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.

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

 Section 1: Well Owner
 Owner Name
 MDOT
 Mailing Address
 PO BOX 20437
 City State Zip Code
 BILLINGS MT 59104-0437

 Section 2: Location
 Township Range Section Quarter Sections
 01S 16E 21 SW¼ NW¼ SW¼ NE¼
 County
 SWEET GRASS
 Latitude Longitude Geomethod Datum
 45.734 109.7567 NAV-GPS
 Altitude Method Datum Date

 Addition Block Lot

 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
 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

 Section 7: Well Test Data
 Total Depth: 101.5
 Static Water Level: 58
 Water Temperature:

 Air Test *
 46.5 gpm with drill stem set at _ feet for _ hours.
 Time of recovery _ hours.
 Recovery water level _8 feet.
 Pumping water level _8 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
 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 CLAY
 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

 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
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.

**Site Name:** GREYCLIFF EASTBOUND REST AREA  
**GWIC Id:** 92492  
**DNRC Water Right:** W163908-00

**Section 1: Well Owner**

**Owner Name**  
MT DEPT OF TRANSPORTATION

**Mailing Address**  
PO BOX 20437

**City**  
BILLINGS

**State**  
MT

**Zip Code**  
59105

**Section 2: Location**

**County**  
SWEET GRASS

**Latitude**  
45.7342

**Longitude**  
109.757

**Altitude**  
3919

**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, May 29, 1970

**Section 6: Well Construction Details**

**Borehole dimensions**

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>95.2</td>
<td>6</td>
</tr>
</tbody>
</table>

**Casing**

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th>Wall Thickness</th>
<th>Pressure Rating</th>
<th>Joint Type</th>
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<tbody>
<tr>
<td>0</td>
<td>95.2</td>
<td>6</td>
<td></td>
<td></td>
<td>19 LB STEEL</td>
</tr>
</tbody>
</table>

**Completion (Perf/Screen)**

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th># of Openings</th>
<th>Size of Openings</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>93.4</td>
<td>99.3</td>
<td>6</td>
<td>6</td>
<td>SCREEN 100 SLOT</td>
<td></td>
</tr>
</tbody>
</table>

**Annular Space (Seal/Grout/Packer)**

There are no annular space records assigned to this well.

**Section 7: Well Test Data**

**Total Depth:** 99.7

**Static Water Level:** 57

**Water Temperature:**

**Pump Test**

Depth pump set for test ___ feet.

42 gpm pump rate with ___ feet of drawdown after ___ hours of pumping.

Time of recovery ___ hours.

Recovery water level ___ feet.

Pumping water level 57.3 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**

211VLCC - VOLCANICS (UPPER CRETACEOUS)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.5</td>
<td>STIFF BROWN CLAYEY LOAM</td>
</tr>
<tr>
<td>1.5</td>
<td>1.8</td>
<td>LOOSE BROWN SANDY SILT W/ COARSE GRAVEL</td>
</tr>
<tr>
<td>1.8</td>
<td>18.5</td>
<td>MEDIUM DENSE BROWN SAND W/ COARSE GRAVEL</td>
</tr>
<tr>
<td>18.5</td>
<td>99.7</td>
<td>VERY DENSE LIVINGSTON VOLCANIC BEDROCK</td>
</tr>
</tbody>
</table>

**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:** MT DEPT OF HIGHWAYS

**License No.:**

**Date Completed:** 5/29/1970
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>85</td>
<td>101.5</td>
<td>HARD BROWN SAND STONE W/ GREEN LAYERS</td>
</tr>
</tbody>
</table>
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.

Site Name: GREYCLIFF WESTBOUND REST AREA
GWIC Id: 92491
DNRC Water Right:

Section 1: Well Owner
Owner Name
MT DEPT OF TRANSPORTATION
Mailing Address
PO BOX 20437
City State Zip Code
BILLINGS MT

Section 2: Location
Township Range Section Quarter Sections
01S 16E 21 SW¼ SW¼ NW¼ NE¼
County Geocode
SWEET GRASS
Latitude Longitude Geomethod Datum
45.7357 109.7561 MAP NAD27
Altitude Method Datum Date
3888

Section 3: Proposed Use of Water
PUBLIC WATER SUPPLY (1)

Section 4: Type of Work
Drilling Method: CHURN DRILL

Section 5: Well Completion Date
Date well completed: Thursday, May 21, 1970

Section 6: Well Construction Details
Borehole dimensions

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>53.7</td>
<td>8</td>
</tr>
</tbody>
</table>

Casing

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th>Wall Thickness</th>
<th>Pressure Rating</th>
<th>Joint Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>44.2</td>
<td>8</td>
<td></td>
<td></td>
<td>29 LB STEEL</td>
</tr>
</tbody>
</table>

Completion (Perf/Screen)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th># of Openings</th>
<th>Size of Openings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>42.8</td>
<td>53.7</td>
<td>7</td>
<td>100</td>
<td>SCREEN SLOT</td>
<td></td>
</tr>
</tbody>
</table>

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data
Total Depth: 53.7
Static Water Level: 32.5
Water Temperature:

Pump Test *
Depth pump set for test __ feet.
50 gpm pump rate with __ feet of drawdown after __ hours of pumping.
Time of recovery __ hours.
Recovery water level __ 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
110ALVM - ALLUVIUM (QUATERNARY)

<table>
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<tr>
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<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>24</td>
<td>SANDY SILT</td>
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<tr>
<td>24</td>
<td>27</td>
<td>SAND</td>
</tr>
<tr>
<td>27</td>
<td>43.4</td>
<td>VERY DENSE SANDY GRAVEL</td>
</tr>
<tr>
<td>43.4</td>
<td>44.2</td>
<td>CONTACT WATER VERY DENSE SANDY GRAVEL</td>
</tr>
<tr>
<td>44.2</td>
<td>53.7</td>
<td>LIVINGSTON FORMATION</td>
</tr>
</tbody>
</table>

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: MT DEPT OF HIGHWAYS
License No:
Date Completed: 5/21/1970
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.

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
04N 32E 35 NW¼ NE¼ NE¼ NW¼
County Geocode
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
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th>Wall Thickness</th>
<th>Pressure Rating</th>
<th>Joint</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>-2.5</td>
<td>299</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>STEEL</td>
</tr>
</tbody>
</table>

Completion (Perf/Screen)
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th># of Openings</th>
<th>Size of Openings</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>258</td>
<td>268</td>
<td>6</td>
<td>6</td>
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<td>PERFORATED CASING</td>
</tr>
<tr>
<td>274</td>
<td>284</td>
<td>6</td>
<td>6</td>
<td></td>
<td>PERFORATED CASING</td>
</tr>
</tbody>
</table>

Annular Space (Seal/Grout/Packer)
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>CEMENT</td>
<td></td>
</tr>
</tbody>
</table>

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 _ 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

<table>
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<th>To</th>
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</tr>
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<td>0</td>
<td>9</td>
<td>TOPSOIL-CLAY-LOOSE SANDSTONE</td>
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<tr>
<td>9</td>
<td>32</td>
<td>TAN &amp; GRAY SANDY SHALE</td>
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<tr>
<td>32</td>
<td>40</td>
<td>SOFT TAN SANDSTONE</td>
</tr>
<tr>
<td>40</td>
<td>70</td>
<td>GRAY SANDSTONE</td>
</tr>
<tr>
<td>70</td>
<td>165</td>
<td>GRAY SHALE</td>
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<tr>
<td>165</td>
<td>170</td>
<td>BROWN SANDSTONE</td>
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<tr>
<td>170</td>
<td>190</td>
<td>GRAY SANDSTONE</td>
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<tr>
<td>190</td>
<td>223</td>
<td>GRAY SANDY SHALE</td>
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<tr>
<td>223</td>
<td>248</td>
<td>HARD GRAY SANDSTONE</td>
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<tr>
<td>248</td>
<td>262</td>
<td>GRAY SHALE</td>
</tr>
<tr>
<td>262</td>
<td>289</td>
<td>SOFT GRAY SANDSTONE</td>
</tr>
<tr>
<td>289</td>
<td>299</td>
<td>GRAY SHALE</td>
</tr>
</tbody>
</table>

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: WW-C-27
Date Completed: 12/20/1973
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.

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  
<table>
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<tr>
<th>Township</th>
<th>Range</th>
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<th>Quarter Sections</th>
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</thead>
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<td>04N</td>
<td>33E</td>
<td>18</td>
<td>NW¼ NE¼ SW¼ SE¼</td>
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County  
YELLOWSTONE  
Geocode

Latitude  Longitude  Geomethod  Datum  
46.090231  107.661926  TRS-SEC  NAD83

Altitude  Method  Datum  Date  
2915

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  
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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Casing  
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<th>From</th>
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<th>Diameter</th>
<th>Wall Thickness</th>
<th>Pressure Rating</th>
<th>Joint</th>
<th>Type</th>
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<tbody>
<tr>
<td>-2</td>
<td>445</td>
<td>6</td>
<td></td>
<td></td>
<td>19 LB STEEL</td>
<td></td>
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</tbody>
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Completion (Perf/Screen)  
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th># of Openings</th>
<th>Size of Openings</th>
<th>Description</th>
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<tbody>
<tr>
<td>404</td>
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<td>414</td>
<td>429</td>
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<td>PERFORATED CASING</td>
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Annular Space (Seal/Grout/Packer)  
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
<th>Cont. Fed?</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>35</td>
<td>CEMENT</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
<td>TOPSOIL</td>
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<td>GRAVEL AND CLAY</td>
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<td>18</td>
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<td>GRAY SANDSTONE</td>
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<tr>
<td>370</td>
<td>380</td>
<td>GRAY SHALE</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
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<tbody>
<tr>
<td>380</td>
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<td>GRAY SANDSTONE</td>
</tr>
<tr>
<td>435</td>
<td>445</td>
<td>GRAY SHALE</td>
</tr>
</tbody>
</table>
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.

Site Name: HYSHAM REST AREA EASTBOUND  
GWIC Id: 163054

Section 1: Well Owner

Owner Name
HYSHAM REST STOP EAST BOUND

Mailing Address
City State Zip Code
MT

Section 2: Location

Township Range Section Quarter Sections
05N 36E 5 NW¼ SE¼ NE¼ NW¼

County Geocode
TREASURE

Latitude Longitude Geomethod Datum
46.2184 107.2493 NAV-GPS NAD27

Altitude Method Datum Date
2900

Section 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

Section 4: Type of Work

Drilling Method: AIR ROTARY

Section 5: Well Completion Date

Date well completed: Thursday, August 18, 1988

Section 6: Well Construction Details

Borehole dimensions

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>25</td>
<td>200</td>
<td>6</td>
</tr>
</tbody>
</table>

Casing

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th>Wall Thickness</th>
<th>Pressure Rating</th>
<th>Joint Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1.5</td>
<td>35.5</td>
<td>7</td>
<td>23LB STEEL</td>
<td>165.00</td>
<td>PVC</td>
</tr>
<tr>
<td>25</td>
<td>200</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Completion (Perf/Screen)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th># of Openings</th>
<th>Size of Openings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>200</td>
<td>4</td>
<td></td>
<td>1/8</td>
<td>SLOTS</td>
</tr>
</tbody>
</table>

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data

Total Depth: 200
Static Water Level: 46.89

Water Temperature:

Air Test *

50 gpm with drill stem set at _ feet for _ hours.
Time of recovery _ hours.
Recovery water level _ 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

WELL IS EAST OF BUILDING RESTROOMS AT PICNIC TABLES USED UTILITY SINK FAUCET FOR CHEM NEED TO CONTACT CARETAKER FOR ACCESS NEWEST WELL AT REST AREAS 2 OLDER SHALLOW WELLS ON WEST SIDE IRRIGATION PIPES ACROSS TO THIS SIDE

Section 9: Well Log

Geologic Source

211LHUD - LANCE-HELL CREEK UNDIFFERENTIATED

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>28</td>
<td>SILT CLAY</td>
</tr>
<tr>
<td>28</td>
<td>35</td>
<td>BROWN SANDSTONE</td>
</tr>
<tr>
<td>35</td>
<td>50</td>
<td>LIGHT SHALE</td>
</tr>
<tr>
<td>50</td>
<td>81</td>
<td>LIGHT SANDSTONE</td>
</tr>
<tr>
<td>81</td>
<td>121</td>
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<td>121</td>
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<td>GREY SANDSTONE</td>
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<tr>
<td>160</td>
<td>173</td>
<td>GREY SHALE</td>
</tr>
<tr>
<td>170</td>
<td>200</td>
<td>GREY SANDSTONE</td>
</tr>
</tbody>
</table>

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: ROCK CREEK DRILLING INC
License No: WWC-300
Date Completed: 8/18/1988

http://mbmggwic.mtech.edu/sqlserver/v11/reports/SiteSummary.asp?gwicid=163054&agency=mbmg&sess... 1/30/2009
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.

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 State Zip Code
BILLINGS MT

Section 2: Location
Township Range Section Quarter Sections
05N 36E 5 SW¼ NW¼ NE¼ NW¼
County Geocode
TREASURE
Latitude Longitude Geocode
46.2197 107.2513 MAP NAD27
Altitude Method Datum
2865

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
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>65</td>
<td>6</td>
</tr>
</tbody>
</table>

Casing
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Wall Thickness</th>
<th>Pressure Rating</th>
<th>Joint</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>63</td>
<td>6</td>
<td>20 LB STEEL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Completion (Perf/Screen)
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th># of Openings</th>
<th>Size of Openings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>65</td>
<td>0</td>
<td>OPEN HOLE</td>
<td></td>
</tr>
</tbody>
</table>

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 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)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5</td>
<td>GRAYISH TAN SANDY SILT</td>
</tr>
<tr>
<td>15</td>
<td>20</td>
<td>CHANGES TO GRAY SANDY CLAY</td>
</tr>
<tr>
<td>20</td>
<td>25</td>
<td>TRACES OF GRAVEL</td>
</tr>
<tr>
<td>25</td>
<td>35</td>
<td>GRAY SANDY CLAY SOME SURFACE WATER</td>
</tr>
<tr>
<td>35</td>
<td>55</td>
<td>BLUISH GRAY CLAY</td>
</tr>
<tr>
<td>63</td>
<td>65</td>
<td>BOTTOMED HOLE IN GRAVEL AND DARK GRAY SAND</td>
</tr>
</tbody>
</table>

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

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.

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

Section 1: Well Owner

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

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

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: Thursday, February 03, 1966

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th>Wall Thickness</th>
<th>Pressure Rating</th>
<th>Joint Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>61.6</td>
<td></td>
<td></td>
<td></td>
<td>STEEL</td>
</tr>
</tbody>
</table>

There are no completion records assigned to this well.

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data

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

Pump Test *

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

IRRIGATION ONLY WELL BOTH REST AREAS PUMP RUNNING ALL NIGHT

Section 9: Well Log

Geologic Source
111ALVM - ALLUVIUM (HOLOCENE)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>10</td>
<td>TAN TO GRAY SANDY SILT WITH SOME CLAY</td>
</tr>
<tr>
<td>10</td>
<td>34</td>
<td>GRAY SANDY REWORKED SHALE WITH SOME GRAVEL</td>
</tr>
<tr>
<td>34</td>
<td>60</td>
<td>GRAY CLAY</td>
</tr>
<tr>
<td>60</td>
<td>61.5</td>
<td>GRAY SANDY SHALE</td>
</tr>
<tr>
<td>61.5</td>
<td>70</td>
<td>BOTTOM OF CASING SHOE, SOFTGRAY SANDSTONE</td>
</tr>
<tr>
<td>70</td>
<td>75</td>
<td>GRAY SANDY GRAVEL</td>
</tr>
</tbody>
</table>

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: 2/3/1966
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.

**Site Name:** FORSYTH - HATHAWAY EASTBOUND REST AREA  
**GWIC Id:** 18914  
**DNRC Water Right:** W163870-00

### 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** 06N  
**Range** 43E  
**Section** 24  
**Quarter Sections** SW¼ NE¼ SE¼ NE¼  
**County** ROSEBUD  
**Geocode**

### Section 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

### Section 4: Type of Work

Drilling Method: ROTARY

### Section 5: Well Completion Date

Date well completed: Monday, December 20, 1971

### Section 6: Well Construction Details

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
</tr>
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<tbody>
<tr>
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<td>11</td>
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<tr>
<td>56</td>
<td>260</td>
<td>8</td>
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</table>

#### Casing

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th>Wall Thickness</th>
<th>Pressure Rating</th>
<th>Joint</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td>22 LB STEEL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>260</td>
<td>6</td>
<td>18 LB STEEL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Completion (Perf/Screen)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th># of Openings</th>
<th>Size of Openings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>235</td>
<td>260</td>
<td>6</td>
<td></td>
<td>3/8X2 SLOTS</td>
<td></td>
</tr>
</tbody>
</table>

#### Annular Space (Seal/Grout/Packer)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>145</td>
<td>145</td>
<td>PACKER AND CEMENT</td>
</tr>
</tbody>
</table>

### Section 7: Well Test Data

<table>
<thead>
<tr>
<th>Total Depth</th>
<th>Static Water Level</th>
<th>Water Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>260</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

**Pump Test**

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

**125TLCK - TULLOCK MEMBER (OF FT UNION FM.)**

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>55</td>
<td>SAND AND GRAVEL</td>
</tr>
<tr>
<td>55</td>
<td>60</td>
<td>ROCK</td>
</tr>
<tr>
<td>60</td>
<td>70</td>
<td>FINE SAND</td>
</tr>
<tr>
<td>70</td>
<td>132</td>
<td>SHALE</td>
</tr>
<tr>
<td>132</td>
<td>145</td>
<td>ROCK</td>
</tr>
<tr>
<td>145</td>
<td>195</td>
<td>GREY SHALE</td>
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<tr>
<td>195</td>
<td>198</td>
<td>ROCK</td>
</tr>
<tr>
<td>198</td>
<td>215</td>
<td>WHITE SHALE</td>
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<tr>
<td>215</td>
<td>260</td>
<td>WATER SAND</td>
</tr>
</tbody>
</table>

**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-12  
**Date Completed:** 12/20/1971

---

http://mbmggwic.mtech.edu/sqlserver/v11/reports/SiteSummary.asp?gwicid=18914&agency=mbmg&sessi... 1/30/2009
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.

Section 1: Well Owner

Owner Name
MT DEPT OF TRANSPORTATION

Mailing Address
PO BOX 460

City State Zip Code
MILES CITY MT 59301

Section 2: Location

County
ROSEBUD

Latitude Longitude Geocode
46.2692 106.3065

Altitude Method Datum
2590 MAP NAD27

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

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
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<td>355</td>
<td>8</td>
</tr>
<tr>
<td>355</td>
<td>510</td>
<td>5</td>
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</tbody>
</table>

Casing

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Diameter</th>
<th>Wall Thickness</th>
<th>Pressure Rating</th>
<th>Joint Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>16</td>
<td>8</td>
<td>22 LB STEEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>355</td>
<td>6</td>
<td>18 LB STEEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>510</td>
<td>4</td>
<td>STEEL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Completion (Perf/Screen)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th># of Openings</th>
<th>Size of Openings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>320</td>
<td>355</td>
<td>6</td>
<td>3/8 X 2 INCH SLOTS</td>
<td></td>
</tr>
<tr>
<td>450</td>
<td>510</td>
<td>4</td>
<td>1/4X1/4</td>
<td>TORCH CUTS</td>
</tr>
</tbody>
</table>

Annular Space (Seal/Grout/Packer)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
<th>Cont. Fed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>320</td>
<td>CEMENT</td>
<td></td>
</tr>
</tbody>
</table>

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 _ hours.
Time of recovery _ hours.
Recovery water level _ 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
211LHUD - LANCE-HELL CREEK UNDIFFERENTIATED

<table>
<thead>
<tr>
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<th>To</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>17</td>
<td>GRAVEL</td>
</tr>
<tr>
<td>17</td>
<td>26</td>
<td>SAND ROCK</td>
</tr>
<tr>
<td>26</td>
<td>95</td>
<td>GREY SHALE</td>
</tr>
<tr>
<td>95</td>
<td>102</td>
<td>COAL</td>
</tr>
<tr>
<td>102</td>
<td>118</td>
<td>BLUE CLAY</td>
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<td>SAND</td>
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<td>323</td>
<td>ROCK</td>
</tr>
<tr>
<td>323</td>
<td>355</td>
<td>SAND (WATER) ORIGINAL WELL DRILLED BY FLOYD HIGGIN</td>
</tr>
<tr>
<td>355</td>
<td>416</td>
<td>BLUE CLAY</td>
</tr>
<tr>
<td>416</td>
<td>419</td>
<td>COAL</td>
</tr>
<tr>
<td>419</td>
<td>420</td>
<td>BLUE CLAY</td>
</tr>
</tbody>
</table>

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 DRILLING COMPANY
License No: WWC-376
Date Completed: 5/11/1990
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
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</tr>
</thead>
<tbody>
<tr>
<td>453</td>
<td>472</td>
<td>SAND COARSE DARK BLUE</td>
</tr>
<tr>
<td>473</td>
<td>476</td>
<td>ROCK</td>
</tr>
<tr>
<td>477</td>
<td>504</td>
<td>SAND COARSE DARK BLUE</td>
</tr>
<tr>
<td>505</td>
<td>510</td>
<td>CLAY</td>
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</tbody>
</table>