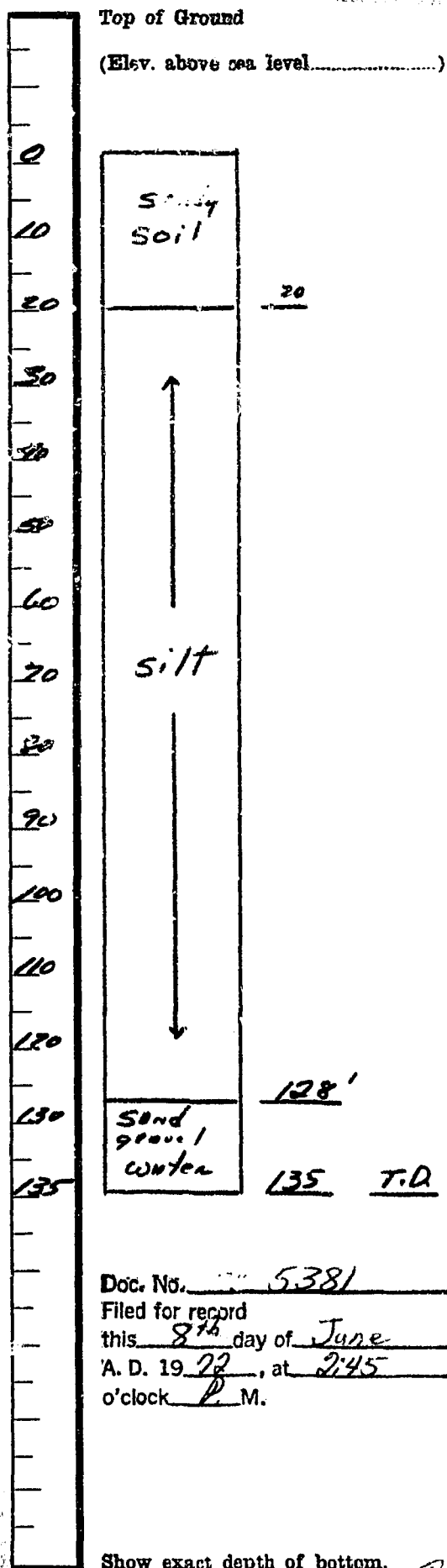
Driller Fat Byrne Address _____

Date of Notice of appropriation of groundwater _____

Date well started 1-10-1969 Date completed 2-17-1969Type of well drilled Equipment used Churn drill
(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) |
| 6-5/8" | 6-5/8" | 0 | 135 | Net | | |

Static Water Level for non-flowing well
14 feet.

Shut-in Pressure for Flowing Well _____

Pumping Water Level 50 feetat 50 gal. per minute.

Discharge in gal. per min. of flowing well _____

How Tested pumpLength of Test 24 hrs.

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

Doc. No. 5381Filed for record
this 8th day of JuneA. D. 19 72, at 2:45
o'clock P M.

SW
SE 1/4 NE Sec. 35 T. 21N R. 2E
Indicate location of well and
place of use, if possible. Each
small square represents 40
acres.

(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 Addi-
tion).

Carl G. Johnson

Show exact depth of bottom.

Acknowledged by Charles C. Lindquist
NOTARY PUBLIC for the State of Montana
Residing at Great Falls, Montana
My Commission Expires December 23, 1971

Driller's License Number

Fat Byrne
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, tissues copy to be
retained by driller.

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

50,337

5381

STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within in-
strument was filed in this office on

JUN 8 1972

Date

at 2:45 o'clock P M

J. L. LENNON

County Clerk and Recorder.

By

J. L. Wilson

Deputy

File No.

T. 21N R. 2 East

DUPLICATE

County Cascade

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)

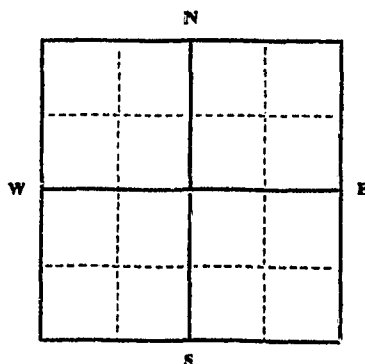
Owner Joyce H. Johnson Address Manchester, Mont.Driller Pat Byrne Address Gt. Falls, Mont.

Date of Notice of appropriation of groundwater.....

Date well started 6-30-1969 Date completed 7-2-1969Type of well drilled Equipment used Churn drill
(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) |
| 6-5/8" | 6-5/8" OD | 0 | 160 | NOT PERFORATED | | |

NW, SE Sec. 35 T. 21N, R. 2E
Indicate location of well and place of use, if possible. Each small square represents 40 acres.Static Water Level for non-flowing well 5 feet.

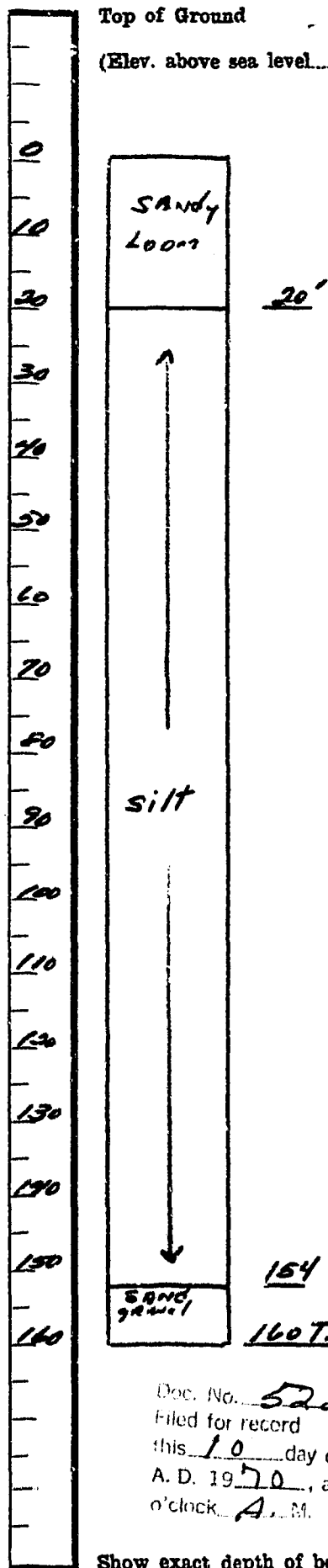
Shut-in Pressure for Flowing Well.....

Pumping Water Level 60 feet
at 100 gal. per minute.

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

How Tested BailerLength of Test 4 hours

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

Top of Ground
(Elev. above sea level.....)Doc. No. 5225

Filed for record

this 10 day of JuneA. D. 1970, at 8:31o'clock A. M.

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.

135
Driller's License Number

Driller's Signature

46575

5225

STATE OF MONTANA,) ss.
County of Cascade)

I hereby certify that the within in-
strument is filed in this office on

JUN 10 1970

at 8:31 o'clock PM

J. F. LEMMON
County Clerk and Recorder.

By J. E. Balem
Deputy.

53.074

5490

STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within in-
strument was filed in this office on
MAY 3 1973

at 10:18 o'clock AM

J. E. LENNON

County Clerk and Recorder

By

R. E. Baleman

Deputy.

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 Robert Lunn

Address 3409 Central

Beant Falls, Mont.

Date well started Nov. 5, 1969

completed Nov. 12, 1969

Type of well Drilled, Driven

(Dug, driven, bored or drilled)

Equipment used Cable Tools

(Churn drill, rotary or other)

Water Use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐

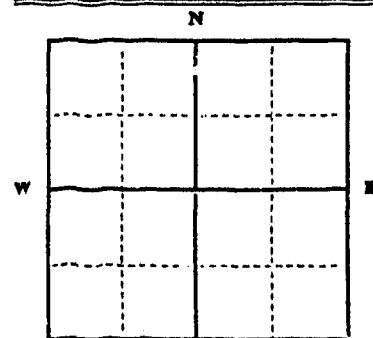
Industrial ☐ Drainage ☐ Other ☐* Garden/Lawn ☒

*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). None

ESTIMATED ANNUAL WITHDRAWAL

| Size of Drilled Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|----------------------|---------------------------|-------------|-----------|--------------|-------------|-----------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| 6" | 6" 14 lbs. per ft. | Surface | 2.00 | None | None | None |



1/4 1/4 Sec.
T. N R. E
S W

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

Driller's Signature Thomas B. Franklin

Driller's Address Beant Falls, Mont.

LICENSE NO. 84

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) | |
|---------------------------------------|-----------|
| From (Feet) | To (Feet) |
| 195 | 200 |
| Glacial Drift Bunker | |
| Water Bearing Sand | |

2.00 Show exact depth of bottom

51,297

Owner Robert Lunn
Central Gt. Falls 59401

5402

STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within in-
strument was filed in this office on
AUG 31 1972

Date
at 3:55 o'clock P M

J. L. LENNON

County Clerk and Recorder.

By J. L. Wilson
Deputy.

ESTIMATED ANNUAL WITHDRAWAL

PERFORATIONS

To

From

Size of

Depth

Feet

Department of Natural Resources and Conservation
Resources Division
Engineering Bureau
Groundwater Section
Sam W. Mitchell Building
Helena, Montana 59601

Owner Robert Lunn
Address 3409 Central St. Fal. 59401
Location T. R. Sec.
Doc. No. 5402

As the Administrator of the Groundwater Code for the State of Montana, please take note of the following special instructions, in order to properly protect your groundwater right.

Special Instructions:

Please provide, as indicated in red on the attached form, the complete location of the well by section, township and range.

Thank you.

(Churn drill, rotary or other)

Water Use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐
Industrial ☐ Drainage ☐ Other ☐* Garden/Lawn ☒

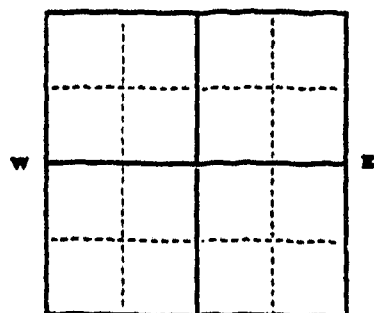
*Describe _____

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). None

ESTIMATED ANNUAL WITHDRAWAL _____

| Size of Drilled Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|----------------------|---------------------------|-------------|-----------|--------------|-------------|-----------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| 6" | 6" 14 lbs. per ft. | Surface | 200 | None | None | None |

RECEIVED
DEC 4 1972
MONTANA DEPARTMENT OF NATL



Static water level Surface ft.*
Pumping water level 50 ft.*
at 25 gallons per minute,
measured 60 minutes after pumping
began.
*Measured from ground level.
Well developed by saucer
for 2 hours.
Power 210 Pump None HP
Remarks: (Gravel packing, cementing,
packers, type of shutoff) None

SE 1/4 SW 1/4 Sec. 35
T. 21 N. R. 2 E.

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

Driller's Signature Thomas R. Barthlin
Driller's Address Beant Park, Mont

LICENSE NO. 84

200 Show exact depth of bottom

1-5

51,297

County San Diego

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.

51,297

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
MONTANA WATER RESOURCES BOARD

RECEIVED

APR 11 1973

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.

Manchester Cemetary Association

Owner

Address St. Louis

Great Falls, Montana

Date well started 3-30-1973

completed 4-6-1973

Type of well Drilled

(Dug, driven, bored or drilled)

Equipment used Churn drill

(Churn drill, rotary or other)

Water Use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐

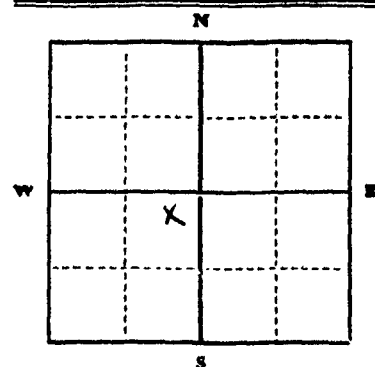
Industrial ☐ Drainage ☐ Other ☐* Garden/Lawn ☐

***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

| Size of Drilled Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|----------------------|---------------------------|-------------|-----------|----------------|-------------|-----------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| 6-5/8" | 5½"15# | 0 | 191 | Not perforated | | |



Static water level **Artesian**.....ft.*
Pumping water levelft.*
at **50**.....gallons per minute,
measured minutes after pumping
began.

*Measured from ground level.

Well developed by flow
for 24 hours.

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

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

NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 35
T. 21. (N) R. 2. (E)

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

Driller's Signature

Driller's Address 2112-7th Ave. South

Great Falls, Montana

LICENSE NO...125

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]

191 Show exact depth of bottom

52,917

5482

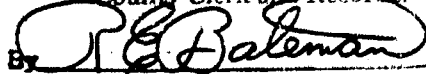
STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within instrument was filed in this office on
APR 11 1973

Date
at 4:20 o'clock P.M.

J. L. LENNON

County Clerk and Recorder

By 
Deputy

35

53,266

5495

STATE OF MONTANA, } ss.
County of Cascade

I hereby certify that the within in-
strument was filed in this office on

MAY 23 1973

at 10:46 o'clock PM

J. L. LENNON

County Clerk and Recorder

By

[Signature]

Deputy

55927

5524 1/2

STATE OF MONTANA, } ss.
County of Cascade.

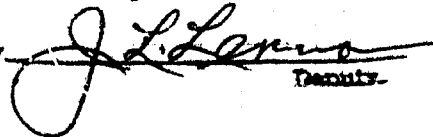
I hereby certify that the within in-
strument was filed in this office on
JUN 27 1972

Date

at 10:30 o'clock a.m.

J. L. LENNON

County Clerk and Recorder.

By  Deputy.

File No.

T 21 R 2E

DUPLICATE

County

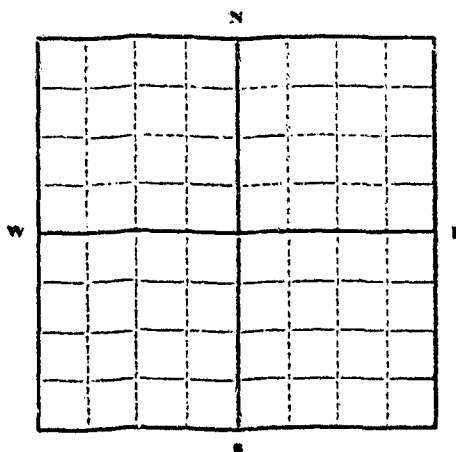
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

RECEIVED
JAN 9 1964
STATE ENGINEER

1. F. L. Spencer of P.O. Box 305 Great Falls
(Name of Appropriator) (Address) (Town)
County of Cascade State of Montana
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



SW SE $\frac{1}{4}$ Sec. 35 T 21N R 2E

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 March 1, 1961
Continuous
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 5 Gal. 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 with pump for pressure
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater October 1, 1960
8. The depth of water table 19 1/2 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
10. The estimated amount of groundwater withdrawn each year Enough for house use and lawn
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

Signature of Owner [Signature]Date 12/9/63

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.

28635

4690

STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within in-
strument was filed in this office on
JAN 2 - 1924

Date

at 8:12 o'clock A.M.

J. L. LENNON

County Clerk and Recorder.

By

H. C. Nichol

Deputy.

RECEIVED
MONTANA BUREAU OF MINES AND GEOLOGY

T. 21N R. 2E
County Cascade

STATE ENGINEER MONTANA BUREAU OF MINES AND GEOLOGY
Butte, Montana

WATER WELL LOG

| | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |

Owner J. L. Spencer 236 9th Bldg. Address Great Falls, Mont.
Driller W. M. Franklin Rte. 2 So. Address Great Falls, Mont.
Date Started Sept. 4, 1957 Date Completed Sept. 17, 1957
Location: Sec. 35 T. 21N R. 2E $\frac{1}{4}$ sec. SW $\frac{1}{4}$ SE $\frac{1}{4}$

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

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

Casing: Tap ft. to 195 ft. Type Heavy Size 5" I.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: _____ feet.

Shut-in pressure, for flowing well: 10 lb./sq. in. on: Sept. 6, 1957
(date)

Pumping water level: _____ feet at _____ g.p.m.

How tested: _____

Length of test: _____

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

Casing driven in coarse gravel and sand.

(over)

Log of Well

[illegible]

County Cascade

35

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.

Lester H. Stune And/Or
Jane Stune

Owner

Address N.W. of
Great Falls

Date well started **11-12-1970**

completed 11-14-1970

Type of well drilled

(Dug, driven, bored or drilled)

Equipment used Chain drill

(Chain drill, rotary or other)

Water Use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐

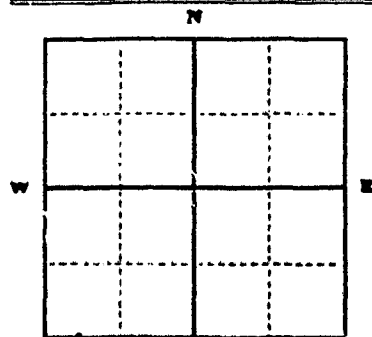
Industrial ☐ Drainage ☐ Other ☐* Garden/Lawn ☐

***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

| Size of Drilled Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|----------------------------|---------------------------------|----------------|--------------|----------------|----------------|--------------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| 7" | 7" L7# | 0 | 198 | Not perforated | | |



Static water level 8' Above Qr
Pumping water level 10 ft.*
at 10 gallons per minute,
measured 10 minutes after pumping
began.

*Measured from ground level.

Well developed by **FLOW**

for 2 hours.

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

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

S/42.8' , Lochaven Tract

T. $21^{\frac{1}{4}}$ $11^{\frac{1}{4}}$ Sec. $35^{\frac{2}{2}}$ E) $\frac{1}{S}$ $\frac{1}{W}$

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

Driller's SignatureDriller's Address Great Falls, Montana

LICENSE NO. **135**

DRILLET'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]

198

Show exact depth of bottom

47854

5259

STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within in-
strument was filed in this office on
NOV 30 1970

at 12:45 o'clock P. M.

J. L. LENNON
County Clerk and Recorder

By [Signature]
Deputy

5487

STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within in-
strument was filed in this office on

APR 26 1973

at 3:45 o'clock P.M.

J. L. LENNON

County Clerk and Recorder.

By

J. L. Wilson
Deputy.

File No.

T R 35

DUPLICATE

County Cascade

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 Alvin L. Norton Address Brady, Mont.Driller Thomas B. Franklin Address Great Falls, Mont.Date of Notice of Appropriation of Groundwater March 15, 1970Date well started March 20, 1970 Date Completed April 1, 1970Type of well Bailed, Driven Equipment Used Cable Tools
(dug, driven, bored or (Churn, drill, rotary or
drilled) other)Doc. No. 5220

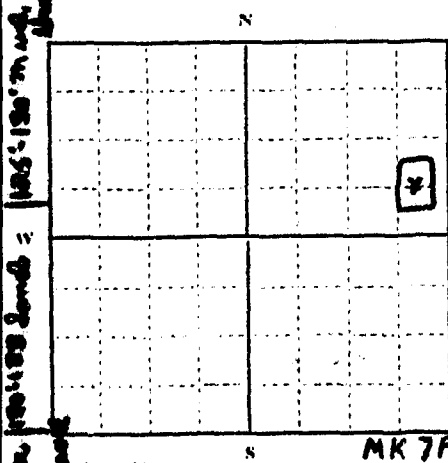
This is for record

this 17 day of AprilA. D. 1970, at 12:30o'clock P.M.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) |
| 6" | 6" S. D. 16 lbs per ft. | Surface | 135' | none | none | none |

Surface to 126' Material Drift Under



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

Show exact depth of bottom.

135

Static Water Level for non-flowing Well 2 feet.Shut-in Pressure for Flowing Well NonePumping Water Level 30 feet at 30 gal. per minute.Discharge in gal. per min. of flowing well NoneHow Tested Bailer Length of Test 1 hr.

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) Also usedfor irrigation of lot or lots.

84
Driller's License Number

Thomas B. Franklin
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.

46363

5220

MONTANA WATER RESOURCE BOARD
RECEIVED
APR 21 1970

STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within in-
strument was filed in this office on

APR 17 1970

Date

at 12:30 o'clock P M

J. L. LENNON

County Clerk and Recorder

By R. B. Salem
Deputy

File No.

T 21 R 2E

DUPLICATE

County Cascade

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)

Top of Ground

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

0 to 38 ft. Sand
38 to 139 ft. Gumbo Clay
139 to 154 ft. Gravel

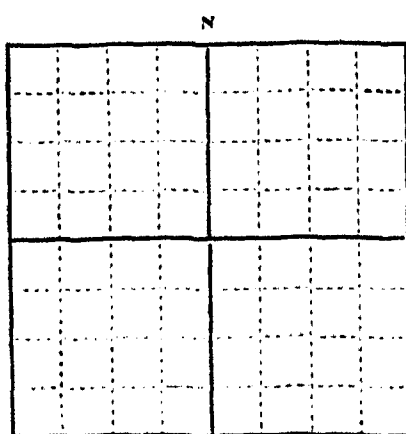
Owner Sam L. Lens Address West of Great FallsDriller Seennichsen Drilling Co. Address 2300-13 St. S. Great FallsDate of Notice of Appropriation of Groundwater NONEDate well started Oct. 14, 1963 Date Completed Oct. 26, 1963

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

Water Use: 3 Homes
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) |
| 6" | 4 1/2" O.D. | 0 | 154 ft. | NONE | NONE | NONE |



SE 1/4, Sec. 36 T 21 R 2E

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

Show exact depth of bottom.

Static Water Level for non-flowing Well 4 feet.Shut-in Pressure for Flowing Well not flowingPumping Water Level 6 feet at 80 gal. per minute.Discharge in gal. per min. of flowing well not flowingHow Tested Bailer Length of Test 5 hours

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) Cemented from 0 to 139 ft.

Used for irrigating approximately one acre and for watering 600 head of cattle in feed lots and furnishing water for 3 dwellings.

21
Driller's License Number
Arnold Seennichsen
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.

28114

4126

STATE OF MONTANA, } ss.
County of Cascade. }

I hereby certify that the within in-
strument was filed in this office on

DEC 30 1963

Date

at 2:23 o'clock P.M.

J. L. LENNON

County Clerk and Recorder

By _____ Deputy

T. 21 R. 2E

County.....
Cascadia

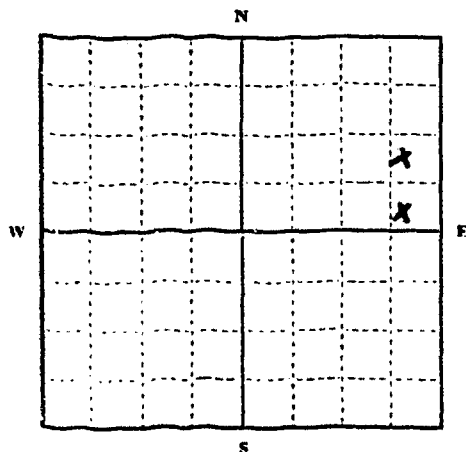
Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

JAN 9 1964

STATE ENGINEER

Mont. 129



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
..... and stock watering.....
3. Date or approximate date of earliest beneficial use; and how continu-
ous the use has been..... date not known.....
..... continued use.....
4. The amount of groundwater claimed (in miner's inches or gallons
per minute)..... not known.....
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
..... Irrigating lands and scrubbery
..... around dwellings
..... Water supply for slaughter house.....
6. The means of withdrawing such water from the ground and the loca-
tion of each well or other means of withdrawal.....
..... by pump.....
- tion of the construction of the well, wells, or other works for with-
..... drawal.....
- not known.....
- e, size and depth of each well or the general specifications of any other
..... er..... not known.....
- withdrawn each year..... have no idea.....
- the drilling of each well if available..... not available.....
- ture as may be useful in carrying out the policy of this act, including
..... ty record.....
..... knowledge.....

Signature of Owner

Date.. Dec. 20. 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

27899

3911

STATE OF MONTANA,)
County of Cascade.)

I hereby certify that the within in-
strument was filed in this office on

DEC 30 1968

at 804 o'clock P.M.

J. L. LENNON

County Clerk and Recorder.

By  Deputy.

GROUNDWATER INDEX

Page 1 of 1

County Cascade Twp. 21 N. Rge. 3 E

[illegible]

File No.

T. 21 R. 3

DUPLICATE

County Cascade

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

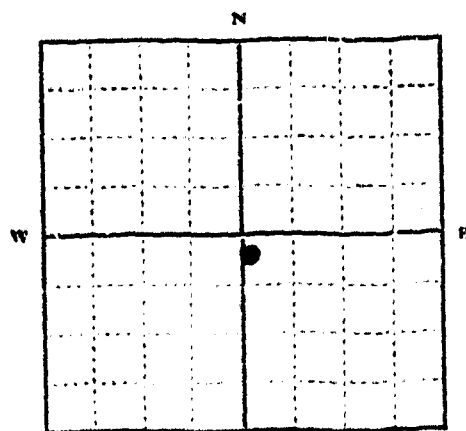
NOTICE OF COMPLETION OF GROUNDWATER
APPROPRIATION BY MEANS OF WELL

(Under Chapter 237, Montana Session Laws, 1961)

Owner William J. Byrne Address 2112-5th Ave. S.E.Driller Strick J. Byrne Address 25. Falls, Mont.Date of Notice of Appropriation of Groundwater 12-30-63Date well started 12-24-63 Date Completed 12-27-63Type of well drilled Equipment Used Churn drill
(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 | From (Feet) | To (Feet) |
| 7" O.D. | 7" O.D. 17 lb. casing 6-5/8" I.D. | 0' | 13' | Not | Perforated | |



Sec. 46, T21N, R3E.
Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom.

Static Water Level for non-flowing Well 23' below G.L. feet.

Shut-in Pressure for Flowing Well

Pumping Water Level 38' feet at 6 gal. per minute.

Discharge in gal. per min. of flowing well

How Tested Ballor Length of Test 2 hours

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)

Well was drilled to a depth of 51 feet.Gravel packed back to 12'Driller's License Number 135Driller's Signature Strick J. Byrne

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

28246

4258

CLERK AND RECORDER
CASSIA COUNTY MONTANA
I HEREBY CERTIFY THAT THE WITHIN
INSTRUMENT WAS FILED FOR RECORD
IN THIS OFFICE ON

DEC 31 1962

9:58 4 M
FILED AS DOCUMENT

J. L. LENNON
CLERK AND RECORDER

[Signature]
DEPUTY

File No.

DUPLICATE

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

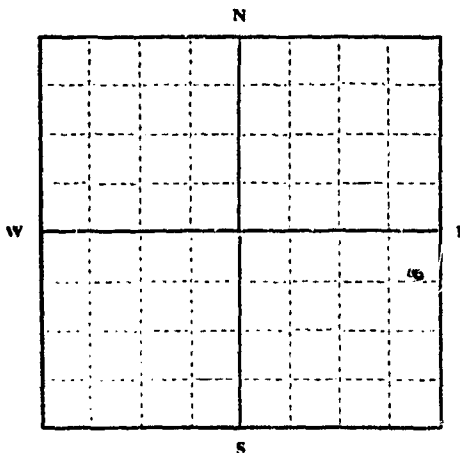
T. 21 R. 3 East
County Cascade
RECEIVED
DEC 17 1963

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

STATE ENGINEER

1. Chas Hindenager, of Mooneyate St Falls
(Name of Appropriator) (Address) (Town)
County of Cascade State of Montana
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



S 1/4 Sec. 12 T. 21 R. 3 East

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, home and yard.
3. Date or approximate date of earliest beneficial use; and how continuous the use has been Aug 27-1960
continuous since
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 20 gal 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
only irrigation has been
the yard.
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal
1/2 horse submersible pump
and 1/2 inch pipe
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater
started drilling May 21-1960
completed well and pump Aug 27-1960
8. The depth of water table hit water at 596' stands up to 240'
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 to 596'
cased to 450' ground filled back to 450'
1/2 horse spda submersible pump range at 420-1 1/2 m
10. The estimated amount of groundwater withdrawn each year 182,500 gallons gauge
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
to do not know our work
the owner recorded this well

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.

9570

#3495
STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within in-
strument was filed in this office on
DEC 13 1963

Date
at 2:57 o'clock P. M.

J. L. LENNON
County Clerk and Recorder.

By [Signature]
Deputy.

File No.

T 21 R 3 S 27

DUPLICATE

County ...

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

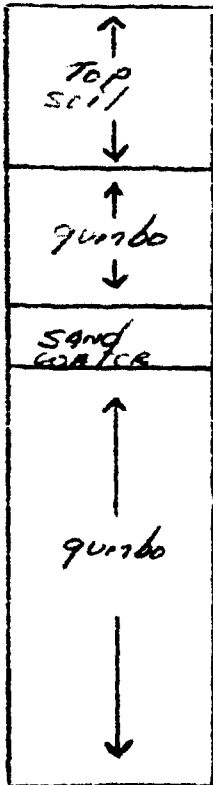
**Notice of Completion of Groundwater
Appropriation by Means of Well**

(Under Chapter 237, Montana Session Laws, 1961)



Top of Ground

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



10'

18'

22'

45' T.D.

| Size of Drilled Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|----------------------|---------------------------|-------------|-----------|--------------|-------------|-----------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| 7 inch | 7" x 26" 20 lb | 0-foot | 44-foot | //// | 1 1/2' | 22' |

Owner Franklin ... Address ...

Driller ... Address ...

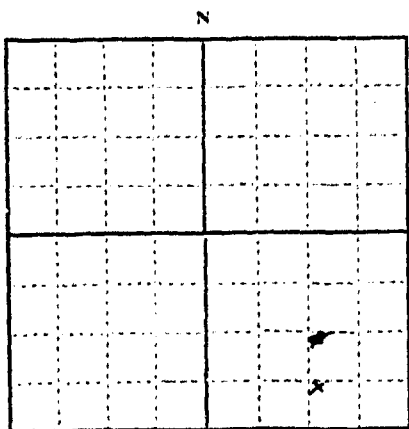
Date of Notice of Appropriation of Groundwater.....

Date well started June 11, 1964 Date Completed 6-11-64

Type of well ... Equipment Used ...

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.



20 1/4 Sec. 27 T. 21 R. 3 S
Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom.

Static Water Level for non-flowing Well 11 feet

Shut-in Pressure for Flowing Well.....

Pumping Water Level 25 feet at 5 gal. per minute.

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

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) This hole

was drilled to a depth of 45'. Gravel

back to 22' and gravel packed to 18'.

Pipe driven hole cleaned.

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.

49049

5312

STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within in-
strument was filed in this office on

SEP 9 1971

Date

at 2:30 o'clock P M

J. L. LENNON

County Clerk and Recorder.

By

[Signature]
Deputy.

File No.

T. 21 N. R. 3 E.

DUPLICATE

County Cascade

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

RECEIVED
JAN 9 1964

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

STATE ENGINEER

1. **EDWARD JAMES LENINE and**
SUSAN LENINE

(Name of Appropriator)

of **2112 6th Ave. So., Great Falls, Mont.**

(Address)

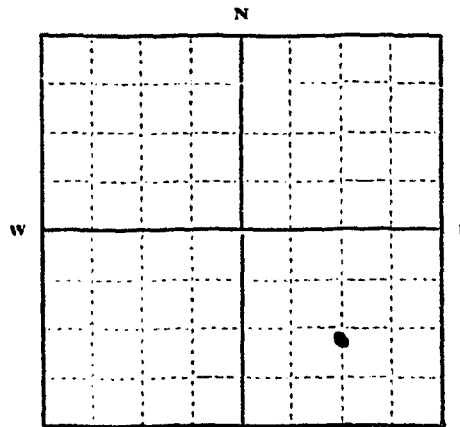
(Town)

County of Cascade

State of

Montana

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



5 acres in

S¹/₂ Sec 27, T. 21 N. R. 3 E.

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 and irrigation
3. Date or approximate date of earliest beneficial use; and how continuous the use has been **May 5, 1957 and continuous use since that date.**
4. The amount of groundwater claimed (in miner's inches or gallons per minute) **approximately three (3) 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 **Irrigate 5 acres and the acreage is located in the S¹/₂ Sec. 27, T. 21 N., R. 3 East N.P.M.**
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal **Electric pump for the only one (1) well located on the real property described in No. 5.**
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater **Commenced on or about May 1, 1957 and completed and use begun on or about May 5, 1957.**
8. The depth of water table **present well is sixty (60) feet down.**
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 **Size is 4" casing and present well is sixty (60) feet down.**
10. The estimated amount of groundwater withdrawn each year **1,576,800 (computed at 3 gallons per hour per day for one year)**
11. The log of formations encountered in the drilling of each well if available **clay and sand rock**
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

Edward James Lenine
Susan Lenine

Date **December 30, 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.

28534

4547

DEC 31 1969
RECORDED
TIME 2:58 PM
RECEIVED BY
[Signature]
[Signature]

File No. _____

T21 R. 3E

DUPLICATE

County Cascade

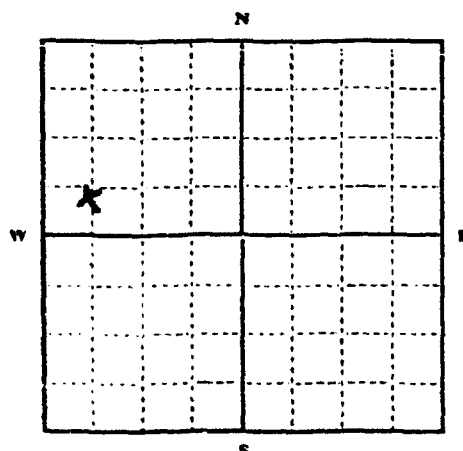
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

RECEIVED
JAN 8 1964
STATE ENGINEER

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. Anderson, of SE 1st Ave. S. A. Grant Falls
David (Name of Appropriator) (Address) (Town)
County of Cascade 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. 31 T.21 R. 3E

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
and stock watering
3. Date or approximate date of earliest beneficial use; and how continu-
ous the use has been date not known
continued use.
4. The amount of groundwater claimed (in miner's inches or gallons
per minute) not known
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
irrigation lands and shrubbery around
houses.
water supply for slaughter house
6. The means of withdrawing such water from the ground and the loca-
tion of each well or other means of withdrawal
by pump

7. The date of commencement and completion of the construction of the well, wells, or other works for with-
drawal of groundwater not known
8. The depth of water table not known
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 not known
10. The estimated amount of groundwater withdrawn each year have no idea
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 to my knowledge

Signature of Owner

Date Dec 29 63

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.

27898

3918

STATE OF MONTANA, }
County of Cascade }

I hereby certify that the within in-
strument was filed in this office on
DEC 30 1962

Date
at 803 o'clock M.

J. L. LENNON

County Clerk and Recorder.

By


Deputy.

File No. _____

T. _____ R. _____

DUPLICATE

County _____

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

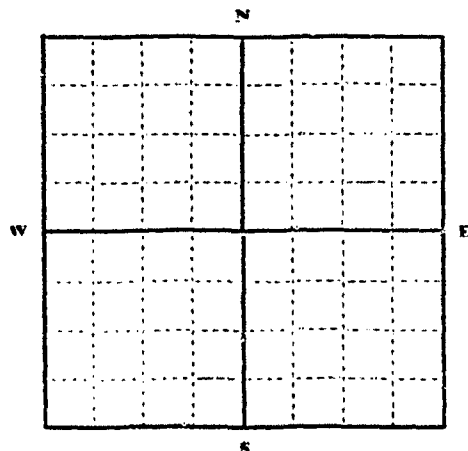
RECEIVED
JAN 9 1964

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

STATE ENGINEER

1. Donald & Dorothy Rosenberg of Laramie
(Name of Appropriator) (Address) (Town)
County of Cascade State of Montana
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



1/4 Sec. T. R.

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 Home & Livestock - irrigation
3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1929
has had continuous use since
4. The amount of groundwater claimed (in miner's inches or gallons per minute) approx of 10 gal 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
garden & shrubbery - approx 1/2 acre
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal
Electric pressure pump & windmill pump jack
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater 1929 - exact date not known
8. The depth of water table the well approximately 60 feet deep & water level 30 feet to top
9. So far as it may be available, the type, size and depth of each well or the general specific signs of any other works for the withdrawal of groundwater hand dug well, 9 ft diameter, 60 feet deep - curved with rock cutting from bottom to top
10. The estimated amount of groundwater withdrawn each year 219,830 gal
11. The log of formations encountered in the drilling of each well if available gravel formation, clay and sand rock
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 water table map: 7 different places

Signature of Owner Douglas Rosenberg

Date Dec 30, 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.

28066

4081

STATE OF MONTANA, } ss.
County of Cascade.
I hereby certify that the within in-
strument was filed in this office on

at _____ o'clock P.
J. L. LENNON
County Clerk and Recorder
By [Signature]
[Signature]

File No.

DUPLICATE

RECEIVED
DEC 17 1963COUNTY
STATE OF MONTANAADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

DEC 6 1963

Top of Ground

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

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

(Under Chapter 237, Montana Session Laws, 1961)

Owner: Wallace M. Schaffkopf Address: St. 1. S. 2nd St. Falls, Mont.Driller: Thomas B. Franklin Address: St. 1. S. 2nd St. Falls, Mont.Date of Notice of Appropriation of Groundwater: June 12, 1963Date well started: June 14, 1963 Date Completed: June 17, 1963Type of well: Drilled, Driven Equipment Used: Cable Tools
(dug, driven, bored or drilled) (Churn, drill, rotary or 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) |
| 6 1/2 inch | 6 1/2 inch | Top | 84 | | | |
| | 2.0 | | | | | |
| | 20 lbs | | | | | |
| | per ft. | | | | | |

Static Water Level for non-flowing Well 75 feet.

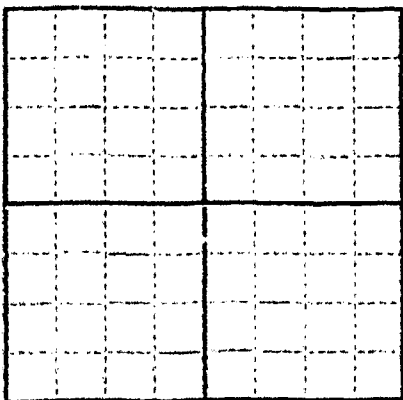
Shut-in Pressure for Flowing Well.....

Pumping Water Level 100 feet at 13 gal. per minute.

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

How Tested: Surge Length of Test: 2 hrs

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, and for irrigation).....

IN NE 1/4 Sec. 36 T. 21N R. 3E
Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom.

100 ft.

84
Driller's License NumberThomas B. Franklin
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.

7965

3439

STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within in-
strument was filed in this office on
NOV 29 1963

Date

at 10:15 o'clock AM M.

J. L. LENNON

County Clerk and Recorder.

By [Signature]
Deputy.

File No.

T. 24 N. R. 3 E

DUPLICATE

County

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

DEC 13 1963

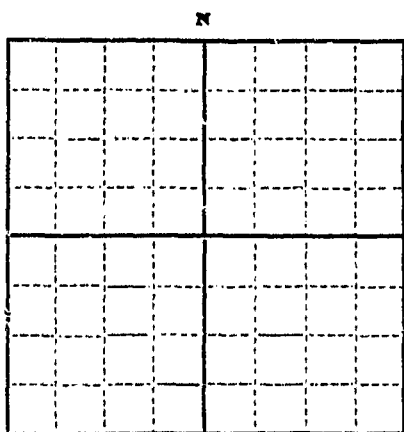
Notice of Completion of Groundwater
Appropriation by Means of Well

(Under Chapter 237, Montana Session Laws, 1961)

Owner Eugene Wandinsky Address Great Falls, Mont.Driller Thomas B. Franklin Address Great Falls, Mont.Date of Notice of Appropriation of Groundwater Nov. 2-1963Date well started Nov. 4-1963 Date Completed Nov. 7-1963Type of well Drilled, Driven Equipment Used Cable Tools
(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) |
| 5 inch | 5 inch L. 9 Top 14 lbs per ft | | Bottom | | | |



..... 1/4 Sec. T. R.
Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom.

Static Water Level for non-flowing Well 15 feet.

Shut-in Pressure for Flowing Well

Pumping Water Level 35 feet at 20 gal. per minute.

Discharge in gal. per min. of flowing well

How Tested Bailer Length of Test 2 hrs.

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)

Driller's License Number 84Driller's Signature Thomas B. Franklin

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.

8796

#3457

STATE OF MONTANA, } ss.
County of C...

I hereby certify that the within in-
strument was filed in this office on

DEC 9 - 1969

at 4:31 o'clock PM M.

J. L. LEMMON

County Clerk and Recorder.

By [Signature]
Deputy.

File No.

T. R.

DUPLICATE

County.

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

RECEIVED
DEC 13 1963

Notice of Appropriation of Groundwater

(Under Chapter 237, Montana Session Laws, 1961)

STATE ENGINEER

1. Gene Wardenky of 500-27th No West Great Falls
(Name of Appropriator) (Address) (Town)

County of Cascade, State of Mont, intend to appropriate groundwater in accordance with Chapter 237, Montana Session Laws of 1961.

2. The beneficial use to which water is to be applied is Domestic &

gout irrigation
(describe lands to be benefited, if for irrigation)

3. The rate of use in gallons per minute or miner's inches of groundwater claimed 20

4. The annual period (inclusive dates) of intended use Jan 1 thru Dec 31

5. The probable or intended date of first beneficial use Nov 30

6. The probable or intended date of commencement and completion of the well* or wells*

Nov 4 - 1963 Completed Nov 7 - 1963

7. The location, type, size and depth of well or wells contemplated

Drilled & driven 5" ID 90 ft

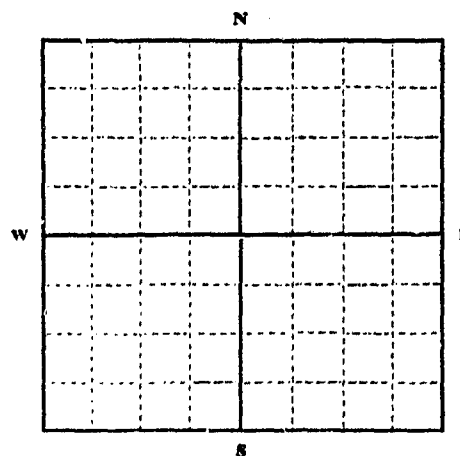
8. The probable or estimated depth of the water table or artesian aquifer 85 ft

9. Name, address and license number of the driller engaged Thomas Franklin

Route #1 So License # 84

10. Give such other similar information as may be useful

in carrying out the policy of this act. N/A



1/4 Sec. T. R.
Locate well or other means of development as accurately as possible on the plat.

Signature of Appropriator Gene Wardenky

Date 12-5-63

* As defined in the Code Sec. 1 (c) "Well" means any artificial opening or excavation in the ground, however made, by which groundwater can be obtained or through which it flows under natural pressures or is artificially withdrawn."

Three copies of this notice are to be filed with 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.

7995

#3456

STATE OF MONTANA, } ss.
County of Cascade.

I hereby certify that the within instrument was filed in this office on

DEC 9 - 1963

Date

at 9:30 o'clock 9 M.

J. L. LENNON

County Clerk and Recorder.

By B. H. H. Deputy.

GROUNDWATER INDEX

Page 1 of 1

County Cascade Twp. 21 N Rge. 4E

[illegible]

File No.

DUPLICATE

T. 21 N. R. 4 E.

County Cascade

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Malamstrom - GATR No. 1

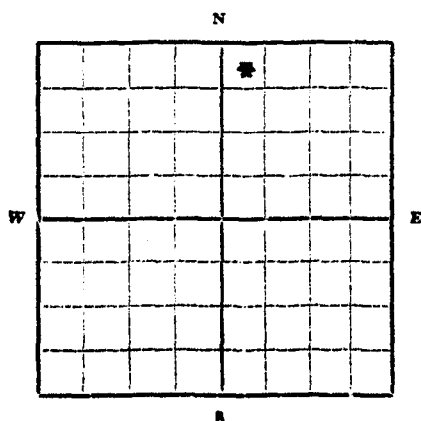
Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)
**ALBERT F. STRAUB, Chief, Acquisition Branch, Real Estate Division,
U.S. Army Engineer District, Seattle, for and on behalf of**

1. **THE UNITED STATES OF AMERICA**, of **1519 Alaskan Way South,** **Seattle 4,**
(Name of Appropriator) (Address) (Town)

County of **King** State of **Washington**

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



SW 1/4 NE 1/4 Sec 16 T21N R4E

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 **To be used by United States AF for its personnel in official duty**
3. Date or approximate date of earliest beneficial use; and how continuous the use has been **November 1959**
4. The amount of groundwater claimed (in miner's inch or gallons per minute) **7 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 **Pumped from well as shown or described on well log.**
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater **Commenced October 1959 - Completed November 1959**
8. The depth of water table **586 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 **8" - 873 feet**
10. The estimated amount of groundwater withdrawn each year **15,000 Gallons**
11. The log of formations encountered in the drilling of each well if available **See attached log**
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

For and on behalf of **THE UNITED STATES OF AMERICA** through **U.S. ARMY ENGINEER DISTRICT, Seattle, Real Estate Division**

Signature of Owner **Albert F. Straub**
ALBERT F. STRAUB, Chief,
Acquisition Branch
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.

1872.

STATE OF MONTANA, } ss. #3150
County of Cascade.

I hereby certify that the within instrument was filed in this office on
JUL 20 1962

at 9:23 ^{Date} o'clock a M.

J. L. LENNON

County Clerk and Recorder.

By B. Bus
Deputy.

HOLE NO. 1

| DEPARTMENT OF THE ARMY DIVISION NORTH PACIFIC INSTALLATION SEATTLE DISTRICT DRILLING LOG | | | | 1- PROJECT MALMSTROM AFS, MONTANA | | SHEET 1 OF 5 | |
|---|-------|---------|---|---|--|------------------------------------|--|
| 2- LOCATION (Coordinates or Station) NW 1/4, NE 1/4, SEC. 16 T21N, R4E, MPM | | | | 3- DRILLING AGENCY E. A. HOLMAN & SONS - SPOKANE, WASH. | | | |
| 4- HOLE NO. (as shown on drawing title and file no.) MALMSTROM GATR #1 | | | | 5- NAME OF DRILLER | | | |
| 6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED <input type="checkbox"/> DEFLECTED WITH BURDEN | | | | 7- THICKNESS OF OVERBURDEN 4' | | 8- DEPTH DRILLED INTO ROCK 869' | |
| 9- TOTAL DEPTH OF HOLE 873' | | | | 10- SIZE AND TYPE OF BIT 10" & 8" CABLE TOOL | | | |
| 11- LOCATION & ELEVATION SHOWN (TYP. OF NSL) M.S.L. | | | | 12- MANUFACTURER'S DESIGNATION OF DRILL EUCYRUS ERIE 22-W & 60-L | | | |
| 13- TOTAL NO. OF INTERBEDDED SAMPLES TAKEN DISTURBED | | | | 14- TOTAL NO. OF CORE BOXES | | 15- FILE NO. ART 586 | |
| 16- DATE HOLE STARTED 8 OCT 59 | | | | 17- DATE HOLE COMPLETED 27 NOV 59 | | | |
| 18- ELEV. TOP OF HOLE 3708 | | | | 19- SIGNATURE OF INSPECTOR R. COKEWELL (CONST.) | | | |
| 20- TOTAL CORE RECOVERY FOR BORING (in %) --- | | | | 21- SIGNATURE OF INSPECTOR R. GALSTER (ENG) | | | |
| ELEVATION | DEPTH | LOG NO. | CLASSIFICATION OF MATERIALS (Description) | COMPARISON OF SAMPLE NO. | REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) | | |
| 3704 | 4 | SM | SILTY SAND (TOP OF ROCK) | | 8" DIA. CASING | | |
| 3698 | 10 | SS | BROWN, FINE, M. HARD | | BLACKLEAF FM. | | |
| 3690 | 18 | SH | DARK GRAY, M. SOFT | | BOOTLEGGER M. | | |
| 3686 | 22 | C-SH | LIGNITE & CARBONACEOUS SHALE - DARK GRAY | | | | |
| | | SH | BROWNISH GRAY, M. SOFT | | | | |
| 3675 | 33 | SS | INTERBEDDED BROWN, FINE SS & DARK GRAY SHALE | | | | |
| | | SH | | | | | |
| 3663 | 45 | SS | BROWN W/ ABUNDANT CRYSTALS OF RED ZEOLITE | | BASE OF BOOTLEGGER M | | |
| 3658 | 50 | | | | TOP OF VAUGHN M | | |
| | | SH | LIGHT TO MEDIUM GRAY, SOFT W/ RED ZEOLITE CRYSTALS, RARE TO ABUNDANT. | | | | |
| 3643 | 65 | SH | LT. GREENISH GRAY, SOFT | | | | |
| 3638 | 70 | SH | LT. GRAY, BENTONITIC, SLIGHTLY SANDY, SOFT | | | | |
| | | | | | | | |
| 3623 | 85 | SH | M. GRAY, M. HARD, PARTLY SANDY | | | | |
| | | | | | | | |
| 3598 | 110 | SS | DARK GRAY, MEDIUM HARD, MEDIUM TO FINE GRAINED | | BASE OF VAUGHN M | | |
| 3588 | 120 | | | | TOP OF TAFT HILL M | | |
| | | SH | DARK GRAY, MEDIUM SOFT | | | | |
| 3570 | 138 | SS | SHALY, FINE, GRAY, SOFT | | | | |
| 3563 | 145 | SH | SANDY, MED. TO DK. GRAY, SOFT, FINE | | | | |
| 3553 | 155 | SS | GLAUCONITIC, DARK GREENISH-GRAY | | | | |
| 3543 | 165 | SH | DARK GRAY, HARD TO SOFT, THIN BEDDED, SLIGHTLY SANDY, (IN PART) | | | | |
| | | | | | | | |
| | 190 | | (CONTINUED SHT. #2) | | | | |

 ENG. FORM 1838 (REVISED 1-55) (PREVIOUS EDITIONS ARE OBSOLETE)
 1 JUN 55

 PROJECT MALMSTROM AFS HOLE NO. 1
 131S/71-12-01 SH 1

| | | | | | | | |
|---|--|---|--|--|--|----------------------------|--|
| DEPARTMENT OF THE ARMY DIVISION NORTH PACIFIC INSTALLATION <u>SEATTLE DISTRICT</u> DRILLING LOG | | | | 1. PROJECT <u>MALMSTROM AFS, MONTANA</u> 2. LOCATION (coordinates or Station) <u>SEE SHEET #1</u> 3. DRILLING AGENCY | | SHEET 2 OF 5 | |
| 4. HOLE NO. (as shown on drawing title and file no.) | | | | 5. NAME OF DRILLER | | | |
| 6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED <input type="checkbox"/> HORIZONTAL | | 7. THICKNESS OF OVERBURDEN | | 8. DEPTH DRILLED INTO ROCK | | 9. TOTAL DEPTH OF HOLE | |
| 10. SIZE AND TYPE OF BIT | | 11. DATE AND TIME OF LOGGING (TRM or MSL) | | 12. MANUFACTURER'S DESIGNATION OF DRILL | | | |
| 13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN | | 14. TOTAL NO. OF ROCK SAMPLES | | 15. DATE HOLE COMPLETED | | 16. SIGNATURE OF INSPECTOR | |
| 17. ELEV. TOP OF HOLE | | 18. TOTAL CORE RECOVERY FOR BORING (%) | | 19. REMARKS (drilling time, water loss, depth of weathering, etc., if significant) | | | |

| ELEVATION | DEPTH | LEGEND | CLASSIFICATION OF MATERIAL (Description) | REMARKS |
|-----------|-------|--------|--|-----------------------------|
| | 190 | | | |
| | | SH | DARK GRAY, HARD TO SOFT, THIN BEDDED, SLIGHTLY SANDY (IN PART) | BLACKLEAF FM TAFT HILL M |
| 3483 | 225 | SH | LT. GRAY, SOFT, BENTONITIC | |
| 3473 | 230 | SH | DK GREENISH GRAY, HARD, SANDY, GLAUCONITIC | |
| 3473 | 235 | | | |
| | | SH | GENERALLY DARK - MED GRAY, HARD TO SOFT, INTERBEDDED, THINBEDDED (IN PART) | |
| 3413 | 295 | SH | LIGHT GRAY, SOFT | |
| 3403 | 305 | SS | DARK GREENISH GRAY, GLAUCONITIC, MEDIUM TO FINE GRAINED, SOFT | |
| 3388 | 320 | SH | MOSTLY M-DK GRAY, SANDY (IN PART) BENTONITIC (IN PART) SOFT | |
| 3358 | 350 | SH | DK. GRAY, SOFT | |
| 3333 | 375 | SS | GRAY, FINE, SOFT | |

HOLE NO. GATR #2

| DEPARTMENT OF THE ARMY DIVISION <u>NORTH PACIFIC</u> INSTALLATION <u>SEATTLE DISTRICT</u> DRILLING LOG | | 1- PROJECT MALMSTROM AFS, MONTANA 2- LOCATION (Coordinates or Station) (SEE SHEET #1) 3- DRILLING AGENCY | | SHEET 3 OF 5 | |
|--|-------|--|---|--|--|
| 4- HOLE NO. (as shown on drawing title and file no.) (SEE SHEET #2) | | 5- NAME OF DRILLER | | | |
| 6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED <input type="checkbox"/> TESTED WITH VERTICAL | | 7- THICKNESS OF OVERBURDEN | | 8- DEPTH CHILLED INTO ROCK | |
| 9- TOTAL DEPTH OF HOLE | | 10- MANUFACTURER'S DESIGNATION OF DRILL | | | |
| 11- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN | | 12- TOTAL NO. OF CORES | | 13- FILL SHOWING WATER | |
| 14- ELEV. TOP OF HOLE | | 15- TOTAL CORE RECOVERY PER BORING (%) | | 16- SIGNATURE OF INSPECTOR | |
| ELEVATION | DEPTH | LEGEND | CLASSIFICATION OF MATERIAL (Description) | REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) | |
| 3318 | 390 | SH | MEDIUM GRAY, SOFT | | |
| 3298 | 410 | SH | DK-M GRAY, SOFT TO HARD, PARTLY SANDY | | |
| 3293 | 415 | SS | GRAY, FINE TO MED, HARD | | |
| 3288 | 420 | SH | DK GRAY, M SOFT TO SOFT, SLIGHTLY SANDY (IN PART) | | |
| 3273 | 435 | SS | DK GRAY, M SOFT WITH SOME SHALE | BASE OF TAFT HILL M TOP OF FLOOD M | |
| 3253 | 455 | SH | | | |
| 3243 | 465 | SS | DK. GRAY, SOFT, THIN-BEDDED, SHALY NEAR BASE | BASE OF FLOOD M BASE OF BLACKLEAF FM | |
| 3229 | 479 | SH | DK. GRAY & RED INTER-BEDDED | TOP OF KOOTENAI FM | |
| 3223 | 485 | | | | |
| 3208 | 500 | SH | GREEN, HARD | | |
| 3205 | 503 | SS | GRAY TO GREENISH GRAY ARKOSIC, MEDIUM TO FINE GRAINED | | |
| 3184 | 524 | SH | RED & MAROON, M SOFT TO SOFT, INTERBEDDED | HOLE CAVING 540 - 570 | |
| 3153 | 555 | SS | SHALY, RED TO GRAY, SOFT | | |
| 3146 | 562 | SS | GREENISH GRAY, ARKOSIC FINE GRAINED | | |
| 3135 | 573 | SH | DARK GRAY & GREEN, M SOFT | | |
| 3133 | 575 | SS | GREENISH GRAY, ARKOSIC, SHALY (IN PART) | STATIC WATER LEVEL 586 PRIOR TO DEVELOPMENT | |
| 3118 | 596 | | RED TO DARK GRAY | | |

1 JUN 57 1836

PREVIOUS EDITIONS ARE OBSOLETE

PROJECT MALMSTROM AFS HOLE NO. GATR 1

1318/71-12-01 SHEET 3 OF 5

| DEPARTMENT OF THE ARMY DIVISION NORTH PACIFIC INSTALLATION SEATTLE DISTRICT | | | | PROJECT MALMSTROM AFS, MONTANA | | HOLE NO. 1 SHEET 4 OF 5 | |
|---|-------|---|---|---|---|----------------------------|--|
| DRILLING LOG | | | | (SEE SHEET #1) | | | |
| GATR #1 | | | | NAME OF DRILLER | | | |
| ELEVATION OF HOLE | | THICKNESS OF OVERBURDEN | | DEPTH DRILLED INTO ROCK | | TOTAL DEPTH OF HOLE | |
| 100' SIZE AND TYPE OF BIT | | 11. ELEVATION OF ELEVATION SHOWN (FORM OF HOLE) | | 12. MANUFACTURER'S DESIGNATION OF DRILL | | | |
| 13. TOTAL NO. OF FEET FROM SAMPLES TAKEN | | 14. TOTAL NO. OF FEET | | 15. ELEV. OF GROUND WATER | | 16. DATE HOLE COMPLETED | |
| 17. ELEV. TOP OF HOLE | | 18. TOTAL DEPTH RECOVERED FOR BORING (FT.) | | 19. SIGNATURE OF INSPECTOR | | | |
| ELEVATION | DEPTH | LEGEND | CLASSIFICATION OF WATER ALS (Description) | REMARKS | drilling time, water loss, depth of weathering, etc., if significant | | |
| 3118 | 590 | SH | MED. HARD, GREENISH-GRAY | | STATIC WATER LEVEL 600' AFTER DEVELOPMENT | | |
| 3108 | 600 | SH SS | SH - GRAY & RED, SOFT SS - MED TO FINE, GRAY, INTERBEDDED | | | | |
| 3093 | 615 | SS | GRAY, MEDIUM-FINE GRAINED | | | | |
| 3077 | 631 | SH | RED TO REDDISH GRAY, MED HARD TO SOFT | | | | |
| | | | | | BEGAN DRILLING WITH 60L @ 631 HOLE CAVING SLIGHTLY 640-680 DYNAMIC WATER LEVEL AT 5 G.P.M. | | |
| 3030 | 678 | SH | GREENISH GRAY, M HARD TO M SOFT, CRUMBLY, THINBEDDED | | | | |
| 3008 | 700 | SH | GREENISH GRAY, MEDIUM HARD, THINBEDDED, W/OCC. BEDS OF CARBONACEOUS SHALE | | | | |
| 3003 | 705 | | | | | | |
| 2973 | 735 | SS | HARD, GRAY, MEDIUM-FINE GRAINED | | | | |
| 2965 | 743 | SS | RED, MEDIUM TO COARSE | | | | |
| 2953 | 755 | SH | RED, HARD, BECOMING LESS HARD NEAR BASE | | | | |
| 2934 | 774 | SS | GRAY, FINE, "SALT & PEPPER" M SOFT TO M HARD, W/VERY FINE, HARD SS AT BASE. | | | | |

HOLE NO. GATR #1

| | | | | | | |
|--|-------|--------|---|--------|----------------------------|--|
| DEPARTMENT OF THE ARMY DIVISION <u>NORTH PACIFIC</u> INSTALLATION <u>SEATTLE DISTRICT</u> DRILLING LOG | | | 1- PROJECT <u>MALMSTROM AFS, MONTANA</u> | | SHEET <u>5</u> OF <u>5</u> | |
| 2- LOCATION (Coordinates or Station) <u>(SEE SHEET #1)</u> | | | 3- DRILLING AGENCY | | | |
| 4- HOLE NO. (as shown on drawing title and file no.) | | | 5- NAME OF DRILLER | | | |
| 6- DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED <input type="checkbox"/> OTHER WITH VERTICAL | | | 7- THICKNESS OF OVERBURDEN | | 8- DEPTH OF HOLE INTO ROCK | |
| 9- TOTAL DEPTH OF HOLE | | | 10- SIZE AND TYPE OF BIT | | | |
| 11- ELEVATION FOR ELEVATION SHOWN (TRM or MSL) | | | 12- MANUFACTURER'S DESIGNATION OF DRILL | | | |
| 13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED | | | 14- TOTAL NO. OF CORE SAMPLES | | 15- ELEV. GROUND WATER | |
| 16- ELEV. TOP OF HOLE | | | 17- TOTAL CORE RECOVERY FOR BORING (S) | | 18- SIGNATURE OF INSPECTOR | |
| ELEVATION | DEPTH | LEGEND | CLASSIFICATION OF MATERIAL (Description) | COPIES | BOXES | REMARKS (drilling time, water loss, depth of weathering, etc., if significant) |
| 2913 | 795 | SS | | | | |
| 2908 | 800 | SH | DARK GRAY TO RED, SOFT | | | HOLE MAKING WATER 1 GAL / 4 MIN. |
| | | SS | GRAY, FINE, HARD | | | |
| 2895 | 813 | SH | DARK GRAY, MEDIUM HARD, PARTLY THINBEDDED, W/ SOME INTERBEDDED GRAY HARD SANDSTONE AND BROWN SILTSTONE WITH DEPTH | | | TOP 6 5/8" LINER 814' |
| | | | | | | BOTTOM OF 8" CASING 822' |
| 2848 | 860 | SS | GRAY, FINE TO MEDIUM, WATER BEARING | | | DWL @ 9 GPM |
| 2838 | 870 | SH | DARK GREY | | | 6 5/8" LINER TO 860' |
| 2835 | 873 | | (BOTTOM OF HOLE) | | | #10 JOHNSON WELL SCREEN 860'-870' |
| | | | | | | GRAVEL PACKFILL 870'-873' |

ENG. FORM 1836

TRANSMITTANT: THE FOLLOWING ARE THE DATA FOR THE LOG

PROJECT MALMSTROM AFS HOLE NO. GATR #1

1318/71-12-01 SHT. 5 OF 5