

Change in POD? X Y N Amendment Required? Y X N

2. **PLACE OF USE:** Use: Domestic and Irrigation

TWP	RGE	Sec	NE				NW				SW				SE				Total s
			NE	N W	S W	SE	NE	N W	S W	SE	NE	N W	S W	SE	N E	N W	SW	SE	
11N	07E	8															0.2	0.1	0.3
		Lot #																	
Total Acres =																			0.3

Method of Determination: Evidence of irrigation around buildings. 0.2 found in SWSE. Need to have a minimum of 0.1 AC in SESE. Determination of exact acreage difficult because of tree cover. 0.3 cfs less than 0.5 Ac allowed by a de minimus domestic right.

Change in POU? X Y N Amendment Required? X Y N

3. Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

 Aerial Photo Attached (required for irrigation of 10+ acres).

 X Photo of Diversion and System Attached

4. Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements: < >

E. FLOW CALCULATIONS

 Additional Computation Sheets Attached

Measured Method:

0.02 cfs = 1 inch per acre (IDWR standard) 0.3 acres(0.02 cfs) = 0.01 cfs at 1 inch per acre

Use 0.02 cfs/home per IDWR Standard for Domestic Use, no irrigation.

2 Cabins X 0.02 cfs/home = 0.04 cfs for domestic use

Per theoretical horsepower equation worksheet, Q = 0.01 cfs (see attached.)

Measurement = 0.01 cfs cfs

Permit allowed = 0.04 cfs combined.

License recommend for 0.01 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.3 \times 3 = 0.9$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.01 \times 200 \times 1.9835 = 4.0$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses:

Use 0.6 afa/home per IDWR Standard for Domestic Use, no irrigation. 2 cabins X 0.6 afa = 1.2 afa

G. PURPOSE OF USE

Irrigation ☒ Y ☐ N # Stock _____ Domestic # of Homes 2

Other: < >

Change in Purpose of Use? ☐ Y ☒ X ☐ N

Method of Determination: information provided by permit holder.

If Yes: From Use _____ To Use _____ Amount _____ CFS _____ AFA _____

H. NARRATIVE/REMARKS/COMMENTS

No 13,000 gal/day condition on permit hence recommend with a volume.

Headgate: 3. Consumptive use: 2

In water district 65

2.1 AF still below system capacity if pump run 24/7/365 at 0.01 cfs.

Have conditions of permit approval been met? ☒ X Yes ☐ No

I. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
Irrigation	04/15 to 10/31	0.01 CFS	0.9 AF
Domestic	01/01 to 12/31	0.01 CFS	1.2 AF
<u>Totals:</u>		0.01 CFS	2.1 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ X None

☒ X Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ None

Other: < >

J. AUTHENTICATION

Field Examiner's Name Danella Farnsworth Date 08/27/13

Reviewer David A. Miller Date 10-8-2013

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 65-22722
 Examiner: D. Favreau
 Date of Field Exam: 8/27/2013

P/D No.:	Option 1	OPTION 2	OPTION 3	
PUMP HORSEPOWER	0.5	0.5	0.5	
BOOSTER HORSEPOWER	0	0	0	
PUMPING LEVEL	190	190	190	
DISCHARGE PRESSURE	40	50	60	
FRICITION	0	0	0	
RATE OF FLOW (cfs)	0.01	0.01	0.01	AVE
(gpm)	4.9	4.5	4.2	0.01

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.

Examiners Notes:

Lift and HP provided by permit holder. A standard psi for domestic use of 40 to 60 psi was used to estimate the pressure against the pump.

see 07/24/13 email.

Favreau, Danielle

From: McGarry, Elizabeth [emcgarry@usbr.gov]
Sent: Tuesday, August 27, 2013 11:21 AM
To: Favreau, Danielle
Subject: Re: 65-22722

The 0.01 cfs works for us.

Gail

E. Gail McGarry
Program Manager Water Rights and Acquisition
PN-3100, Bureau of Reclamation Pacific Northwest Region
1150 North Curtis Road, Suite 100
Boise, ID 83706
208-378-5306

On Mon, Aug 26, 2013 at 4:58 PM, Favreau, Danielle <Danielle.Favreau@idwr.idaho.gov> wrote:

Sounds good Gail. Danielle

From: McGarry, Elizabeth [mailto:emcgarry@usbr.gov]
Sent: Monday, August 26, 2013 4:55 PM
To: Favreau, Danielle
Subject: 65-22722

The pump for above is submersible, so can't get a picture easily, but it is referenced as 1/2 hp in our Standard Operating Procedures and the spec - would that work?

I think the .01 cfs will work - want to run one calculation - will get back to you tomorrow.

Gail

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On Tue, Aug 20, 2013 at 10:34 AM, Favreau, Danielle <Danielle.Favreau@idwr.idaho.gov> wrote:

Hi Gail,

If you cannot get the well plate, do you have documentation on the horsepower of the pumps?

I ran what you gave me by my Water Rights Supervisor. You can read his conclusions below. We can see what we can do with what we have if you are agreeable.

Let me know.

Danielle

From: Nelson, Dan
Sent: Thursday, August 15, 2013 8:14 AM
To: Favreau, Danielle
Subject: RE: 65-23046, 65-23047, 65-22722

Danielle,

This information is very limited. Having the horsepower for the pump would be the ideal situation. However, if she doesn't have it, then I think we just have to go with what we have.

65-23045 – well log has a pump test at 27 gpm. $27 \text{ gpm} / 448.8 = 0.06 \text{ cfs}$. This matches the specs she sent in asking the pump installer to keep the well to 30 gpm. Using the well log for pumping water level, I calculated that they would need a 1.5 Hp pump to get 27.8 gpm. This seems reasonable.

65-23046 – I couldn't find a well log, and the well information she provided for section 32 was for a different 40 acre tract. I found the well log for the information she provided, but that well was drilled in 1977. I don't have any information on the well for this water right. However, if she wants to limit this well to 30 gpm, we could reduce her water right to that amount. That would give her 0.07 cfs for irrigation, 0.04 cfs for domestic, and a total of 0.07 cfs.

65-22722 – The application for permit on this one states that 0.5 Hp pump will be used to deliver a .5 gpm yield. One of the three well logs show a 0.5 gpm yield at 198 feet, with a static of 5.2 feet. If you do WAG (Wild Assuming Guess) pumping level of 97 feet. That would provide 0.01 cfs, which is the minimum amount we could give.

I would email her back and ask if she would accept the following diversion rates:

65-23045 – 0.06 irrigation – 0.04 cfs domestic – 0.06 total

65-23046 – 0.06 irrigation – 0.04 cfs domestic – 0.06 total

65-22722 – 0.01 irrigation – 0.01 cfs domestic – 0.01 total

I would tell her that with the information that you were given, this is the best that you can do without the **well horsepower and the actual well logs** for the wells associated with 65-23046 and 65-22722. Tell her you will try to run it by your Bureau Chief, and see if he will bite off on these, but the information is pretty weak. If she is agreeable, I suggest we run these numbers by Shelley and see if he will go for them.

That is the best that I can offer right now. I hope this helps. You can pass this email onto her if you like.

Daniel A. Nelson

Staff Hydrologist

Idaho Department of Water Resources

Telephone # (208) 287-4856

Fax (208) 287-6700 (C/O Dan Nelson)

From: Favreau, Danielle
Sent: Thursday, August 15, 2013 6:36 AM
To: Nelson, Dan
Subject: FW: 65-23046, 65-23047, 65-22722

Hi Dan,

Please review the pump info Gail supplied. Please see if it is enough to get system capacity info. The files are in my drawer.

See you Monday.

Danielle

From: McGarry, Elizabeth [<mailto:emcgarry@usbr.gov>]
Sent: Wed 8/14/2013 6:25 PM
To: Favreau, Danielle
Subject: 65-23046, 65-23047, 65-22722

Danielle,

The pumps at Huckleberry and Buttercup are submersible, and Parks would have to get someone to pull them out to get the nameplate information.

The attached is from our specs and standing operating procedures information for Buttercup. We are looking for more info and info for Huckleberry, but let me know if this would suffice for Buttercup.

Also on 65-22722, - the group that went up a couple weeks ago didn't have GPS, but are taking it this week, so we should have the Deadwood info shortly.

E. Gail McGarry

Program Manager Water Rights and Acquisition

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Favreau, Danielle

From: McGarry, Elizabeth [emcgarry@usbr.gov]
Sent: Wednesday, July 24, 2013 11:50 AM
To: Favreau, Danielle
Subject: 65-22722 - Deadwood domestic
Attachments: 65-22722 3 pressurized tanks.pdf; 65-22722 Well head.pdf; 65-22722 Well house.pdf

Here is some info on subject water right.

The pump is a 1/2 horsepower, 24 volt submersible pump. The well depth is 225 ft, the pump is located at 190 ft. The flow rate is 1/2 gpm. The pump feeds three pressurized water tanks.

The pictures attached are of the well head, the well house, and the three tanks.

More info coming after the field trip.

E. Gail McGarry
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Favreau, Danielle

From: McGarry, Elizabeth [emcgarry@usbr.gov]
Sent: Friday, July 19, 2013 4:02 PM
To: Favreau, Danielle
Subject: 65-22722 Deadwood Domestic Right
Attachments: Crew Quarters Bldg 801 (1).pdf; Deadwood area.pdf; Pump House (1).pdf; Damn Tender Cabin Bldg 802 (2).pdf

Danielle,

Attached is an area picture of the cabins. The cabins served by this water right are indicated by "Dam Tender's Cabin 802" and "Crew Quarters 801."

There are also individual pictures of each of those buildings. (The top picture on the file "Crew Quarters Bldg 801 that shows a building with red door is actually next door and not part of the Crew Quarters bldg.).

Do the photo's serve the purpose of the "detailed map and description of the cabins," which you requested or do you need it in a map form and description.

The irrigation portions of the water right is for lawn irrigation at the Crew Quarters 801, which can be seen roughly in the photo.

A crew is going up to Deadwood next week and will take pictures - from those photo's we'll make a detailed map of the irrigated lawns.

The information about the pump is located on it and the crew will obtain this information and take pictures of it.

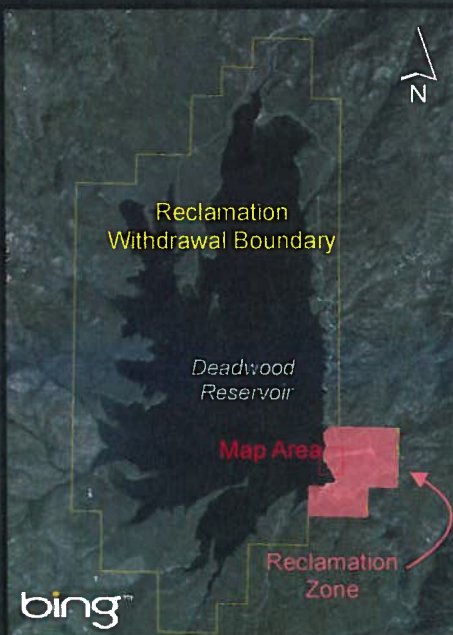
The crew will develop the system map and narrative description of the irrigation and domestic system while they are up there. They will use the template we used for 65-23046, if that covers all the information you need.

If you could let me know by Monday afternoon, if you think more information is needed from their site visit that would be great.

Gail McGarry
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Deadwood
Reservoir

Reclamation Zone



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RECLAMATION

Managing Water in the West

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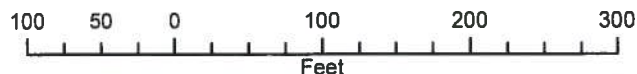
Name: DW0718131
Date: 07/18/2013
Author: D. Pitzer



65-22722

Buildings and Structures at Deadwood Dam

(Building Names and Known Maximo Numbers)

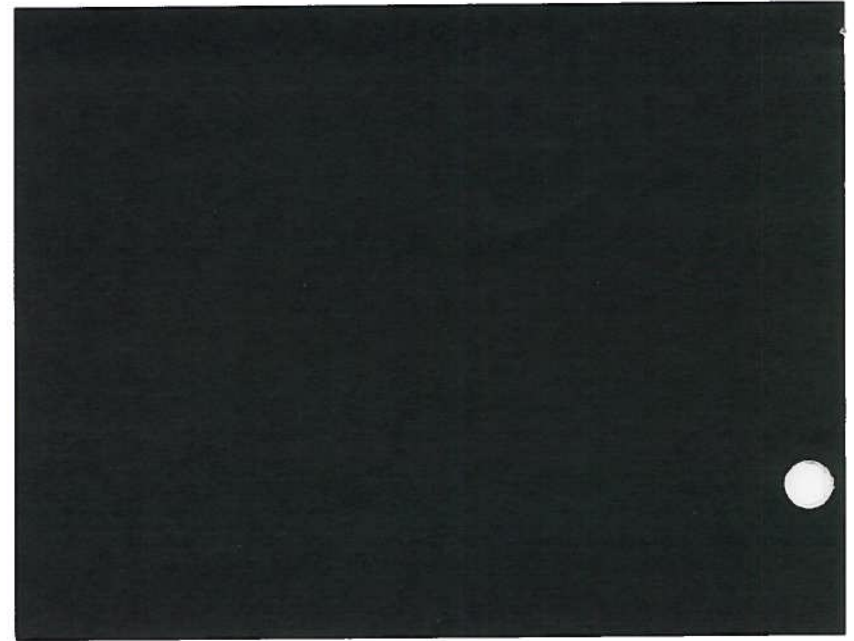




PUMP HOUSE 65-22722



Dam Tender Cabin 802
65-22722



Crew Quarters 801



65-22722

Type	WR #	Owner	Source	TRS	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total
Right	65 9905	US DEPT OF AGRICULTURE,	SPRING	11N07E8													X	X	X	X	0
Right	65 9906	US DEPT OF AGRICULTURE,	GROUND WATER	11N07E8													X	X	X	X	0
Right	65 9907	US DEPT OF AGRICULTURE,	SPRING	11N07E8													X	X	X	X	0
Right	65 9485	UNITED STATES OF AMERICA,	SPRING	11N07E8															X		0
Right	65 22206	UNITED STATES OF AMERICA,	GROUND WATER	11N07E8													X				0
Permit	65 22722	US DEPT OF INTERIOR,	GROUND WATER	11N07E8																X	0
Permit	65 22722	US DEPT OF INTERIOR,	GROUND WATER	11N07E8																	0.3
Permit	65 22723	US DEPT OF INTERIOR,	DEADWOOD RIVER	11N07E8															X		0
Right	65 22723	US DEPT OF INTERIOR,	DEADWOOD RIVER	11N07E8															X		0

65-22723 = power right,

65-9905 - source = Spring, Domestic, Lower Deadwood G.S.

65-9907 - source = Spring, Domestic, USFS right for BOR H. Q.

65-9906 - source = GW, Domestic for Lower Deadwood G.S.

65-9485 - Spring, domestic, BOR maintenance

65-22206, F.S. Admin. right for GW

Basin Sequence	Suffix	Version Number	Process	Basis	Status	Draft	RightID	Priority Date	Diversion Rate	Source List	Water Use List	Current Owner
65	9905		Water Right	Decreed	Active	N	69394	5/29/1905	0.030	SPRING	DOMESTIC	US DEPT OF AGRICULTURE
65	9906		Water Right	Decreed	Active	N	69395	5/29/1905	0.040	GROUND WATER	DOMESTIC	US DEPT OF AGRICULTURE
65	9907		Water Right	Decreed	Active	N	69396	6/1/1930	0.030	SPRING	DOMESTIC	US DEPT OF AGRICULTURE
65	22722		Water Permit		Active	N	569168	2/19/2002	0.040	GROUND WATER	DOMESTIC, IRRIGATION	US DEPT OF INTERIOR

Other Owner	Leased to Water Su	Application ID	Approval Date	Total Acres	Acre Limit	Volume	Water District
No							0.6 65 - Payette River and Tributaries
No							1.2 65 - Payette River and Tributaries
No							0.6 65 - Payette River and Tributaries
No			5/29/2003		0.3		

FORWARD WHITE COPY TO WATER RESOURCES