MONTANA WELL LOG REPORT

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.

Other Options

Return to menu
Plot this site in State Library Digital Atlas
Plot this site in Google Maps
View hydrograph for this site
View field visits for this site
View water quality for this site
View scanned well log (2/27/2008 9:40:51 AM)

Site Name: QUIRK TERRY
GWIC Id: 199493
DNRC Water Right: C30005107

Section 1: Well Owner(s)

1) QUIRK, TERRY (WELL)
37 PALISADES
CAMERON MT 59720 [09/26/2012]
2) QUIRK, TERRY (MAIL)
4000 NELSON RD
LONGMONT CO 80503 [08/05/2002]

Section 2: Location

Township	Range	Section	Quarter Sections
09S	01E	31	NW¼ SW¼ SW¼ SW¼

County: MADISON
Geocode:

Latitude	Longitude	Geomethod	Datum
45.00069	-111.65724	NAV-GPS	NAD83

Ground Surface Altitude	Ground Surface Method	Datum	Date
5650	MAP	NGVD29	9/26/2012

Measuring Point Altitude	MP Method	Datum	Date Applies
5652.5	MAP	NGVD29	9/26/2012 2:32:00 PM

Addition: **Block:** **Lot:** 14C

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: Monday, August 5, 2002

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	20	10
20	65	6

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	63	6	0.250		WELDED	STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
63	65	6			OPEN BOTTOM

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	0	BENTONITE	Y

Section 7: Well Test Data

Total Depth: 65
Static Water Level: 27
Water Temperature:

Air Test *

20 gpm with drill stem set at 65 feet for 2 hours.
Time of recovery 1 hours.
Recovery water level 27 feet.
Pumping water level _ 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
112SNGR - SAND AND GRAVEL (PLEISTOCENE)

From	To	Description
0	1	TOP SOIL
1	65	BOULDERS

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: MADISON DRILLING & PUMP SUPPLY
License No: WWC-557
Date Completed: 8/5/2002

9S 1E 31 CC

MONTANA WELL LOG REPORT

4/F-30005107

Form No. 603 R2-99

Well ID# _____

This log reports the activities of a licensed Montana well driller and serves as the official record of work done within the borehole and casing and describes the amount of water encountered. **This form is to be completed by the driller and filed with DNRC within 60 days of completion of the work. Acquiring Water Rights is the well owner's responsibility and is not accomplished by the filing of this report.**

Well log information is stored in the Groundwater Information Center at the Montana Bureau of Mines and Geology (Butte) and water right information is stored in the Water Rights Bureau records (Helena).

For fields that are not applicable, enter NA. Optional fields have a grayed background. Record additional information in the REMARKS section.

1. WELL OWNER:
Name Jerry Quirk
Mailing address 4000 Nelson Rd
Longmont, CO 80503

2. WELL LOCATION List ¼ from smallest to largest
_____ ¼ _____ ¼ SW ¼ SW ¼ Section 31
Township 9 (N/S) Range 1 (E/W) County Madison
Lot 140 Tract/Blk ____ Subdivision Name
Well Address COS # 376
GPS ☐ Yes ☒ No
Latitude _____ Longitude _____
Error as reported by GPS locator (± feet) _____
Horizontal datum ☐ NAD27 ☐ WGS84

3. PROPOSED USE: ☒ Domestic ☐ Stock ☐ Irrigation
☐ Public water supply ☐ Monitoring Well ☐ Other:

4. TYPE OF WORK:
☒ New well ☐ Deepen existing well ☐ Abandon existing well
Method: ☐ Cable ☒ Rotary ☐ Other _____

5. WELL CONSTRUCTION DETAILS:
Borehole:
Dia 10 in. from 0 ft. to 20 ft.
Dia 6 in. from 20 ft. to 65 ft.
Dia _____ in. from _____ ft. to _____ ft.

Casing:
Steel: Wall thickness .250 ☐ Threaded ☒ Welded
Dia 6 5/8" in. from 2 ft. to 63 ft.
Dia _____ in. from _____ ft. to _____ ft.

Plastic: Pressure Rating _____ lbs. ☐ Threaded ☐ Welded
Dia _____ in. from _____ ft. to _____ ft.

Perforations/Slotted Pipe:
Type of perforator used _____
Size of perforations/slots _____ in. by _____ in.
____ no. of perforations/slots from _____ ft. to _____ ft.
____ no. of perforations/slots from _____ ft. to _____ ft.

Screens: ☐ Yes ☒ No
Material _____
Dia _____ Slot size _____ from _____ ft. to _____ ft.
Dia _____ Slot size _____ from _____ ft. to _____ ft.

Gravel Packed: ☐ Yes ☒ No
Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Packer: ☐ Yes ☒ No
Type _____ Depth(s) _____

Grout: Material used Bentonite crumbles
Depth from _____ ft. to _____ ft. OR ☒ Continuous feed

6. WELL TEST DATA:
A well test is required for all wells. (*See details on well log report cover.*)
☐ Static water level 27 ft. below top of casing **or**
☐ Closed-in artesian pressure _____ psi.

How was test flow measured:
(bucket/stopwatch) weir, flume, flowmeter, etc _____

Yellowstone Controlled Groundwater Area - Water Temperature _____ °F
☐ AQUIFER TEST DATA FORM ATTACHED

Test - 1 hour minimum
Drawdown is the amount water level is lowered below static level
All depth measurements shall be from the top of the well casing
Time of recovery is hours/minutes since pumping stopped.

Air test*:
30 gpm with drill stem set at 65 ft. for 2 hours
Time of recovery 1 (hrs)/min. Recovery water level 27 ft

OR Bailer test*:
_____ gpm with _____ ft. of drawdown after _____ hours
Time of recovery _____ hrs/min. Recovery water level _____ ft.

OR Pump test*:
Depth pump set for test _____ ft.
____ gpm pump rate with ____ ft. of drawdown after ___ hrs pumping
Time of recovery _____ hrs/min. Recovery water level _____ ft.

OR Flowing Artesian*:
_____ gpm for _____ hours
Flow controlled by _____

**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.*

7. WELL LOG:

Depth, Feet From	Depth, Feet To	Material: color/rock and type/descriptor (example: blue/shale/hard, or brown/gravel/water, or brown/sand/heaving)
0	1	Topsoil
1	65	Boulders

CORRECTED COPY

☐ ADDITIONAL SHEETS ATTACHED

8. DATE WELL COMPLETED: Aug 5 2002

9. REMARKS: _____

10. DRILLER/CONTRACTOR'S 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, firm, or corporation (print) Madison Drilling & Pump Supply
Address P.O. Box 1378 Ennis MT 59729
Signature Mont Davis
Date 10/1/02 License no 557

MBMG ID# 199493

Ground-Water Information Center Water Quality Report
Report Date: 5/20/2019

Site Name: QUIRK TERRY
Compare to Water Quality Standards

Location Information

Sample Id/Site Id:	202799 / 199493	Sample Date:	9/26/2012 2:32:00 PM
Location (TRS):	09S 01E 31 CCCB	Agency/Sampler:	MBMG / CARSTARPHEN, CAMELA
Latitude/Longitude:	45° 0' 2" N 111° 39' 26" W	Field Number:	199493
Datum:	NAD83	Lab Date:	1/23/2013 1:03:02 PM
Altitude:	5650	Lab/Analyst:	MBMG / MCGRATH, STEVE
County/State:	MADISON / MT	Sample Method/Handling:	PUMPED / ru:1 ra:0 fu:1 fa:2
Site Type:	WELL	Procedure Type:	DISSOLVED
Geology:	112SNGR	Total Depth (ft):	65
USGS 7.5' Quad:	BUCKS NEST	SWL-MP (ft):	20.4
PWS Id:		Depth Water Enters (ft):	63
Project:	GWCP08		

Major Ion Results

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	28.860	1.440	Bicarbonate (HCO_3)	135.230	2.216
Magnesium (Mg)	6.450	0.531	Carbonate (CO_3)	0.000	0.000
Sodium (Na)	15.110	0.657	Chloride (Cl)	7.480	0.211
Potassium (K)	2.380	0.061	Sulfate (SO_4)	6.640	0.138
Iron (Fe)	<0.015 U	0.000	Nitrate (as N)	0.350	0.025
Manganese (Mn)	<0.002 U	0.000	Fluoride (F)	0.910	0.048
Silica (SiO_2)	30.770		Orthophosphate (as P)	<0.020 U	0.000
Total Cations		2.696	**Total Anions**		2.639

Trace Element Results (µg/L)

Aluminum (Al):	0.570 J	Cesium (Cs):	<0.100 U	Molybdenum (Mo):	2.260	Strontium (Sr):	70.170
Antimony (Sb):	0.610	Chromium (Cr):	0.550	Nickel (Ni):	0.390 J	Thallium (Tl):	<0.100 U
Arsenic (As):	29.110	Cobalt (Co):	<0.100 U	Niobium (Nb):	<0.100 U	Thorium (Th):	<0.100 U
Barium (Ba):	18.700	Copper (Cu):	0.690	Neodymium (Nd):	<0.100 U	Tin (Sn):	<0.100 U
Beryllium (Be):	<0.100 U	Gallium (Ga):	<0.100 U	Palladium (Pd):	<0.100 U	Titanium (Ti):	<0.100 U
Boron (B):	58.030	Lanthanum (La):	<0.100 U	Praseodymium (Pr):	<0.100 U	Tungsten (W):	0.420 J
Bromide (Br):	<10.000 U	Lead (Pb):	<0.040 U	Rubidium (Rb):	4.370	Uranium (U):	14.820
Cadmium (Cd):	<0.100 U	Lithium (Li):	81.510	Silver (Ag):	<0.100 U	Vanadium (V):	2.270
Cerium (Ce):	<0.100 U	Mercury (Hg):	NR	Selenium (Se):	0.240 J	Zinc (Zn):	<0.200 U
						Zirconium (Zr):	<0.100 U

Field Chemistry and Other Analytical Results

**Total Dissolved Solids (mg/L):	164.81	Field Hardness as $CaCO_3$ (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	233.31	Hardness as $CaCO_3$:	98.61	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	232	Field Alkalinity as $CaCO_3$ (mg/L):	96	PCP (µg/L):	NR
Lab Conductivity (µmhos):	221.2	Alkalinity as $CaCO_3$ (mg/L):	110.72	Phosphorus, TD (mg/L):	<0.030 U
Field pH:	7.61	Ryznar Stability Index:	8.381	Field Nitrate (mg/L):	0.000
Lab pH:	7.61	Sodium Adsorption Ratio:	0.6573	Field Dissolved O_2 (mg/L):	6.560
Water Temp (°C):	11.1	Langlier Saturation Index:	-0.385	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.010 U	Field Redox (mV):	135.6
Nitrate + Nitrite (mg/L as N)	0.340	Hydroxide (mg/L as OH):	0.000	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N)	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N)	1.070	Acidity to 4.5 (mg/L CaCO3)	NR	Acidity to 8.3 (mg/L CaCO3)	NR
As(III) (ug/L)	NR	As(V) (ug/L)	NR	Total Susp Solids (mg/L)	NR

Sample Condition: CLEAR

Notes

Field Remarks:

Lab Remarks:

Explanation: **mg/L** = milligrams per Liter; **µg/L** = micrograms per Liter; **ft** = feet; **NR** = No Reading in GWIC

Qualifiers: **A** = Hydride atomic absorption; **E** = Estimated due to interference; **H** = Exceeded holding time; **J** = Estimated quantity above detection limit but below reporting limit; **K** = Na+K combined; **N** = Spiked sample recovery not within control limits; **P** = Preserved sample; **S** = Method of standard additions; **U** = Undetected quantity below detection limit; * = Duplicate analysis not within control limits; ** = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO_3, CO_3, SO_4, Cl, SiO_2, NO_3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.