



WATER & SANITATION REPORT for

CARRERA COMMONS SUBDIVISION

Legally described as: The South 110' of Lot 5 of Curtis & Major's Addition, as described in Bk. 1088, Pg. 547, Micro Records of Missoula County, located in the (SW 1/4) of S20, T13 N, R19 W, P.M.M., Missoula County, Montana; containing 1.58 acres, more or less.

Published: March 2024

Prepared For:

Homes for Missoula, LLC
P.O. Box 373,
Frenchtown, MT 59834

Prepared By:

IMEG Corp.
1817 South Ave. West, Suite A
Missoula MT, 59801

J.1 - Map. A vicinity map or plan that shows:

- a. The location, within 100 feet outside of the exterior property line of the subdivision and on the proposed lots, of floodplains; surface water features; springs; irrigation ditches;
A Vicinity Map is included in Appendix A showing the location of the property in relation to the surrounding area. A more detailed and extensive exhibit is provided in the Supplemental Data Sheets included in Section A showing all the required information outlined in section J.1, J.2, and J.3 of the subdivision application.

The property contains an existing irrigation ditch responsible for delivering irrigation water for agricultural purposes to the surrounding properties. This irrigation ditch will be contained within a proposed 10' Irrigation Ditch Easement that runs along the western property line of the proposed subdivision. This irrigation ditch is responsible for delivering irrigation water for agricultural purposes to surrounding properties year-round. In addition, an existing private branch extends off this irrigation ditch along the western property line. Further, a private branch is known to exist along the northern portion of this property according to the ditch company that is planned to be capped/removed prior to final plat approval. The exact location, length, size, and condition of this branch is unknown as the ditch company does not keep record of private branches and correspondence with the previous landowner has not allowed permission for the ditch company to observe or cap this line. The approximate location of the private irrigation lateral along the northern property boundary has been shown on the Existing Conditions exhibit within the Supplemental Data Sheets in Section A. This lateral will be capped and abandoned prior to final plat approval. Please see the Orchard Homes Ditch Company Correspondence email in Section E for further clarification. There are no other floodplains; surface water features; springs; irrigation ditches within 100 feet of the proposed subdivision.

- b. Existing, previously approved, and, for parcels fewer than 20 acres, proposed water wells and wastewater treatment systems; for parcels less than 20 acres, mixing zones;
All existing and previously approved water wells and wastewater treatment systems have

been shown within 100 feet of the property boundary on the Existing Conditions exhibit included in Appendix B herein. The previous sewer connection has been capped off the eastern property line, reference Permit #2023-MSS-SWR-00837. An existing well has been abandoned that had been serving the recently demolished single-family home built in 1935, according to publicly available data. Therefore, the well has been appropriately abandoned according to the Missoula City-County Health Code, Regulation 1 reasonably minimizing potentially significant adverse impacts to water supply. Please reference GWIC ID #329990 included in Appendix A herein.

The proposed subdivision will be served by the City of Missoula municipal systems. A new water main will be extended from the existing 6" steel water main located in S. Curtis Street into the subdivision. The proposed water main extension will be constructed within the right-of-way of the newly proposed Pit Lane. A new sewer service will be proposed for each residential home through the existing sewer main adjacent to the southern property line. This sewer facility will provide individual services to all lots within the proposed subdivision.

These facilities will be expanded to serve all lots within the proposed subdivision. The proposed extension is subject to Montana Department of Environmental Quality (DEQ) standards and local ordinances which it will adhere to.

- c. The representative drainfield site used for the soil profile description; and
Onsite wastewater systems utilizing drainfields are not proposed for this site.
- d. The location, within 500 feet outside of the exterior property line of the subdivision, of public water and sewer facilities.
The location of existing public water and sewer facilities adjacent and surrounding the subdivision have been shown on the Supplemental Data Sheets in Section A.

J.2 - Description. A description of the proposed subdivision's water supply systems, storm water systems, solid waste disposal systems, and wastewater treatment systems, including whether the water supply and wastewater treatment systems are individual, shared, multiple users, or public as those systems are defined in rules published by the Montana Department of Environmental Quality (DEQ).

Impacts to groundwater quality are not anticipated as the proposed connection is to the City of Missoula Wastewater and Water Facilities. A review of soil conditions was observed by Pilch Engineering during a site visit on November 30, 2023. The report states no groundwater was observed during field explorations. While adjacent well logs (GWIC ID #329990, #189526 and #282851) indicate groundwater to be 21' - 26' below the ground surface, the LaFave Potentiometric Surface Exhibit shows groundwater elevation to be approximately 3142' mean sea elevation at this location, which is approximately 16.5' below the surveyed elevation of the subject property. Based on the LaFave study, geotechnical investigation, and surrounding well logs, the maximum and minimum depths to water table can conservatively noted at 15' - 80' below existing the sites existing grade. The well log data is further substantiated by the LaFave Map included in Section D showing the aquifer classification for the subject property is "shallow" which means it is less than 80' below the surface. The referenced well logs are included in Appendix C herein.



Generally, the storm water system will include onsite mitigation and infiltration based on the Missoula City requirements. See the Grading, Drainage, and Engineering Design Report in Section D of this application for more details on the storm water system. Stormwater runoff generated by the new impervious surfaces (roads, sidewalks, parking lane, buildings, etc.) will be subject to the regulations required of a Stormwater Pollution Prevention Plan SWPPP which will be reviewed by the City Engineering as part of the As-Built documentation.

Wastewater from this subdivision will be processed and discharged using public facilities managed by the Missoula Wastewater Treatment facility. A new sewer service will be proposed for each residential home through the existing 8" sewer main adjacent to the southern property line. Garbage collection in Missoula is provided by private businesses, therefore, Republic Services is proposed to provide solid waste collection and disposal.

J.3 - Lot Layout. A drawing of the conceptual lot layout at a scale no smaller than 1 inch equal to 200 feet that shows all information required for a lot layout document in rules adopted by the Montana Department of Environmental Quality pursuant to 76-4-104, MCA.

A drawing of the Utility Construction Plans at a scale of 1-inch equals 200 feet that shows all the information required pursuant to 76-4-104, MCA is included in Section D of this submittal.

J.4 - Suitability. Evidence of suitability for new on-site wastewater treatment systems that, at a minimum, include:

- e. A soil profile description from a representative drain-field site identified on the vicinity map that complies with standards published by the Montana Department of Environmental Quality;

No drainfields are proposed; this requirement is not applicable.

- f. Demonstration that the soil profile contains a minimum of 4 feet of vertical separation distance between the bottom of the permeable surface of the proposed wastewater treatment system and a limiting layer; and

No drainfields are proposed; this requirement is not applicable.

- g. In cases in which the soil profile or other information indicates that ground water is within 7 feet of the natural ground surface, evidence that the ground water will not exceed the minimum vertical separation distance of 4 feet.

No drainfields are proposed; this requirement is not applicable.

J.5 - Water Quantity. For new water supply systems, unless cisterns are proposed, evidence of adequate water availability:

- h. obtained from well logs or testing of onsite or nearby wells;

This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

- i. obtained from information contained in published hydro-geological reports; or

This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.



j. as otherwise specified by rules adopted by the Montana Department of Environmental Quality pursuant to 76-4-104, MCA.

This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

k. Demonstration that the soil profile contains a minimum of 4 feet of vertical separation distance between the bottom of the permeable surface of the proposed wastewater treatment system and a limiting layer; and

No drainfields are proposed; this requirement is not applicable.

l. In cases in which the soil profile or other information indicates that ground water is within 7 feet of the natural ground surface, evidence that the ground water will not exceed the minimum vertical separation distance of 4 feet.

No drainfields are proposed; this requirement is not applicable.

J.6 - Water Quantity. For new water supply systems, unless cisterns are proposed, evidence of adequate water availability:

m. obtained from well logs or testing of onsite or nearby wells;

This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

n. obtained from information contained in published hydro-geological reports; or

This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

o. as otherwise specified by rules adopted by the Montana Department of Environmental Quality pursuant to 76-4-104, MCA.

This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

J.7 - Water Quality. Evidence of sufficient water quality in accordance with rules adopted by the Montana Department of Environmental Quality pursuant to 76-4-104, MCA.

This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

J.8 - Impacts to groundwater quality. Preliminary analysis of potential impacts to ground water quality from new wastewater treatment systems, using as guidance rules adopted by the board of environmental review pursuant to 75-5-301, MCA and 75-5-303, MCA related to standard mixing zones for ground water, source specific mixing zones, and non-significant changes in water quality. The preliminary analysis may be based on currently available information and must consider the effects of overlapping mixing zones from proposed and existing wastewater treatment systems within and directly adjacent to the subdivision. Instead of performing the preliminary analysis, the sub-divider may perform a complete non-degradation analysis in the same manner as is required for an application that is reviewed under Title 76, Chapter 4.

This section generally applies to non-degradation due to the installation of on-site wastewater disposal and drainfields. This residential subdivision will be served by city facilities. Therefore, this section is not applicable as wastewater from this subdivision will be processed and



discharged to surface water at the Missoula Wastewater Treatment facility.

Sincerely,
IMEG Corp.

Prepared By:

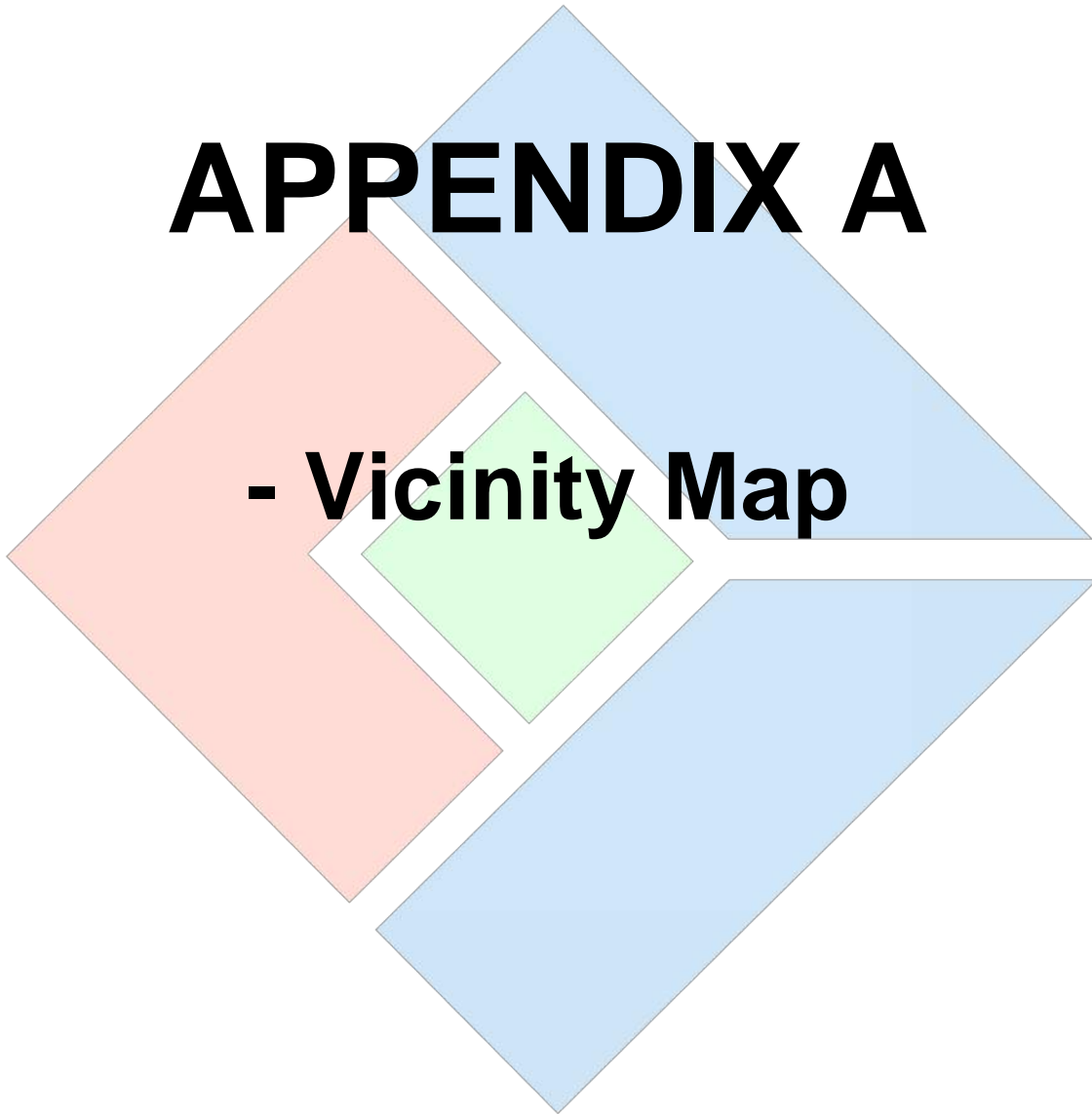
A handwritten signature in black ink that reads "Tamara Ross". The signature is written in a cursive style with a large initial 'T'.

Tamara R. Ross
Civil Designer / Planning Technician
P: (406) 272-0253

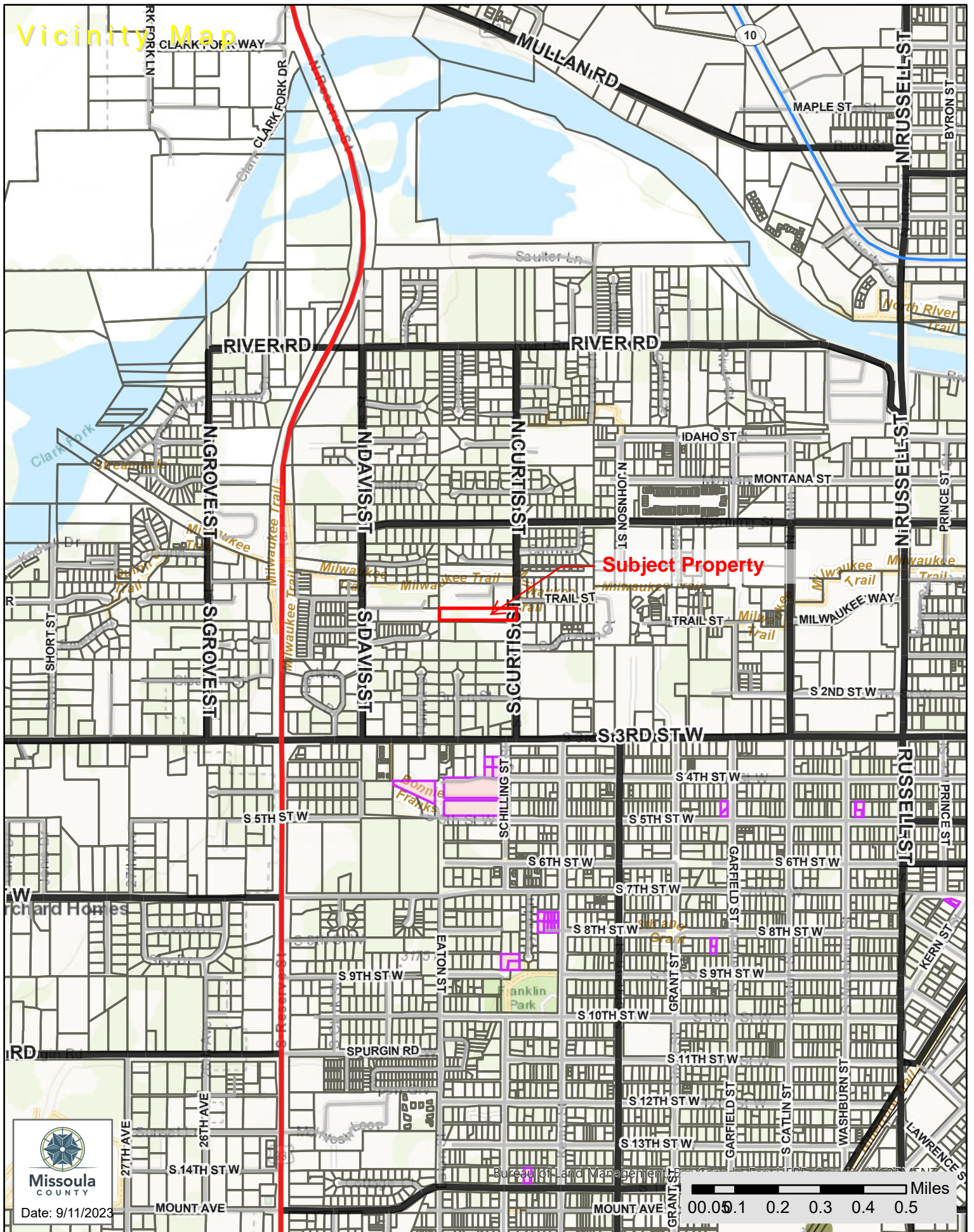


APPENDIX A

- Vicinity Map



Vicinity Map



Map Center: X: -114.03267 - Y: 46.86969

The material displayed on this page is informational and should be used for reference only. No reliance should be placed thereon without verification by the user. Missoula County does not warrant that the information is either complete or accurate. No representation, warranties or covenants of any kind are made by Missoula County. Before acting on the information contained on this page the user should consult original documents.



APPENDIX B

-Existing Conditions



APPENDIX C

- Well Logs in the Vicinity

From	To	Description	Cont. Fed?
0	25	BENTONITE SURFACE SEAL	Y

MONTANA WELL LOG REPORT

Other Options

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

[Go to GWIC website](#)
[Plot this site in State Library Digital Atlas](#)
[Plot this site in Google Maps](#)

Site Name: LEFLER JOAN
GWIC Id: 189526

Section 7: Well Test Data

Total Depth: 58
Static Water Level: 32.75
Water Temperature:

Section 1: Well Owner(s)

1) LEFLER, JOAN (MAIL)
115 SOUTH CURTIS
MISSOULA MT 59801 [04/13/2001]

Air Test *

60 gpm with drill stem set at 48 feet for 1.2 hours.
Time of recovery 0.25 hours.
Recovery water level 32.75 feet.
Pumping water level feet.

Section 2: Location

Township	Range	Section	Quarter Sections
13N	19W	20	NW¼ NE¼ SW¼
County		Geocode	

MISSOURI A

Latitude	Longitude	Geomethod	Datum
46.869711	-114.033448	TRS-SEC	NAD83
Ground Surface Altitude	Ground Surface Method	Datum	Date

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Addition	Block	Lot
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Section 8: Remarks

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work

Drilling Method: ROTARY
Status: NEW WELL

Section 9: Well Log

Geologic Source

111ALVM - ALLUVIUM (HOLOCENE)

[illegible]

Section 5: Well Completion Date

Date well completed: Friday, April 13, 2001

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	60	6

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	58	6	0.250			STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
58	60	6			OPEN HOLE

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	0	BENTONITE	

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:
Company: BLACKFOOT WELL DRILLING & PUMP SERVICE INC
License No: WWC-578
Date Completed: 4/13/2001

Other Options

[Go to GWIC website](#)
[Plot this site in State Library Digital Atlas](#)
[Plot this site in Google Maps](#)
[View scanned well log \(4/3/2009 1:19:10 PM\)](#)

Total Depth: 55
Static Water Level: 26
Water Temperature:

Section 1: Well Owner(s)

1) BROWN, MIKIE (MAIL)
2401 WYOMING ST
MISSOULA MT N/A [05/07/1993]

Section 2: Location

Township	Range	Section	Quarter Sections
13N	19W	20	SE¼ SW¼ NW¼
County			Geocode

MISSOULA

Latitude	Longitude	Geomethod	Datum
46.87162	-114.036068	TRS-SEC	NAD83
Ground Surface Altitude	Ground Surface Method	Datum	Date

Addition

MART ADDITION

Block	Lot
	1

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work

Drilling Method: ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Friday, May 7, 1993

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	55	6				STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
55	55	6			OPEN BOTTOM *

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	20	BENTONITE	

Air Test *

40 gpm with drill stem set at 0 feet for 1 hours.
Time of recovery 0 hours.
Recovery water level 0 feet.
Pumping water level 41 feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source

111ALVM - ALLUVIUM (HOLOCENE)

[illegible]

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:
Company: JEROMES DRILLING CO
License No: WWC-249
Date Completed: 5/7/1993

282851