

Ragan, Brian

From: Ragan, Brian
Sent: Friday, March 24, 2023 2:44 PM
To: 'David Ball'
Cc: Jordan, Blake
Subject: Variance Request received March 13, 2023 (WMIS 300407, 300408, 300411, 300412)
Attachments: David Ball Variance Backfile.pdf

Mr. Ball,

The Department has received your variance form in which you request to use an open channel device (cipoletti weir and data logger) to measure the cumulative annual diversion volume from four wells in your well field. The diversion name, WMIS numbers and current usage status for these wells are:

- #3 (WMIS 300407), active
- #2 (WMIS 300411), active
- Big Bertha (WMIS 300412), active
- Big Canal Well (WMIS 300408), unused

The Department standard measurement method is via in-line electromagnetic or spooled ultrasonic flow meters. The Department does approve alternative measurement methods as long as specific criteria are met. According to Department records your three active wells (300407, 300411, 300412) have already been granted approval to measure using a power consumption coefficient ("PCC"). See the attached approved variance backfile. The PCC method relates the power consumption by the individual well to the gallons pumped by taking into account the flow rate of we well and variables specific to the power demand meter. The result is a single annual diversion volume for each well.

Request for open channel measurement

At this time the Department will not approve your request for open-channel measurement. The distance between the proposed weir location and the easternmost well (WMIS 300411) is greater than 3 miles. The amount of seepage from the conveyance ditch/canal along this >3-mile stretch is unknown. The uncertainty in the seepage affects the accuracy of measuring how much water was diverted from the wells.

Alternate option

You are free to install a standard open channel measuring device and data logger to be used for you own purposes. If you install a standard open channel device/data logger and collect data, the Department is willing to compare the volumes derived via PCC and the open channel device after two seasons to determine if the datasets agree with each other. If so, the Department would entertain transitioning these wells from PCC measurement to open channel measurement.

The Department will hold your application until we hear from you on how you would like to proceed.

Regards,
Brian

Brian W. Ragan, P.G.
Idaho Department of Water Resources
322 East Front St., PO Box 83720
Boise, ID 83720-0098

Ball variables 2018-578 through 580

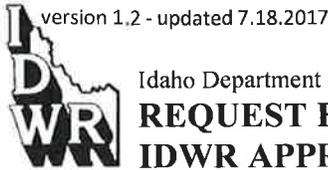
See 300391 for example



> 3 miles from 300411 to weir

RECEIVED

MAR 13 2023



Idaho Department of Water Resources

DEPARTMENT OF WATER RESOURCES

REQUEST FOR VARIANCE:

IDWR APPROVED FLOW METER INSTALLATION REQUIREMENT

A variance will only be considered or approved for simple systems, open discharge wells, or non-approved flow meters installed prior to the date of an IDWR measurement order. This request must be approved before you may use any alternate measurement method. *Complete one form for each affected well.*

SECTION I: SITE DETAILS

1. Owner/Operator David Ball			2. Well Name WMIS #'s 300412, 300411, 300407,300408		
3. IDWR Site Tag No.	4. Legal Description	4a. Township	4b. Range	4c. Section	5. Water District Water District 110
6. Reporting District (ground water district, irrigation district, or other entity) Water District 110					

SECTION II: MEASUREMENT METHOD

Select the method of measurement you wish to use and have approved. Choose one:

<input type="checkbox"/>	7. Power Consumption Coefficient (PCC): Only for irrigation diversions that consist of one well and one irrigation discharge point or one distinct flow and demand condition.
<input type="checkbox"/>	8. Hour Meter/Time Clock: One well, constant open discharge, no flow control valves.
<input type="checkbox"/>	9. Existing Operating Flow Meter: Installed prior to the date of the effective order and determined as acceptable by IDWR.
<input checked="" type="checkbox"/>	10. Standard Open Channel Device: One or multiple wells, open discharge, device must be read daily or flows must be continuously recorded. Cipoletti weir and datalogger

SECTION III: WELL DETAILS

11. Does the well open discharge into a pond or ditch?	<input checked="" type="checkbox"/> Yes [†] (continue to 13) <input type="checkbox"/> No
12. Is the well interconnected to other wells?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
13. What is the pump discharge main line diameter?	<u>14-16</u> inches

SECTION IV: SYSTEM DESCRIPTION

14. Describe the irrigation equipment used with this well (such as center pivot with or without end gun, ¼ mile wheel lines, solid set hand lines, etc.), including the number and length of hand/wheel lines. Describe system as accurately or completely as possible, including different operating conditions if any. 4 ground water wells divert water into common ditch. Water is transported down ditch to pumps which divert water to pivots. Parts of farm are flood irrigated. Measuring with weir and data logger will allow for continuous monitoring requirements imposed by SWC agreement and measurements will be more accurate.	
15. Does your pivot(s) system operate with corner machines?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
16. Does your pivot(s) operate with an end gun?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (continue to 18)
17. Estimate of the percent of time the end gun operates:	_____ % of time
18. Approximate number of acres irrigated by this well:	<u>797</u> acres

SECTION V: MEASUREMENT SYSTEM DETAILS

19. Is there a flow meter presently installed on this well?		<input type="checkbox"/> Yes (complete 19a – 19d) <input checked="" type="checkbox"/> No (continue to 20)
19a. Meter Type	19b. Meter Manufacturer	
19c. Meter Installation Date	19d. Is the meter operable?	<input type="checkbox"/> Yes <input type="checkbox"/> No
20. Are there multiple pumps or other electrical loads wired to the same electrical demand meter, such as surface water pumps, booster pumps, or pivots?		<input type="checkbox"/> Yes* (complete 20a – 20c) <input checked="" type="checkbox"/> No (continue to 21)
20a. Describe other electrical loads referred to in question 19		
20b. Number of in-line pressure boosters:		_____ boosters
20c. Do in-line pressure boosters <i>always</i> run with the well?		<input type="checkbox"/> Yes* <input type="checkbox"/> No
21. Does the system operate with a variable frequency drive?		<input type="checkbox"/> Yes* (complete 21a) <input checked="" type="checkbox"/> No (continue to 22)
21a. Frequency drive location:		<input type="checkbox"/> on booster motor <input type="checkbox"/> on well motor <input type="checkbox"/> on both
22. Does the well supply water for use other than irrigation, such as commercial or stockwater?		<input type="checkbox"/> Yes* (complete 22a) <input checked="" type="checkbox"/> No (continue to 23)
22a. Describe other uses referenced in question 22:		
23. Does the well production decrease over the irrigation season?		<input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No
24. Does pumping water level decrease over the irrigation season?		<input type="checkbox"/> Yes* (complete 24a) <input checked="" type="checkbox"/> No [†]
24a. Approximately how many feet does the water level decrease?		_____ feet

SECTION VI: SYSTEM DIAGRAMS AND MAPS (Required for all variance requests)

Attach a diagram or photos of the wellhead and pumping plant. Include or show locations of all proposed or existing flow meters. Indicate the location of and spacing between boosters, valves, elbows, chemigation ports, etc.

SECTION VII: APPLICANT SIGNATURE AND CONTACT INFORMATION

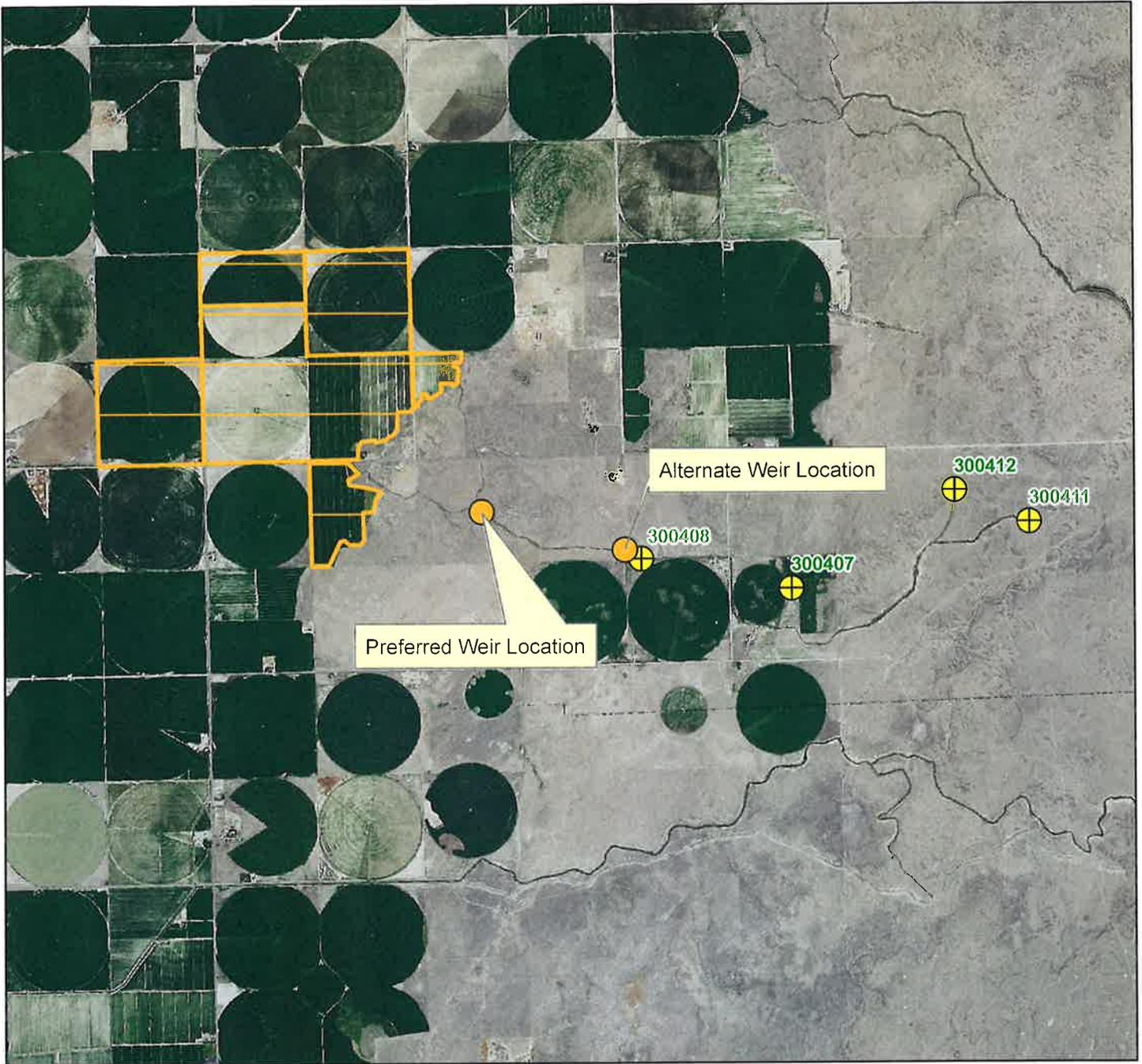
<u>David L. Ball</u> Signature	<u>David Ball</u> Print Name	<u>Owner</u> Title (if applicable)
<u>875 E 2700 N Montevideo Idaho 83435</u> Mailing Address		
<u>d1ball4020@gmail.com</u> Email Address	<u>(208) 390-1280</u> Phone Number	<u>March 8, 2023</u> Date

Return this completed and signed form to:

IDWR Water Distribution Section
 PO Box 83720
 Boise, ID 83720-0098

* 'Yes' on questions 20 – 24 indicates a system that is an unlikely candidate for Power Consumption Coefficient (PCC) method of measurement. A flow meter must be installed.

† 'Yes' on question 11 and 'No' on question 24 indicates a system that may be a candidate for an hour meter measurement method.



 Water Right Place of Use

