
APPENDIX G

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.

[Plot this site on a topographic map](#)

Site Name: GREYCLIFF REST AREA*EAST BOUND
GWIC Id: 171555
DNRC Water Right: C104962-00

Section 7: Well Test Data

Total Depth: 101.5
 Static Water Level: 58
 Water Temperature:

Section 1: Well Owner

Owner Name

MDOT

Mailing Address

PO BOX 20437

City

BILLINGS

State

MT

Zip Code

59104-0437

Air Test *

46.5 gpm with drill stem set at feet for 3 hours.
 Time of recovery 0 hours.
 Recovery water level 58 feet.
 Pumping water level 58 feet.

Section 2: Location

Township	Range	Section	Quarter Sections		Geocode
01S	16E	21	SW¼ NW¼	SW¼ NE¼	
SWEET GRASS					
Latitude	Longitude	Geomethod	Datum		
45.734	109.7567	NAV-GPS			
Altitude	Method	Datum	Date		
Addition	Block	Lot			

* 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

Unassigned

From	To	Description
0	6	TOPSOIL
6	23	SANDY CLAY W/ SMALL GRAVEL
23	24.5	DAMP SILTY SAND/ GRAVEL
24.5	28	SMALL GRAVEL/ CLAY
28	30	GRAVEL SANDY
30	31	SANDSTONE RUBBLE
31	38	SOFT SAND STONE
38	42	SANDSTONE MED. HARD BROWN
42	56	HARD DARK GRAY S. STONE W/ CLAY LAYERS
56	58	HARD BROWN FRAC. S. STONE WATER
58	66	HARD BROWN S. STONE
66	70	SOFTER GRANITE LIKE ROCK GREEN
70	80	SOFTER BROWN S. STONE BLUEISH WATER
80	84	LESS GREEN COLOR NO FRACS
84	85	SOFT GREEN CLAY

Section 3: Proposed Use of Water

IRRIGATION (1)
 PUBLIC WATER SUPPLY (2)

Section 4: Type of Work

Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Friday, June 12, 1998

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	101.5	6

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	40	6				STEEL
11.5	101.5	4				STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
41.5	101.5	4.5			SCH40 .25 SLOT EAGLE SCREEN

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	40	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: PRO PUMP & EQUIPMENT INC

License No: WWC-508

Date Completed: 6/12/1998

Site Name: GREYCLIFF REST AREA*EAST BOUND		
GWIC Id: 171555		
Additional Lithology Records		
From	To	Description
85	101.5	HARD BROWN SAND STONE W/ GREEN LAYERS

MONTANA WELL LOG REPORT

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Site Name: CUSTER REST AREA EASTBOUND

GWIC Id: 1327

DNRC Water Right: C002163-00

Section 1: Well Owner

Owner Name

DEPT OF HIGHWAYS

Mailing Address

424 MOREY BILLINGS

City State Zip Code

Section 2: Location

Township	Range	Section	Quarter Sections	Geocode
04N	32E	35	NW¼ NE¼ NE¼ NW¼	YELLOWSTONE
Latitude	Longitude	Geomethod	Datum	
46.063	107.7088	MAP	NAD27	
Altitude	Method	Datum	Date	
2940				
Addition	Block	Lot		

Section 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

Section 4: Type of Work

Drilling Method: FORWARD ROTARY

Section 5: Well Completion Date

Date well completed: Thursday, December 20, 1973

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2.5	299	6				STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
258	268	6			PERFORATED CASING
274	284	6			PERFORATED CASING

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	0	CEMENT	

Section 7: Well Test Data

Total Depth: 299
 Static Water Level: 150
 Water Temperature:

Air Test *

26 gpm with drill stem set at feet for 24 hours.
 Time of recovery hours.
 Recovery water level feet.
 Pumping water level 260 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

CUSTER WEST REST AREA EAST BOUND LANE I94-1 (33) 35 CORE DRILL SECTION. 6" STEEL CASING WITH SUBMERSIBLE PUMP AND BOLT ON CAP. DIST. MGR. SAID WE COULD ONLY MONITOR WELL IN OFF SEASON (11-15 TO 4-15) DUE TO POTENTIAL CONTAMINATION. MAINTENANCE MAN -WALT RAFFELSON (856-4810) SAID HE MIGHT ALLOW MEASUREMENT IN SUMMER IF YOU CONTACT HIM. COULD NOT GET ENOUGH YIELD TO CASSE A LONG PUMPING CYCLE. QUARTERLY SITE.

Section 9: Well Log

Geologic Source

211LNCE - LANCE FORMATION

From	To	Description
0	9	TOPSOIL-CLAY-LOOSE SANDSTONE
9	32	TAN & GRAY SANDY SHALE
32	40	SOFT TAN SANDSTONE
40	70	GRAY SANDSTONE
70	165	GRAY SHALE
165	170	BROWN SANDSTONE
170	190	GRAY SANDSTONE
190	223	GRAY SANDY SHALE
223	248	HARD GRAY SANDSTONE
248	262	GRAY SHALE
262	289	SOFT GRAY SANDSTONE
289	299	GRAY SHALE

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: B & H
License No: WWC-27
Date Completed: 12/20/1973

MONTANA WELL LOG REPORT

Other Options

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Site Name: CUSTER REST AREA WESTBOUND

GWIC Id: 1330

DNRC Water Right: C002162-00

Section 1: Well Owner

Owner Name

MT DEPT OF HIGHWAYS

Mailing Address

424 MOREY BILLINGS

City State Zip Code

Section 2: Location

Township	Range	Section	Quarter Sections
04N	33E	18	NW¼ NE¼ SW¼ SE¼

County	Geocode
YELLOWSTONE	

Latitude	Longitude	Geomethod	Datum
46.090231	107.661926	TRS-SEC	NAD83
Altitude	Method	Datum	Date
2915			

Addition	Block	Lot

Section 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

Section 4: Type of Work

Drilling Method: FORWARD ROTARY

Section 5: Well Completion Date

Date well completed: Wednesday, December 12, 1973

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	445	7

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	445	6				19 LB STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
404	414	6			PERFORATED CASING
414	429	6			PERFORATED CASING

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	35	CEMENT	

Section 7: Well Test Data

Total Depth: 445
 Static Water Level: 135
 Water Temperature:

Pump Test *

Depth pump set for test _ feet.
 50 gpm pump rate with _ feet of drawdown after 24 hours of pumping.
 Time of recovery _ hours.
 Recovery water level _ feet.
 Pumping water level 400 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

211LNCE - LANCE FORMATION

From	To	Description
0	2	TOPSOIL
2	7	GRAVEL AND CLAY
7	18	SOFT BROWN SANDSTONE
18	60	SOFT GRAY SANDY SHALE
60	103	GRAY SANDSTONE
103	127	SOFT GRAY SHALE
127	140	GRAY SANDSTONE
140	188	GRAY SHALE
188	195	GRAY SANDSTONE
195	200	HARD GRAY SANDSTONE
200	252	SOFT GRAY SANDSTONE
252	300	GRAY SHALE
300	320	GRAY SANDSTONE
320	370	HARD GRAY SANDSTONE
370	380	GRAY SHALE

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: B & H
License No: WWC-27
Date Completed: 12/12/1973

Site Name: CUSTER REST AREA WESTBOUND		
GWIC Id: 1330		
Additional Lithology Records		
From	To	Description
380	435	GRAY SANDSTONE
435	445	GRAY SHALE

MONTANA WELL LOG REPORT

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Site Name: HYSHAM REST AREA WESTBOUND

GWIC Id: 17257

DNRC Water Right: W163867-00

Section 1: Well Owner

Owner Name

MT DEPT OF TRANSPORTATION

Mailing Address

PO BOX 20437

City BILLINGS **State** MT **Zip Code**

Section 2: Location

Township	Range	Section	Quarter Sections
05N	36E	5	SW¼ NW¼ NE¼ NW¼
County			Geocode
TREASURE			

Latitude	Longitude	Geomethod	Datum
46.2197	107.2513	MAP	NAD27
Altitude	Method	Datum	Date
2865			

Addition **Block** **Lot**

Section 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

Section 4: Type of Work

Drilling Method: CHURN

Section 5: Well Completion Date

Date well completed: Friday, January 28, 1966

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	65	6

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
0	63	6				20 LB STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
63	65	0			OPEN HOLE

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data

Total Depth: 65
 Static Water Level: 14
 Water Temperature:

Pump Test *

Depth pump set for test _ feet.
 28 gpm pump rate with _ feet of drawdown after 4 hours of pumping.
 Time of recovery _ hours.
 Recovery water level _ feet.
 Pumping water level 43 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

WELL NE OF RESTROOMS NEAR PICNIC TABLE SAMPLING PT -FAUCET ON FRONT OF RESTROOM BLDG OR UNDERGROUND SPRINKLER SYSTEM OUTLETS WESTBOUND REST AREA ACCESSED UTILITY ROOM WITH CARETAKER HYSHAM RESTAREA I94 WEST

Section 9: Well Log

Geologic Source

111ALVM - ALLUVIUM (HOLOCENE)

From	To	Description
0	5	GRAYISH TAN SANDY SILT
5	15	CHANGES TO GRAY SANDY CLAY
15	20	TRACES OF GRAVEL
20	25	GRAY SANDY CLAY SOME SURFACE WATER
25	35	GRAY SHALE
35	55	BLUIISH GRAY CLAY
55	63	SOME TRACES GRAVEL. INCREASING AMOUNTS OF SAND TO COARSE ROCK AT 63 FT.
63	65	BOTTOMED HOLE IN GRAVEL AND DARK GRAY SAND

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: FOX
License No.: -
Date Completed: 1/28/1966

MONTANA WELL LOG REPORT

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Site Name: MONTANA HIGHWAY COMMISSION - HYSHAM WESTBOUND IRRIGATION
GWIC Id: 17256

Section 7: Well Test Data

Total Depth: 75
 Static Water Level: 24
 Water Temperature:

Section 1: Well Owner

Owner Name
 MONTANA HIGHWAY COMMISSION
Mailing Address
 HELENA
City State Zip Code

Pump Test *

Depth pump set for test _ feet.
 16 gpm pump rate with _ feet of drawdown after 4 hours of pumping.
 Time of recovery _ hours.
 Recovery water level _ feet.
 Pumping water level 40 feet.

Section 2: Location

Township	Range	Section	Quarter Sections	
05N	36E	5	NW¼ SW¼ NE¼ NW¼	
County			Geocode	
TREASURE				
Latitude	Longitude	Geomethod	Datum	
46.2186	107.2513	MAP	NAD27	
Altitude	Method	Datum	Date	
2870				
Addition	Block	Lot		

* 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 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

Section 8: Remarks

IRRIGATION ONLY WELL BOTH REST AREAS PUMP RUNNING ALL NIGHT

Section 4: Type of Work

Drilling Method: CHURN

Section 9: Well Log

Geologic Source

111ALVM - ALLUVIUM (HOLOCENE)

From	To	Description
0	10	TAN TO GRAY SANDY SILT WITH SOME CLAY
10	34	GRAY SANDY REWORKED SHALE WITH SOME GRAVEL
34	60	GRAY CLAY
60	61.5	GRAY SANDY SHALE
61.5	70	BOTTOM OF CASING SHOE. SOFT GRAY SANDSTONE
70	75	GRAY SANDY GRAVEL

Section 5: Well Completion Date

Date well completed: Thursday, February 03, 1966

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.

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
0	61.5	6				STEEL

There are no completion records assigned to this well.

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Name:
Company: FOX
License No.: -
Date Completed: 2/3/1966

MONTANA WELL LOG REPORT

Other Options

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[Plot this site on a topographic map](#)

Site Name: FORSYTH - HATHAWAY WEST REST AREA

GWIC Id: 18908

DNRC Water Right: C075532-00

Section 1: Well Owner

Owner Name

MT DEPT OF TRANSPORTATION

Mailing Address

PO BOX 460

City

MILES CITY

State

MT

Zip Code

59301

Section 2: Location

Township	Range	Section	Quarter Sections
06N	43E	14	SE¼ NE¼ SW¼ SE¼
County			Geocode
ROSEBUD			

Latitude	Longitude	Geomethod	Datum
46.2692	106.3065	MAP	NAD27
Altitude	Method	Datum	Date
2590			

Addition	Block	Lot
		7

Section 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

Section 4: Type of Work

Drilling Method: FORWARD ROTAY

Section 5: Well Completion Date

Date well completed: Friday, May 11, 1990

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	16	11
16	355	8
355	510	5

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
0	16	8				22 LB STEEL
16	355	6				18 LB STEEL
90	510	4				STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
320	355	6			3/8 X 2 INCH SLOTS
450	510	4		1/4X1/4	TORCH CUTS

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	320	CEMENT	

Section 7: Well Test Data

Total Depth: 510
 Static Water Level: 180
 Water Temperature:

Air Test *

16 gpm with drill stem set at feet for 72 hours.
 Time of recovery hours.
 Recovery water level feet.
 Pumping water level 370 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

211LHUD - LANCE-HELL CREEK UNDIFFERENTIATED

From	To	Description
0	17	GRAVEL
17	26	SANDROCK
26	95	GREY SHALE
95	102	COAL
102	118	BLUE CLAY
118	121	ROCK
121	130	SAND
130	195	SHALE
195	200	ROCK
200	320	CLAY
320	323	ROCK
323	355	SAND (WATER) ORIGINAL WELL DRILLED BY FLOYD HIGGIN
355	416	BLUE CLAY
417	419	COAL
420	452	BLUE CLAY

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: HIGGINS DRILLNG COMPANY
License No: WWC-376
Date Completed: 5/11/1990

Site Name: FORSYTH - HATHAWAY WEST REST AREA		
GWIC Id: 18908		
Additional Lithology Records		
From	To	Description
453	472	SAND COARSE DARK BLUE
473	476	ROCK
477	504	SAND COARSE DARK BLUE
505	510	CLAY

