

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 37-20386

Exam Date: 7/17/2008

1. Current Owner: DELBERT MC MURDO JR
RT 1 BOX 1198
FAIRFIELD ID 83327
(208) 764-3421 or (208) 720-2640

And/Or

BARBARA MC MURDO
RT 1 BOX 1198
FAIRFIELD ID 83327
(208) 764-3421

2. Accompanied by: Delbert

3. SOURCE
SPRING

TRIBUTARY
SINKS

B. OVERLAP REVIEW

1. Other water rights with the same place of use: none
2. Other water rights with the same point of diversion: none

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

SPRING SW1/4NE1/4NW1/4 Sec. 26, Twp 01N, Rge 15E, B.M. CAMAS County

Method of Determination: Site visit and Imagery

2.

PLACE OF USE: STOCKWATER (this is where the trough is located)

Twp	Rge	Sec	NE				NW				SW				SE				Totals
01N	15E	26	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
										X									

Method of Determination: Site visit and Imagery

3. x Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
 x Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
 x Photo of Diversion and System Attached

D. FLOW MEASUREMENTS

1.

Measurement
Equipment

5.5 gallon bucket and stopwatch

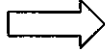
2. Measurements: A measurement was taken at the trough from a standpipe where the water was being gravity fed from the spring. The pipe measures 1-1/4" and then near the standpipe, the pipe is reduced to 1" to create pressure.

E. FLOW CALCULATIONS

Measured Method: Three measurements were taken using the bucket and stop watch as follows:

24.91 seconds

23.66 seconds



$$\frac{5.5 \text{ gallons} \times 60 \text{ sec}}{23.9 \text{ sec}} = 13.8 \text{ gpm} / 448.8 = 0.03 \text{ cfs}$$

23 seconds

$$23.9 \text{ sec} \times 1 \text{ min}$$

23.9 second average

The right holder indicated that in the spring and late fall the water backs-up at the POD and fills in the pond. The time at the field exam, there was no water in the pond. I am confident that no matter how much water is available at the POD, the system capacity is 0.03 cfs.

As a secondary measurement I ran the data I collected at the field through the Manning Equation and got 0.03 cfs as the system capacity as well.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

2. Volume Calculations for Other Uses: Water for Livestock-Out of Stream Diversion Table from the Field Examiner's Handbook gives a reading of 2 af for 150 cattle at 0.03 cfs.

G. NARRATIVE/REMARKS/COMMENTS

The system is composed of a 1-1/4" pipe that sits beneath the ground to intercept the spring water. There is a spring box installed with a lever to control the diversion. The pipe runs 690' from the spring box to the trough down about a 15% grade. From the spring box to the POD, it is roughly 60'. The trough has a float in it that shuts off the water to just a trickle when the trough is full. The cattle get rotated from a few different fields, and were not present at the time of the field exam. The cattle will be moved back onto this field shortly. This right will not be subject to WM control since the spring rises and sink on the McMurdo's property.

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

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
STOCKWATER	01/01 to 12/31	0.030 CFS	2.00 AF
<u>Totals:</u>		0.030 CFS	

2. Recommended Amendments

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

☒ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

Field Examiner's Name Cherie Padilla Date 7/17/08

Reviewer CP Date 7/25/08

Manning's Equation Calculator for Flow Rate in Any Open Channel

S = 0.1478 ft/ft

n = 0.009 manning's coefficient

A = 0.01 area (ft²)

P = 0.31 wetted perimeter (ft)

R = 0.02 hydraulic radius (ft)

Q = 0.03485 flowrate (CFS)

READ ME

Manning's Equation (1), is a velocity (v) in a open channel equation (2) when combine computation of the flow rate flow.

In equations (1) and (3), n is Roughness and can be found for channel types. R is the hydraulic radius is equal to the area of the cross section divided by the perimeter, $R = A/P$. S is the slope and is often assumed to be equal to the bed slope.

Because Manning's Equation is arbitrary. To obtain a velocity must be reported in ft², hydraulic radius S must be reported in ft/ft. n is a unitless constant.

Channel Slope

Slope Options

☐ Manual Entry

☒ Slope Calculator

Slope Calculator

Rise = 102 feet

Run = 690 feet

Slope, S = 0.1478 ft/ft

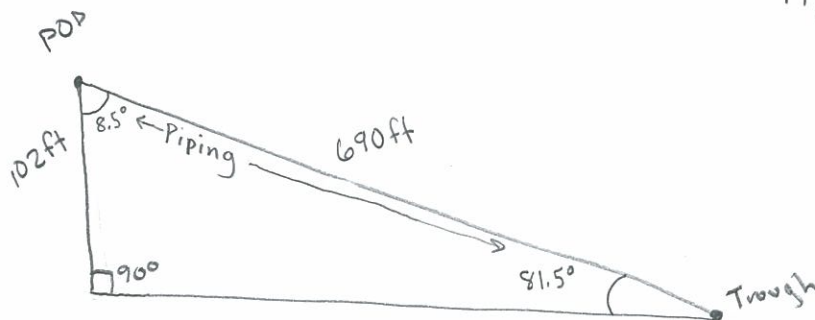
Pipe Material

plastic (pvc, abs)

$$(1) \quad v = 1.49$$

$$(2) \quad Q = vA$$

$$(3) \quad Q = 1.49$$



Pipe diameter = 0.1 ft

Radius = 0.05 ft

$$A = \pi (0.05)^2 = 0.01 \text{ ft}^2$$

$$C = \pi \cdot 0.1 = 0.314 \text{ ft}$$

* For P = the pipe was running full

Field Exam Photos 37-20386 for Delbert McMurdo. Taken 7/17/2008 in Camas County.
Field Examiner: Cherie Padilla



Photo of place of use (trough). Picture is taken facing northwest.



Photo of spring box with a valve inside to control the flow

Field Exam Photos 37-20386 for Delbert McMurdo. Taken 7/17/2008 in Camas County.
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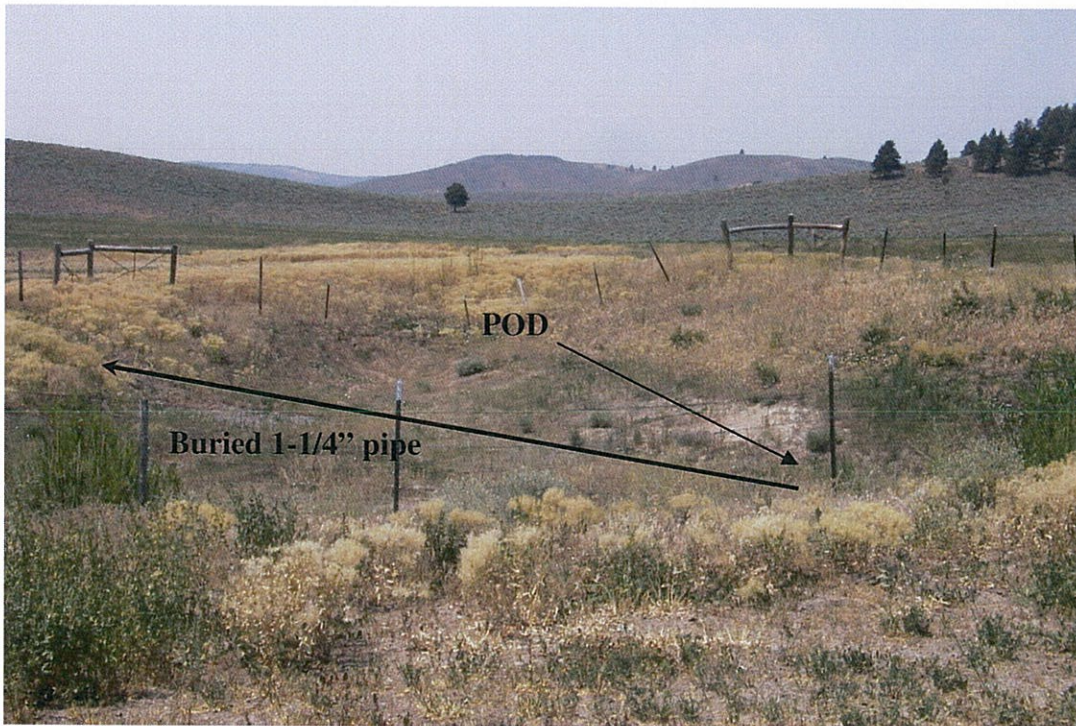
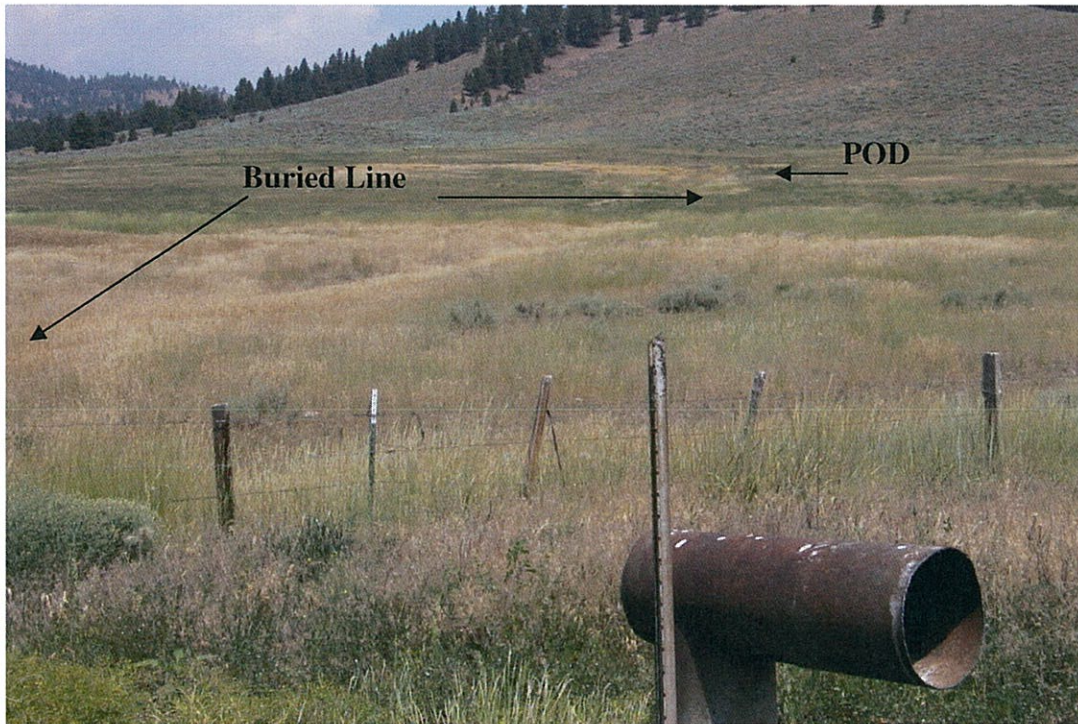


Photo facing west. This is the pond area where the water collects in the spring/late fall. The buried pipe runs right up to the north side of the pond area.



Another picture of muddy spring box

Field Exam Photos 37-20386 for Delbert McMurdo. Taken 7/17/2008 in Camas County.
Field Examiner: Cherie Padilla



Picture was taken facing north.

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable.

