

State of Idaho
Department of Water Resources
Water Right License

WATER RIGHT NO. 63-32049

Priority: November 08, 2004

Maximum Diversion Rate: 3.68 CFS
Maximum Diversion Volume: 704.0 AF

It is hereby certified that BOISE VALLEY FEEDERS LLC
2201 RIDGEWAY RD
PARMA ID 83660 has complied with the terms and conditions of the
permit, issued pursuant to Application for Permit dated November 08, 2004; and has submitted Proof of
Beneficial Use on January 09, 2015. An examination confirms water is diverted from:

SOURCE

GROUND WATER

and a water right has been established as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL DIVERSION VOLUME</u>
IRRIGATION	03/01 to 11/15	2.68 CFS	603.0 AF
INDUSTRIAL	01/01 to 12/31	1.00 CFS	101.0 AF

LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER	NW1/4SE1/4	Sec. 14,	Twp 06N,	Rge 05W, B.M.	PAYETTE County
GROUND WATER	SE1/4SW1/4	Sec. 13,	Twp 06N,	Rge 05W, B.M.	PAYETTE County
GROUND WATER	NW1/4SW1/4	Sec. 13,	Twp 06N,	Rge 05W, B.M.	PAYETTE County

PLACE OF USE: IRRIGATION

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
06N 05W 24		33.0	35.0		33.0			33.0									134.0

Total Acres: 134

PLACE OF USE: INDUSTRIAL

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
06N 05W 13						X	X			X	X						
06N 05W 14	X			X									X				

CONDITIONS OF APPROVAL

1. Industrial use is for feedlot dust control system.
2. This right when combined with all other rights shall provide no more than 0.02 cfs per acre nor more than 4.5 afa per acre at the field headgate for irrigation of the lands above.
3. After specific notification by the Department, the right holder shall install a suitable measuring device or shall enter into an agreement with the Department to use power records to determine the amount of water diverted and shall annually report the information to the Department.

State of Idaho
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Water Right License

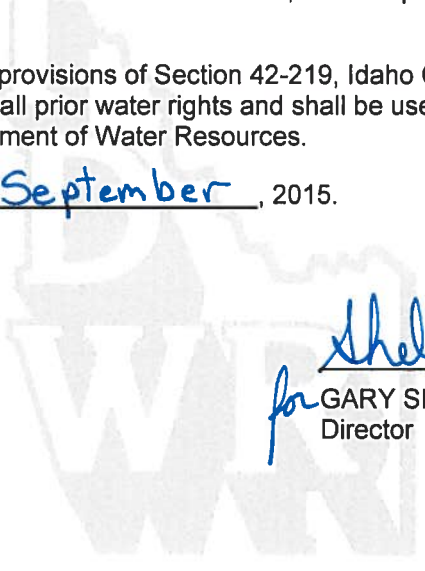
WATER RIGHT NO. 63-32049

CONDITIONS OF APPROVAL CONTINUED

4. When ordered by the Director, the right holder shall provide mitigation acceptable to the Director to offset depletion of lower Snake River flows needed for migrating anadromous fish. The amount of water required for mitigation, which is to be released into the Snake River or a tributary for this purpose, will be determined by the Director based upon the reduction in flow caused by the use of water pursuant to this right. Any order of the Director issued in accordance with this paragraph shall be in conformance with applicable rules allowing the right holder due process as the need for mitigation and the amount of mitigation are determined.
5. Rights 63-3359, 63-7874, and 63-31262 are also diverted through the points of diversion in the NW¼SE¼ of Section 14 and the NW¼SW¼ of Section 13, Township 6 North, Range 5 West, B.M.

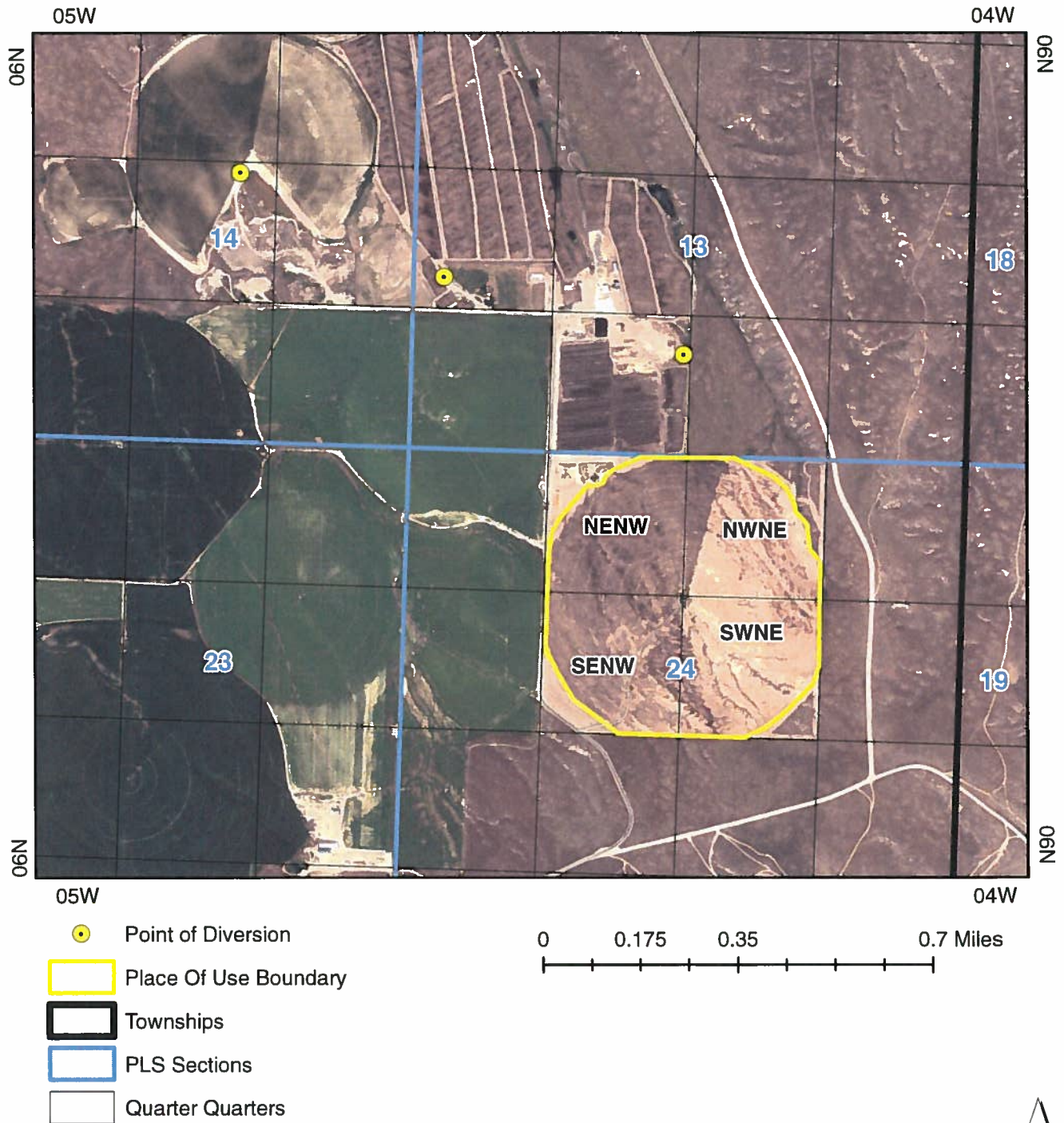
This license is issued pursuant to the provisions of Section 42-219, Idaho Code. The water right confirmed by this license is subject to all prior water rights and shall be used in accordance with Idaho law and applicable rules of the Department of Water Resources.

Signed and sealed this 23rd day of September, 2015.


Shelley W. Keen
for GARY SPACKMAN
Director

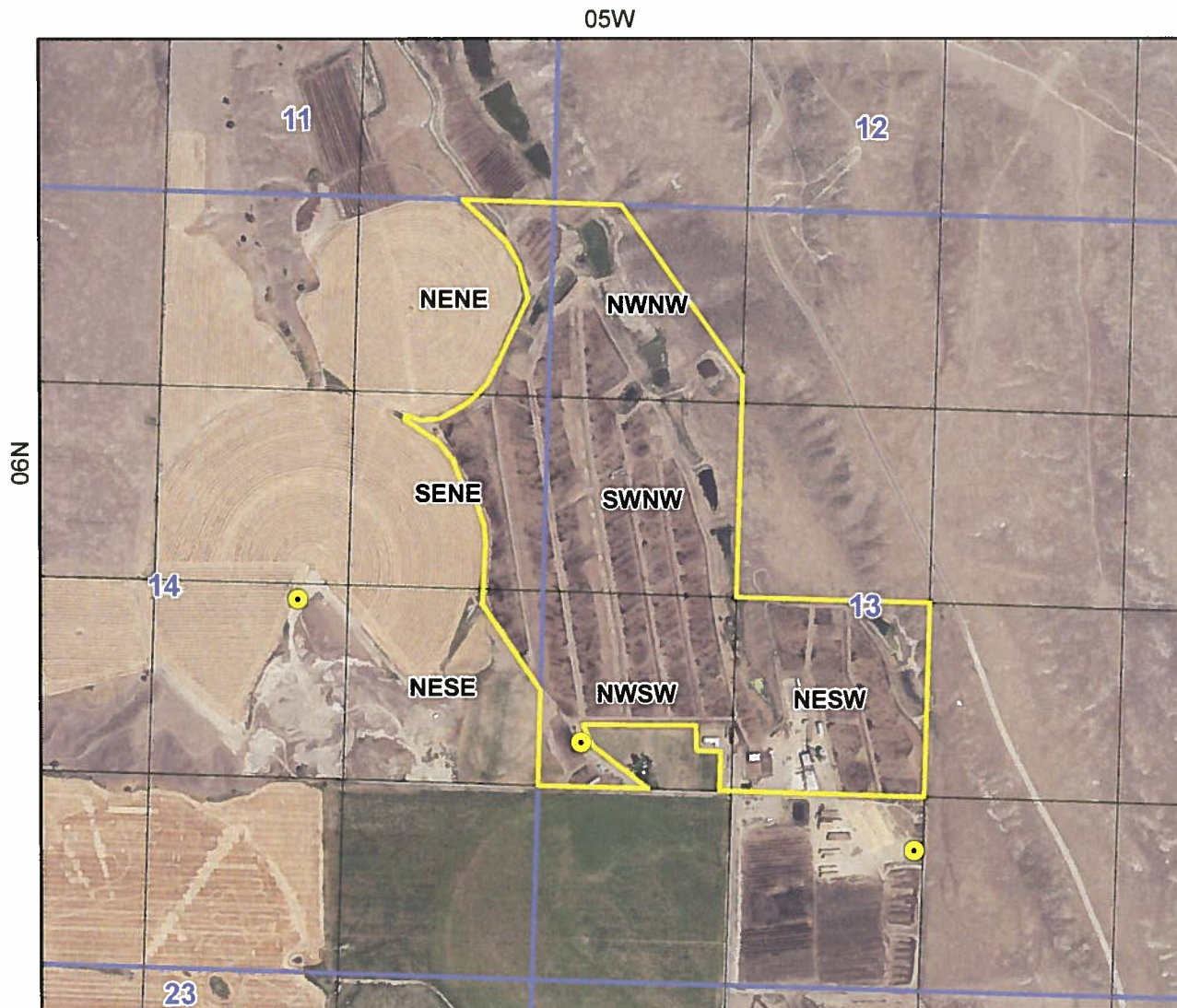
State of Idaho
Department of Water Resources
Attachment To Water Right License
63-32049

This map depicts the IRRIGATION place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



State of Idaho
Department of Water Resources
Attachment To Water Right License
63-32049

This map depicts the INDUSTRIAL place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.15 0.3 0.6 Miles





State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

September 24, 2015

BOISE VALLEY FEEDERS LLC
2201 RIDGEWAY RD
PARMA ID 83660

RE: License No. 63-32049

Issuance of License

Dear Water Right Holder(s):

The Department of Water Resources has issued the enclosed Water Right License confirming that a water right has been established in accordance with your permit. Please be sure to thoroughly review the conditions of approval and remarks listed on your license.

The license is a PRELIMINARY ORDER issued by the Department pursuant to section 67-5243, Idaho Code. It can and will become a final order without further action by the Department unless a party petitions for reconsideration or files an exception and/or brief within fourteen (14) days of the service date as described in the enclosed information sheet.

Please note that water right owners are required to report any change of water right ownership and/or mailing address to the Department within 120 days of the change. Failure to report these changes could result in a \$100 late filing fee. Contact any office of the Department or visit the Department's homepage on the Internet to obtain the proper forms and instructions.

If you have any questions, please contact me at 208-287-4951.

Sincerely,

For Pamela Skaggs
Water Rights Supervisor

Enclosure(s)

cc: SPF WATER ENGINEERING LLC

CERTIFICATE OF SERVICE

I hereby certify that on September 25, 2015, I mailed a true and correct copy, postage prepaid, of the foregoing PRELIMINARY ORDER (Approved License) to the person(s) listed below:

RE: WATER RIGHT NO.

63-32049

**BOISE VALLEY FEEDERS LLC
2201 RIDGEWAY RD
PARMA ID 83660**

**SPF WATER ENGINEERING LLC
C/O TERRY SCANLAN
300 E MALLARD DR STE 350
BOISE ID 83706**



**Darla Block
Technical Records Specialist**

EXPLANATORY INFORMATION TO ACCOMPANY A PRELIMINARY ORDER

(To be used in connection with actions when a hearing was not held)

(Required by Rule of Procedure 730.02)

The accompanying order or approved document is a "Preliminary Order" issued by the department pursuant to section 67-5243, Idaho Code. It can and will become a final order without further action of the Department of Water Resources ("department") unless a party petitions for reconsideration, files an exception and brief, or requests a hearing as further described below:

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a preliminary order with the department within fourteen (14) days of the service date of this order. **Note: the petition must be received by the department within this fourteen (14) day period.** The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See Section 67-5243(3) Idaho Code.

EXCEPTIONS AND BRIEFS

Within fourteen (14) days after: (a) the service date of a preliminary order, (b) the service date of a denial of a petition for reconsideration from this preliminary order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this preliminary order, any party may in writing support or take exceptions to any part of a preliminary order and may file briefs in support of the party's position on any issue in the proceeding with the Director. Otherwise, this preliminary order will become a final order of the agency.

REQUEST FOR HEARING

Unless a right to a hearing before the Department or the Water Resource Board is otherwise provided by statute, any person aggrieved by any final decision, determination, order or action of the Director of the Department and who has not previously been afforded an opportunity for a hearing on the matter may request a hearing pursuant to section 42-1701A(3), Idaho Code. A written petition contesting the action of the Director and requesting a hearing shall be filed within fifteen (15) days after receipt of the denial or conditional approval.

ORAL ARGUMENT

If the Director grants a petition to review the preliminary order, the Director shall allow all parties an opportunity to file briefs in support of or taking exceptions to the preliminary order and may schedule oral argument in the matter before issuing a final order. If oral arguments are to be heard, the Director will within a reasonable time period notify each party of the place, date and hour for the argument of the case. Unless the Director orders otherwise, all oral arguments will be heard in Boise, Idaho.

CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and any other matters filed with the Director in connection with the preliminary order shall be served on all other parties to the proceedings in accordance with IDAPA Rules 37.01.01302 and 37.01.01303 (Rules of Procedure 302 and 303).

FINAL ORDER

The Director will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The Director may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The department will serve a copy of the final order on all parties of record.

Section 67-5246(5), Idaho Code, provides as follows:

Unless a different date is stated in a final order, the order is effective fourteen (14) days after its service date if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:

- (a) The petition for reconsideration is disposed of; or
- (b) The petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, if this preliminary order becomes final, any party aggrieved by the final order or orders previously issued in this case may appeal the final order and all previously issued orders in this case to district court by filing a petition in the district court of the county in which:

- i. A hearing was held,
- ii. The final agency action was taken,
- iii. The party seeking review of the order resides, or
- iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of this preliminary order becoming final. See section 67-5273, Idaho Code. The filing of an appeal to district court does not itself stay the effectiveness or enforcement of the order under appeal.

MEMORANDUM

TO: Water Right File 63-32049

FROM: Daniel Nelson – Staff Hydrologist

DATE: September 18, 2015

SUBJECT: Licensing Review of Water Right 65-32049

This field exam was performed by Certified Field Examiner Peter Z. Cooper of SPF Engineering Inc. Mr. Cooper reported that 134 acres were irrigated with a diversion rate of 2.68 cfs and 603 af for the irrigation use, and 1.00 cfs and 101 af for the industrial use. There are a couple of issues that need to be addressed. Each will be addressed below:

Industrial Use:

This permit was issued with an industrial use for dust abatement for a feedlot. The flow measurements and volume calculations that Mr. Cooper supplied seem reasonable, so I recommend that the industrial use be licensed as recommend by Mr. Cooper.

Acres:

Mr. Cooper determined that the number of acres irrigated was 134 acres. I created a shape file from the 2015 aerial imagery, and found 134.9 acres, so I agree with Mr. Cooper's recommendation of 134 acres for this property.

Points of Diversion:

The permit shows 3 points of diversion for this permit. Mr. Cooper designate the diversions as Well #1, Well#2, and Well#3. In Mr. Cooper's original field examination, he only measured well #3 stating that the Well #1 and Well #2 had already been measured in a previous exam. As a single system, the Department generally requires that the system capacity be measured for each exam, so Mr. Cooper was sent a letter requesting a letter a measurement of the system capacity including all three wells. Mr. Cooper sent a reply that stated that there is an isolation valve between the original system licensed for Well #1 and Well #2 and the lands irrigated under this permit by Well #3. Mr. Cooper claims that Well #1 and Well #2 are only used for backup purposes.

This raises the question has to whether we should allow Well #1 and Well #2 to placed on this permit. After discussion with staff, we decided to move forward with allowing Well #1 and Well #2 to be included on this permit to avoid the possibility of a future water right transfer to include the two wells back into the system.

Diversion Rate:

There are 3 wells used on this property. According to the permit and Mr. Cooper, all three wells are interconnected. Mr. Cooper measured the well #3 at 3.82 cfs. Mr. Cooper did not measure well #1 and well #2. Mr. Cooper relied on older filed exams for the flow rates for these two wells.

I am concerned about the measurement done on well #3, since the well was designed to run 1,500 gpm according to the pump curve. I feel that well #3 was measured without the other two wells operating, which skewed the measurement of well #3. The measurements for well #1 and well #2 were done before well #3 was added to the system, so this measurement is not acceptable. Mr. Cooper will need to supply measurements for all three wells while the system is operating at its peak capacity. All 3 wells have flow meters, so this should not be an inconvenience. A letter was sent to seek the measurement of all 3 wells.

Mr. Cooper responded through several telephone calls and emails to explain the system as it operated. As discussed above, Mr. Cooper stated that there is an isolation valve between the original system (including Wells #1 and #2) and the new system (Well #3) created by this permit. Therefore, the flow rates of the wells on the old system would not change unless Well #3 went down, then they would use Wells #1 and #2 as backup wells to run both systems at a much lower diversion rate until they could repair Well #3.

This was discussed with staff, and it was decided that we can move forward with licensing this permit with only the flow rate developed by Well #3 as recommended by Mr. Cooper. The flow rate will be limited to the amount recommended by Mr. Cooper of 3.68 cfs. The amount measured from this well was 3.82 cfs. The installed flow meter on the system showed a 3% higher flow rate, so I feel that the measurement done by Mr. Cooper was accurate. The permit allowed 4.20 cfs, but fewer acres were actually developed under the permit than were applied for in the permit. This permit should be licensed for 2.68 cfs for irrigation and 1.00 cfs for industrial for a total of 3.68 cfs.

Volume:

This is an irrigation right with an established headgate requirement of 4.5 acre feet per acre limitation. It has been established that 134 acres were irrigate, so the volume of 603 af recommended by Mr. Cooper seems reasonable as long as the actual system capacity can handle supply the volume during the 260 day irrigation season. The volume of 101 af for the industrial use also seems reasonable. The adjusted diversion rate of 3.68 cfs can supply the 1898 af recommended during the approximately 260 days the system is operated ($3.68 \text{ cfs} \times 260 \text{ days} \times 1.9835 = 1898 \text{ af}$). This permit should be licensed for 603 af for irrigation and 101 af for industrial for a total of 704 af.

Overlapping Water Rights:

According to Mr. Cooper water rights 63-3359, 63-7874, and 63-31262 share the same three wells. In an email from Mr. Cooper dated September 10, 2015, Mr. Cooper states that the in-house domestic use allowed by water right 63-28750 comes from a separate well. The yard around the home is irrigated under water rights 63-3359, 63-7874, and 63-31262.

The place of use for the irrigation portion of this water right does not appear to have any overlapping water rights. The industrial use does overlap the stockwater portions of water rights 63-3359 and 63-7874. The domestic use for 63-28750 also falls under the place of use for the industrial use. Mr. Cooper included water right 63-31262 as an overlapping water right, but this water right is for irrigation only, and is on lands being irrigated in the same 40 acre tracts.

Mr. Cooper has stated that water rights 63-3359, 63-7874, and 63-31262 are isolated from the water use allowed by permit 63-32049 with an isolation valve, and the water diverted from Wells #1 and #2 under rights 63-3359, 63-7874, and 63-31262 is not used on the lands irrigated by this permit or the industrial use except as backup wells in case there is a problem with Well #3. The diversion rate for well # 3 is more than capable of supplying the needed diversion rate and volume for this permit. Water right 63-31262 has a note that states that the capacity of Wells #1 and #2 supply adequate water to cover the water needed for 63-3359, 63-7874, and 63-31262, so there is no combined limitation condition on 63-31262. Water rights 63-3359 and 63-7874 when combined do have a condition limiting the amount of water that can be diverted under these two water rights, but that combined limitation shouldn't affect this permit.

In reviewing the above information, I don't feel that a combined diversion rate and volume limitation should be imposed on this permit.

Conditions:

I am concerned that Well #1 and #2 are to be carried forward to licensing without providing any diversion rate and volume to this permit, but there isn't really any condition that can be used to limit their use to only backup purposes. Therefore, the conditions that were on the permit will be adjusted to comply with licensing. Conditions 1 (26A), 2 (046), and 7 (106) were removed as per standards. Condition 3 for the water bearing zone was also removed, since this well is outside the Boise River Restricted area, and the water is being diverted from 442 to 510 feet well within the water bearing zone requirement on the permit. Conditions 5 (01M), 6 (R65), and 4 (industrial use description) were all carried over to licensing. Condition 8 (121) was changed to condition 103 as is standard. Condition F06 was added to show that the other water rights are diverted from some of these points of diversion.

Nelson, Dan

From: Nelson, Dan
Sent: Friday, September 11, 2015 8:47 AM
To: Nelson, Dan
Subject: RE: Permit 63-32049 Measurement

Peter,

I spoke with my supervisor, and we will move forward with the licensing process.

Dan

From: Nelson, Dan
Sent: Thursday, September 10, 2015 12:15 PM
To: 'Peter Cooper'
Subject: RE: Permit 63-32049 Measurement

Peter,

I will review this information and run it back through my supervisor to see what he says. He will be on vacation all next week, so it may be a couple of weeks before I can get back to you.

Daniel Nelson
Staff Hydrologist
Idaho Department of Water Resources
Telephone (208) 287-4856
Fax (208) 287-6700 (attn: Dan Nelson)

From: Peter Cooper [<mailto:PCooper@spfwater.com>]
Sent: Thursday, September 10, 2015 11:58 AM
To: Nelson, Dan
Cc: Terry Scanlan
Subject: FW: Permit 63-32049 Measurement

Dan-

Clearly from your questions below I did not do a good job in describing this system in my report, and I think I may see where at least some of the confusion is coming from after looking at your paragraph regarding how much water is actually being diverted. I should have mentioned it in the exam, but a transfer will need to be completed to add well 3 as a point of diversion to 63-3359, 63-7874, and 63-31262 so that the wells can act as backups to each other, and this is something we are currently working with Boise Valley Feeders to complete. I apologize for not having this in my report.

As far as the measurement, I keep beating this dead horse because in my professional opinion, the existing measurements on Wells 1 and 2 completed with the 2011 exam along with the new measurement I completed for Well 3 accurately describe the total diversion rate under a "normal" operation for this new enlarged system as it exists today. Since wells 1 and 2 were isolated from the well 3 system during the time of measurement, it is unnecessary (in my opinion) to require a new measurement when sufficient information is available to make a determination of total

system flow rate. It would be an unnecessary expense for my client to have to pay for a second measurement when the information is already available. In addition, with the irrigation season winding down, it will be difficult if not impossible this season to have all three wells running at "normal" operating capacity and would require an undue amount of effort for the client to get the system back to a full operating capacity.

I have attached a very simplified diagram of this system. The areas serviced by Wells 1 and 2 can be completely separated from the new industrial and irrigation areas described in Permit 63-32049 that are serviced by Well 3 by closing the isolation valve, as was the case during my measurement. This is a "normal" operation for Boise Valley Feeders as they tend to run the Well 3 irrigation and industrial system at a slightly higher pressure than the Well 1 and 2 system. As described in my exam, well 3 alone has sufficient capacity to meet the new irrigation and industrial uses which were isolated from the Well 1 and 2 system during the measurement by closing the isolation valve. Similarly, Wells 1 and 2 have enough capacity to fully supply the existing uses that were similarly isolated from the well 3 system during the measurement by closing the isolation valve. The new uses do not need capacity from wells 1 and 2, and the existing uses do not need capacity from the new well 3. However, any of the wells could act as a backup to each other in times of need.

I could completely see your point if well 3 was located on the other side of the isolation valve because then in order to supply the new areas, well 3 would have an impact on wells 1 and 2. However, by being on the opposite side of the isolation valve from Wells 1 and 2, when the isolation valve is closed well 3 can serve the new areas without any impact to the well 1 and 2 system, and the well 1 and 2 system can act exactly the same as it did during the 2011 exam.

I have provided additional answers to your questions in **red** below.

On a separate note, your letter also had a question on overlapping water right 63-28750. The drinking water for the home comes from a separate domestic well while the lawn is irrigated with the 3 well system.

Thanks for your consideration on this.

Peter Cooper, P.E. | Project Engineer

SPF Water Engineering, LLC

300 E Mallard Drive, Suite 350 | Boise, ID 83706

p. 208.383.4140 | f. 208.383.4156 | c. 208.921.7799

e. pcooper@spfwater.com | w. www.spfwater.com

From: Nelson, Dan [<mailto:Dan.Nelson@idwr.idaho.gov>]

Sent: Wednesday, September 09, 2015 3:17 PM

To: Peter Cooper <PCooper@spfwater.com>

Subject: RE: Permit 63-32049 Measurement

Peter,

I understand your conclusions from the previous permit licensed on this system, but the system that was licensed under water right 63-31262 no longer exists. Since that water right was licensed a new well was added, new dust abatement sprinklers were added, and new acres were added. It is no longer the same system described in 63-31262. The measurements done on for 63-31262 were done before the system was altered, so they are no longer valid measurements when looking at the new enlarged system. **The well 1 and 2 system measured in 63-31262 does still exist and can be isolated from the new well 3 system with the use of the isolation valve. I can completely see your point if Well 3 were added at a location such that it could not deliver water to the new acres without impacting wells 1 and 2, but this is not the case with the isolation valve closed.**

In order to license this permit, I need to know what the diversion rate is when all or the wells are operating under the maximum flow condition for the new system that was developed. The isolation valve you mentioned in your email raises other questions. Some of the questions that I have with isolation valve are:

If the isolation valve is used, can the dust abatement sprinklers be operated from well #3? **Yes. With the isolation valve closed, the dust abatement sprinklers were being supplied water from Well 3 during my exam (see photo 8 of the exam) along with the new south pivot**

Is the valve always open, always closed, or open sometimes and closed sometimes. **A normal operation is for the valve to be closed so the well 3 area can be ran at a higher pressure. However, the valve can be opened and wells 1 and 2 could be used as a backup if needed if well 3 were to go down, or well 3 could serve as a backup to wells 1 and 2.**

If well #1 and well #2 are not used under this new use, should they be removed from the license? **No, it is appropriate to include well 1 and 2 as additional points of diversion because they are backups to well 3 for the permitted uses.**

Is one of the wells being used as a backup well? **All wells can serve as backups to each other in times of need, but this would not be a "normal" operation. Normal operation would be for the isolation valve to be closed, Wells 1 and 2 to supply water to the existing uses, and well 3 to supply water to the new uses.**

Another question I have is how much water is actually being diverted? According to the field exam for 63-31262, well #1 and well #2 provide 5.68 cfs by themselves, and according to your field exam, you measured 3.82 cfs for well #3 for a total of possible diversion rate of 9.50 cfs. The diversion rate licensed under 63-31262 is 1.62 cfs, and the maximum that can be licensed under permit 63-32049 is 4.20 cfs for a combined total of 5.82 cfs almost half of what the system is supposedly capable of producing. **Is only 5.82 cfs being diverted according to the water rights, or is 9.50 cfs (almost twice as much) really being diverted? 63-3359, 63-7874, 63-31262, and 63-32049 will have a combined flow rate of 7.08 cfs for irrigation of 354 acres, 1.2 cfs for stock, and 1.0 cfs for industrial for a total combined flow rate of 9.28 cfs. The difference between the 9.28 and the 9.5 that you mention is that 63-3359, 63-7874, and 63-31262 are limited to 5.6 cfs (not the 5.68 cfs measured at less than full speed in the 2011 exam) and I recommended well 3 for 3.68 cfs (not the 3.82 cfs measured in the 2015 exam). VFDs are installed on all three of the wells that can be used to limit flow rates to authorized amounts.**

What I need to know is how this system works as a whole, and how do you want me to license the system. If the two systems are separated by the isolation valve, then the other two wells shouldn't be on this license. If the dust abatement sprinklers are only run off of Well #1 and Well #2, then we need to keep those wells on the system and measure all three wells. If they are actually diverting almost twice what the water rights allow then there may be other issues we need to address. **I hope I've answered these questions above, if not, let's talk.**

I hope this helps you understand what I need to license this water right. I am trying to give your client as much water as they need, but I need accurate measurements of the system to do that. The field report and measurements have to make sense when considering the system as a whole. If the system only needs 5.68 cfs to operate, why do they have a system that diverts 9.50 cfs? Due to past water calls and other issues within the state, we need to have a good grasp on what is actually happening with a water system before we can issue a license. The system you described lends itself to a number of questions as to why and how this the system is operated. I need you to help me make sense of this situation. Please don't hesitate to contact me if you have any further questions. **Again, I hope I've answered these questions above, if not, let's talk.**

Thank you.

Daniel Nelson
Staff Hydrologist
Idaho Department of Water Resources
Telephone (208) 287-4856

From: Peter Cooper [<mailto:PCooper@spfwater.com>]

Sent: Wednesday, September 09, 2015 1:59 PM

To: Nelson, Dan

Cc: Terry Scanlan

Subject: Permit 63-32049 Measurement

Hi Dan-

I'm sorry to bug you with this one more time, but I would like to discuss the field exam one more time for Boise Valley Feeders Permit 63-32049.

I have attached a pdf with 3 pages for your reference.

1. In your letter dated 8/26/2015, you state in your first paragraph: "A theoretical calculation was done on well #1 and well #2 in the previous exam with system pressures of 48 and 50 psi". Sheets 1 and 2 of the attached pdf show that the 5.68 cfs flow rate for Wells #1 and #2 were actually measured flow rates based on the flow meters, but Well 2 was operating at less than full speed. The theoretical capacity of 6.47 cfs was included in the exam to show that the system could "theoretically" pump 6.47 cfs at 50 psi if both pumps were running full speed. In this case, the full speed theoretical really did not matter since the diversion rate for 63-31262 when combined with 63-3359 and 63-7874 is 5.60 cfs. Since the 5.68 cfs measured flow rate was greater than the 5.60 combined flow rate of 63-31262, 63-3359, and 63-7874, permit 63-31262 was ultimately licensed for the full 1.62 cfs.
2. Page 3 of the attached pdf shows the photo map that was included with my exam for 63-32049. I have drawn in the isolation valve that was closed during my measurement of Well 3, something I probably should have included originally. With this isolation valve closed, Well 3 was completely isolated from Wells 1 and 2 during my measurement. Because this isolation valve was closed during my measurement of Well 3, Wells 1 and 2 could have been set up to run exactly as they did during Mr. Scanlan's 63-31262 exam back in 2011 (in which the 5.68 cfs measurement was completed) at the same time that my measurement of 3.82 cfs was completed on Well 3. I am still having a very difficult time understanding why another measurement would be required with the valve open. This valve allows redundancy in the system so that if for some reason well 3 were to go down, Well 1 and 2 could be used to back feed the well 3 area, or similarly if Well 1 or 2 were to go down, Well 3 can be used to deliver water to those areas. That is why those points of diversion were included on this permit. However, it is a normal operation for this valve to be closed so that the well 3 area can be ran at a higher pressure. Well 3 alone has sufficient capacity to meet the irrigation and industrial uses developed under permit 63-32049, so capacity from Wells 1 and 2 is not needed across the isolation valve for full appropriation of the permitted flow rate.

I know you are busy, but I would appreciate it if you would call me back after you have put some thought into this.

Thanks-

Peter Cooper, P.E. | Project Engineer

SPF Water Engineering, LLC

300 E Mallard Drive, Suite 350 | Boise, ID 83706

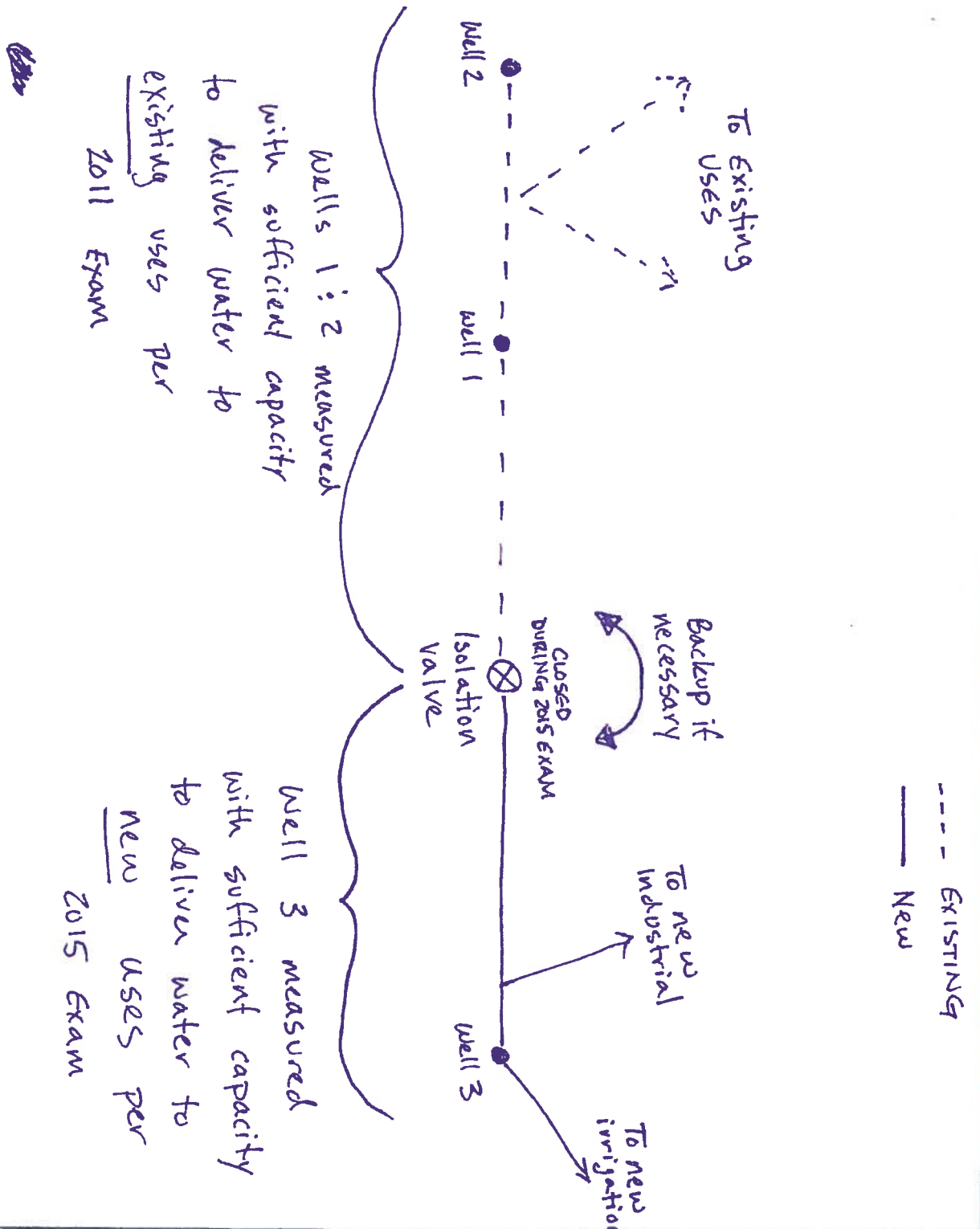
p. 208.383.4140 | f. 208.383.4156 | c. 208.921.7799

e. pcooper@spfwater.com | w. www.spfwater.com



SPF WATER
ENGINEERING, LLC

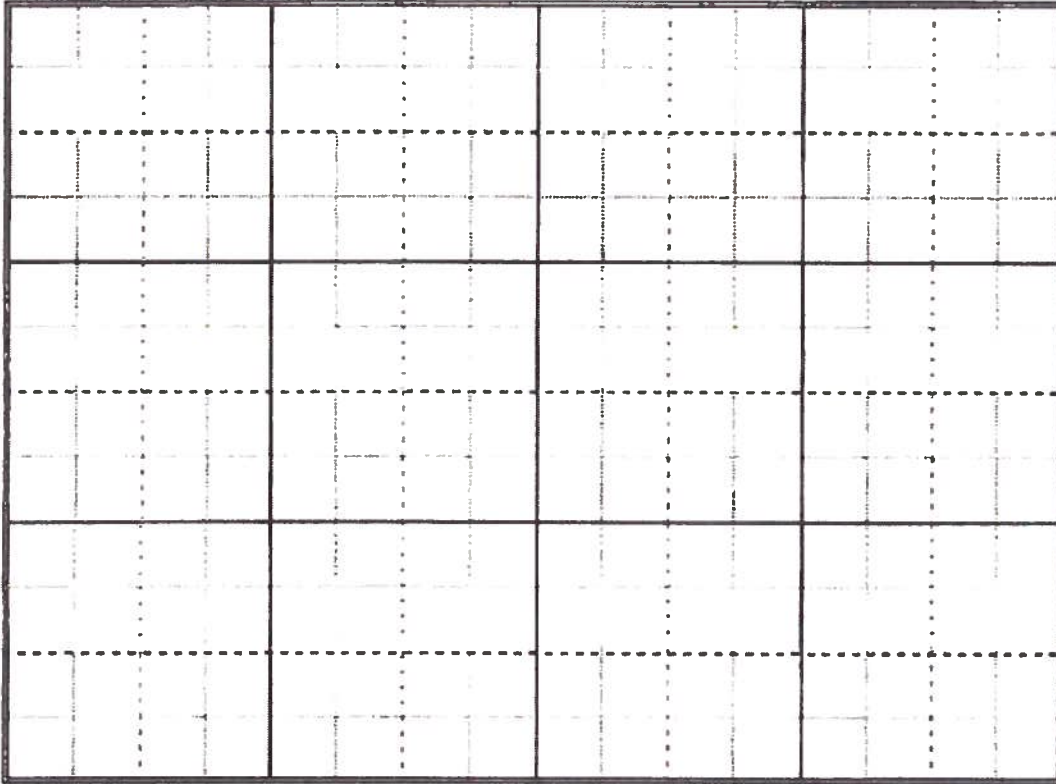
By PEC Date 9/10/15 Client BOISE VALLEY FEEDERS Sheet 1 of 1
Chkd By _____ Description 63-32049 BUFE Job No _____



Pages from 63-31262 BUFE

Form 219
02/10

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☒ see attached.



Scale: 1" = _____

- ☒ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ 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
Well 1 (14 inch)	General Electric	125	DKJ4101111	Unknown	8-inch
Well 2 (16 inch)	Newman	300	D5057PY	Unknown	10-inch

*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
Flow Meter - Well 1	propeller	McCrometer	ML100	01-08300-8	8-inch	2000 (estimated)
Flow Meter - Well 2	propeller	McCrometer	ML100	01-09531-10	10-inch	2005 (estimated)

2. Measurements:

Well 1 - 950 gpm (2.12 cfs) @ 48 psi, 1100 gpm (2.45 cfs) @ 18 psi

Well 2 - 1600 gpm (3.56 cfs) @ 50 psi (pump was not at full speed), 2100 gpm (4.68 cfs) at 30 psi

E. NARRATIVE/REMARKS/COMMENTS

Two wells supply water to a pressurized sprinkler system for irrigation of 220 acres; 139 acres authorized under decrees 63-3359 and 63-7874 and 81 acres developed under this permit. Well 1, drilled in 1965, is constructed with a 14-inch casing to 507 feet and is currently equipped with a 125-hp pump. Well 2, drilled in 2005 as a replacement well, is constructed with a 16-inch casing to 398 feet, 10-inch casing from 399 to 426 feet, 10-inch screen from 426 to 531 feet and is currently equipped with a 300-hp pump. The wells are located at high points within the farm, and have a normal discharge pressure for irrigation of 50 psi. Both well pumps are variable speed, with speed modulated to maintain a set point pressure.

Theoretical capacity for both wells, when combined, is estimated at 6.47 cfs at 50 psi; 1.98 cfs for Well 1 and 4.49 cfs for Well 2. Measured diversion rate from Wells 1 and 2 of 5.68 cfs at 48-50 psi was less than theoretical because Well 2 was operating at less than full speed. Measured diversion rate with Well 2 operating at 30 psi and Well 1 operating at 48 psi was 7.13 cfs. Full permit diversion rate for this right (63-31262), combined with decreed rates for 63-3359 and 63-7874, is 5.60 cfs. Therefore, the two wells have excess capacity to supply the two decreed rights and this permit.

↳ 5.68 cfs measured > 5.60 cfs permitted

The diversion rate for decrees 63-3359 and 63-7874 is 3.98 cfs total for irrigation and stockwater, not to exceed 2.78 cfs and 625.5 afa for irrigation use. This right, when combined with 63-3359 and 63-7874, should be limited to diversion of 4.4 cfs and 990 afa for irrigation use.

Water-bearing zone permitted was 300 to 500 feet. Water bearing zone developed in Well 2 (replacement) is approximately 420 to 520 feet. Well 1 has a water-bearing zone of approximately 350 to 507 feet, and was developed prior to the permit and not subject to a restricted water-bearing zone.

Attachment A is a copy of the permit and proof of beneficial use

Attachment B is the well driller's reports

Attachment C is the theoretical flow calculations for the wells

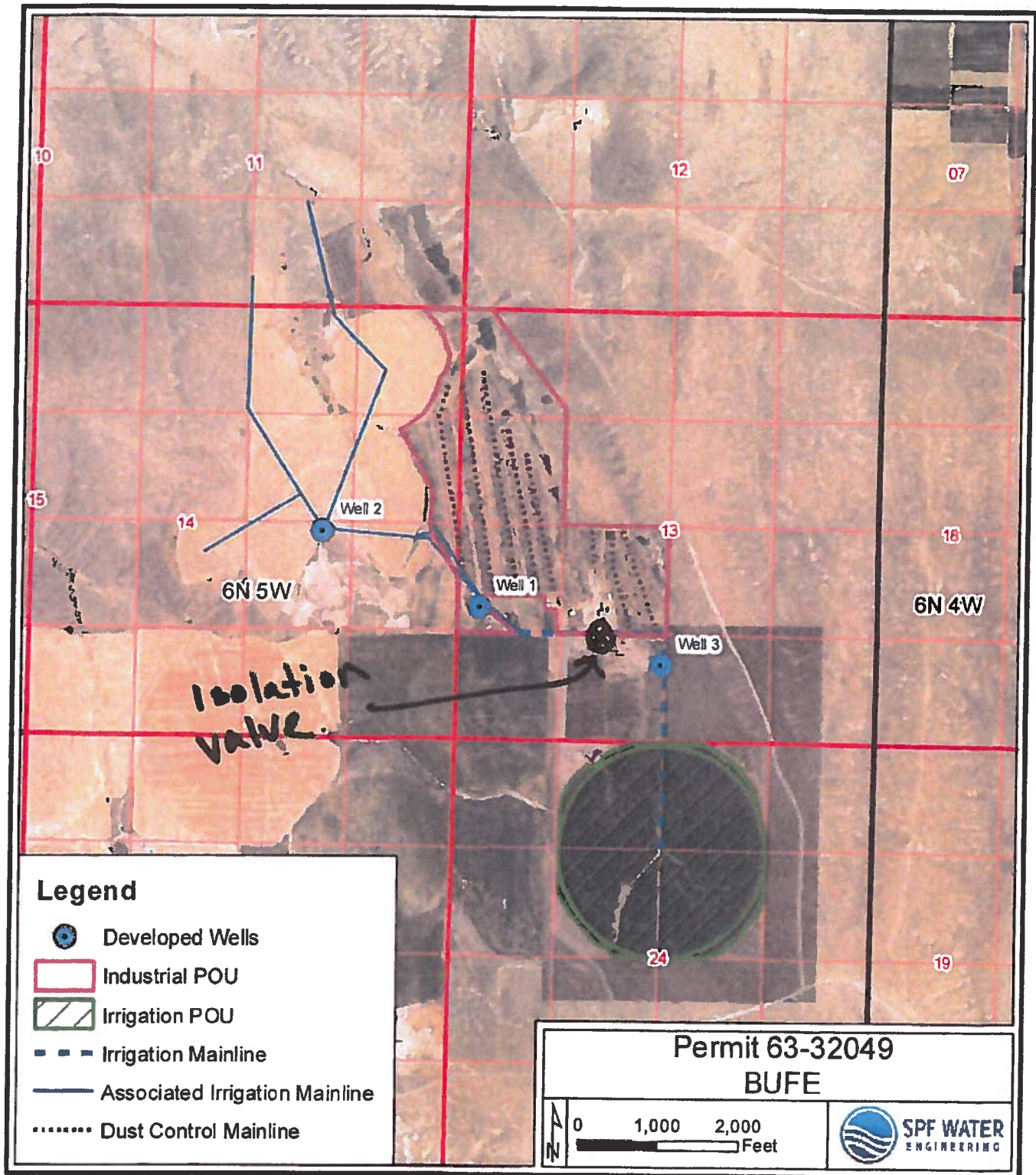
Attachment D is a topographical map and aerial photo

Attachment E is photos of the place of use and wells.

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☐ Yes ☒ No If no, what must be done to meet the permit requirements?

The permit holder met all conditions of permit approval, except that the water-bearing zone appropriated is slightly deeper than the permitted water-bearing zone. The permit/license should be modified to show a water-bearing zone of 350 to 535 feet rather than 300 to 500 feet.

Photo Map



2013 Aerial Photo & 7/2015 JPEG Overlay from Google showing developed pivot area



State of Idaho

DEPARTMENT OF WATER RESOURCES

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C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

August 26, 2015

SPF WATER ENGINEERING
ATTN PETER Z COOPER
300 E MALLAD DRIVE SUITE 300
BOISE ID 83706

RE: Field exam for water right permit 63-32049.

Dear Mr. Cooper:

Our office has received your certified field exam for water right 63-32049. There are a couple of issues that need to be addressed prior to moving forward with the exam.

Measurement:

In the field exam you provided a measurement of well #3 and previous exam measurements for well #1 and well #2 from a previous field exam. The problem with this method is that well #3 was not part of the system when well #1 and well #2 were measured. A theoretical calculation was done on well #1 and well #2 in the previous exam with system pressures of 48 and 50 psi. With the update to the field examination rules, we no longer accept theoretical calculations for water systems that can be measured. Both well #1 and well #2 have flow meters on them per the photos in the previous exam, so a measurement reading should be taken with the system at its maximum operating capacity.

Idaho Administration Procedures Act (IDAPA) Beneficial Use Rule 37.03.02.040.04 states the following:

04. Unacceptable Measurements. Theoretical diversion rates or theoretical carrying capacities are not acceptable as a measure of the rate of diversion except as indicated in these rules and for some diversion systems where the flow rate cannot be measured accurately due to the physical characteristics of the diversion and distribution system.

In your field exam you have pictures that show the system has flow meters on all three wells. Therefore, the entire system can be measured to find the normal operating capacity of the system. We will need a measurement from all three wells on this system to corroborate the theoretical calculation that was done. We can accept existing flow records that were recorded and dated by the permit holder or an independent measurement that was made on this system. Either will work.

Generally, we accept theoretical calculations if the well can't be measured or if there are special circumstances that prevent a measurement from being made. In this case, there are permanent measurement devices on the system that suggests that some record keeping has been done on these wells, or a measurement could be made fairly quickly by reading the existing flow meters.

Overlapping Water Right 63-28750:

You listed water right 63-28750 as an overlapping water right. Water right 63-28750 is a domestic use for a home. An ownership change was filed on water right 63-28750 that has a map that shows water right 63-28750 has its own separate well. Could you clarify whether or not the domestic use for the home for this feedlot is diverted through the 3 wells listed on this permit?

Once these issues have been clarified, we can move forward with the review of the field exam, and possible licensing of the water right permit. The IDAPA Beneficial Use Rule 37.03.02.02.02.c states the following:

c. If the Director determines that a field report prepared by a certified water right examiner is acceptable but that additional information is needed to clarify the field report, he will notify the examiner in writing of the information required. If the additional information is not submitted within thirty (30) days or within the time specified in the written notice, the priority date of the permit will be advanced one (1) day for each day the information submittal is late. Failure to submit the required information within one (1) year of the date of the department's request is cause for the Director to take action to cancel the permit.

To avoid advancing the priority date of the permit, you will need to supply the needed information by September 28, 2015. If you have any questions, please don't hesitate to contact me.

Respectfully,



Daniel Nelson

Staff Hydrologist

Idaho Department of Water Resources

Telephone (208) 287-4856

Fax (208) 287-6700 (attn: Dan Nelson)

MEMORANDUM

TO: Water Right File 63-32049

FROM: Daniel Nelson – Staff Hydrologist

DATE: August 25, 2015

SUBJECT: Telephone Conversation Memo With Peter Cooper, SPF Engineering

On August 25, 2015, I spoke with Peter Cooper concerning the measurement taken on the wells associated with certified field exam for water right permit 63-32049. In this telephone conversation, I told Mr. Cooper that I had a couple of questions concerning the measurements and overlapping water right 63-28750.

First, I asked Mr. Cooper if water right 63-28750 is diverted out of the same system. I told Mr. Cooper that the ownership change in the back file for water right 63-28750 shows the well on a separate well not tied into the system.

I also explained to Mr. Cooper that we needed measurements of all three wells with all three wells in operation. All of the wells have a flow meter, so it should be able to be done rather quickly. I informed Mr. Cooper that we need to see the system capacity at normal operating conditions, and not individual maximum capacities of each well. We need the system measured as a system. I also told Mr. Cooper that since all three wells have measurement devices, that we cannot accept theoretical calculations.

I informed Mr. Cooper that I would be sending out a letter tomorrow that formally requests the information needed. I agreed to email a copy of the letter to Mr. Cooper also.