

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 57-11853
Exam Date: 09/17/2020

1. Current Owner:
STEVE LOOTENS
4637 JUMP CREEK RD
HOMEDALE, ID 83628-3675
(208) 337-4953
2. Accompanied by: Steve Lootens
Phone No: Same as above
Address: Same as above
Relationship to permit Holder: Permit Holder

3. **SOURCE:**
JUMP CREEK

TRIBUTARY:
SNAKE RIVER

Method of Determination: On site visual inspection. There is a headgate connecting Jump Creek to a small settling pond, with an overflow pipe returning water from the pond back to Jump Creek. The diversion rate was measured for the pump that diverts water out of the pond for irrigation.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Comments: The irrigation use of water from Jump Creek authorized by permit no. 57-11853 is an additional source of water for acres that are irrigated with surface-water from irrigation shares. The place of use (POU) developed under this permit overlaps with the service area of Gem Irrigation District. The observed diverting works send water to a relift pump. At the relift pump, water from Jump Creek co-mingles with water from the irrigation shares before being sent to a half-pivot.

2. Other water rights with the same point-of-diversion: NO Overlap

Comments: No other water rights divert from these diverting works fed by Jump Creek.

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

JUMP CREEK NW¼ NE¼, Sec. 27, Twp 03 N, Rge 05 W, B.M. OWYHEE County

Method of Determination: Visual inspection of the diverting works. GIS and GPS waypoints recorded during field exam (see table below). Metal Tag Number A0020318 is next to the control box that runs the pump from the pond. I recorded a GPS waypoint that is now being used to identify metal tag no. A0020318. I also recorded a GPS point at the headgate that controls the intake to the settling pond, which I am using as the GIS point for the point of diversion (POD) for the license. The GPS point that I recorded for the headgate is located within 100 feet of the POD point drawn on the map that was submitted with amended application for permit (August 2015).

GPS waypoints recorded during field exam:

Location	Latitude	Longitude	Elev. (ft)
Headgate (POD)	43.57387299	-116.91812707	2246
Control box and floating pump for settling pond (A0020318)	43.57411162	-116.91808244	2252
Relift pump (Jump Creek & canal shares)	43.57418136	-116.92403296	2300

2. **PLACE OF USE:** IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
03N	05W	27		9.3			36	14	0.7	3									63.0

Total Acres: 63.0

Method of Determination: Visual inspection and GIS; Description of diverting works, delivery system, and places of use from correspondence with permit holder.

The area that was irrigated during the development period does not match the place of use as described in the permit. The place of use as described in the table above is based on the acres that were irrigated with water from Jump Creek during the development period and at the time of the field exam. The number of acres per 40-acre tract (quarter-quarter sections) was determined by plotting the area covered by the half-pivot in ArcMap. The half-pivot covers approximately 80 acres, but this permit (no. 57-11853) authorizes only 63 acres of irrigation.

- 3.
- ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components.
- ☒ Indicate weir size/pipe as applicable.
- ☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☒ Photo of Diversion and System Attached

D. **FLOW MEASUREMENTS**

There is a headgate that diverts water into a 90 ft x 25 ft settling pond (surface area = 0.05 acres). There is an open pipe that returns overflow from the pond back to Jump Creek. I tested the diversion rate of the floating pump for the field exam but did not record the model or make.

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Panametric			PT878			April 2020

2. Measurements: A flow measurement was recorded for the floating pump in the pond. The measuring device was attached to a piece of pipe next to the control box near the pump. The section of pipe with the transducers in place for the measurement are in the photos attached to this report. The water is piped from the pond uphill to a relift pump before being delivered to the half-pivot which serves the place of use.

The average flow after 11 minutes: 770.1 gpm = 1.72 cfs.

E. **FLOW CALCULATIONS**

No Additional Computation Sheets Attached

Measured Method: Panametric – PT878 flowmeter

The recorded measurements and calculations of the gpm and cfs are in the table below.

Start Time: 9/17/2020 9:59
 End Time: 9/17/2020 10:10
 Interval: 60 seconds
 Records: 11

Date/Time	Velocity (ft/s)	Volume (gal/m)	(+)Total (gal)
9/17/2020 9:59	3.198270302	760.5485599	350118.7196
9/17/2020 10:00	3.261641608	775.6182543	350887.4797
9/17/2020 10:01	3.181171664	756.4825045	351684.9491
9/17/2020 10:02	3.220372738	765.8045184	352400.2593
9/17/2020 10:03	3.277410639	779.3681292	353167.3518
9/17/2020 10:04	3.303363625	785.5397484	353953.0907
9/17/2020 10:05	3.174853705	754.9800942	354736.8633
9/17/2020 10:06	3.236950484	769.7467057	355504.2371
9/17/2020 10:07	3.237585912	769.8978107	356276.0271
9/17/2020 10:08	3.266574016	776.7911806	357051.0176
9/17/2020 10:09	3.221519498	766.0772179	357823.778

= Total (gal) / total minutes

= (357823.778 gal - 350118.7196 gal) / 10 min

Average gal/min 770.51 = 7705.058 gal / 10 min

Average cfs 1.72 = (770.5 gal/min) / [448.8 (gal/min)/cfs]

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 63 \text{ acres} \times 4.5 \text{ AF / acre} = 283.5 \text{ AF}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 1.72 \text{ cfs} \times 260 \text{ days} \times 1.9835 \text{ AF / (cfs days)} = 887.0 \text{ AF}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 283.5 \text{ AF}$$

G. NARRATIVE/REMARKS/COMMENTS

I performed the field exam along with Dan Nelson (IDWR staff). Steve Lootens ("permit holder") accompanied us for the exam.

Permit no. 57-11853 authorized a diversion rate of 1.00 cfs from Jump Creek for the irrigation of 63 acres. Water diverted through this permit is co-mingled with surface water shares provided by Gem Irrigation District at the point where a relift pump provides pressure to operate a half-pivot. In discussions with the permit holder prior to the field exam he said that permit no. 57-11853 was developed because the available surface water shares were an insufficient amount of water to maintain the necessary pressure to run the half-pivot. During the field examination, the permit holder said that more than half of the water used comes from the water diverted from Jump Creek. Based on his estimates, about 30 miner's inches (0.6 cfs) are provided through irrigation shares, and 50 miner's inches (1.0 cfs) are provided through this permit from Jump Creek.

Using ArcMap and available NAIP satellite imagery for the development period of this permit, I measured the total area served by the half-pivot as 80 acres. The half-pivot serves an additional 17 acres of land that are not authorized for irrigation by this permit. Because the diverting works do not limit the use of water from Jump Creek to only a portion of the half-pivot, I am recommending that the permit holder submit a new application for permit from Jump Creek to request authorization for the additional acres served by this half-pivot and diverting works.

Point of diversion and diverting works

I have attached photographs of the pond with its headgate, the floating pump and control box, the relift pump, and satellite imagery with illustrations of the overall distributing works used to irrigate the developed place of use.

A small channel with a headgate diverts from Jump Creek into a small pond, which allows for sediments to settle before the water is diverted from the pond by a floating pump. The pond is approximately 90 ft x 25 ft, with a surface area of approximately 0.05 acres. If the pond has a maximum depth between 8 ft and 10 ft (as estimated by the permit holder), the estimated volume of the pond is approximately 0.2 AF.

$$\text{Surface area (acres)} * \text{Maximum depth (feet)} * 2/5 = \text{Total volume of settling pond}$$

$$0.05 \text{ acres} * 10 \text{ feet} * 2/5 = 0.2 \text{ acre-feet (AF)}$$

2/5 is a factor commonly used to estimate a reduction in total volume due to sloping sides of the pond, as used in "Storage: Pond Loss Calculation" Excel workbook available on the Department's website.

I recorded a GPS point at the headgate that controls inflow to the pond. I used this GPS point as the GIS location for the POD for the license. The floating pump which diverts water out of the pond is on the opposite side of the pond as the headgate for the inlet to the pond. Metal tag no. A0020318 is posted next to the control box for the floating pump. GPS points for the headgate and metal tag no. A0020318 are recorded above in section C.1. An overflow pipe is on the same side of the pond as the floating pump. The overflow pipe is always open and automatically returns any excess water diverted into the pond directly back to Jump Creek.

The floating pump delivers water from the pond to the west to a relift pump which is located approximately 150 feet to the east of the center of the half-pivot. The relift pump is on the east side of the B Line Canal and supplies the water pressure to operate the half-pivot. Surface water is diverted from the B Line Canal and co-mingled with the water from Jump Creek at the relift pump. The headgate to divert from the B Line Canal is approximately 70 feet to the west-south-west of the relift pump.

Diversion Capacity

We used a GE Panametric PT878 to measure the maximum diversion rate of the floating pump from the settling pond. In order to find a sufficient length of straight pipe on which to attach the flow meter, we dug out a descending segment of the pipe. The attached photos include a picture of the flow meter in place. We assumed that the pipe is full on the descending portion because shortly after the piping slopes uphill for 1/4 mile to reach the relift pump. The flow meter, as reported in section E, measured a maximum diversion rate of 1.72 cfs exceeding the authorized diversion rate of 1.0 cfs.

The developed water use can be exempt from having a storage component. The total volume of the pond is approximately 0.2 AF. A maximum diversion rate of 1.0 cfs is equal to 1.983 AF / day. The volume of pond is well within the 24-hour fill allowance (aka the "24-hour rule") of an impoundment that does not exceed a volume that the diverting works can fill and empty within a 24-hour period (Application Processing Memorandum No. 67 – "Permitting Requirements for Ponds").

The permit holder described the relift pump as providing 40 pounds of pressure. Because there is only a small increase in elevation from the relift pump to the center of the half-pivot and a distance of approximately 150 feet, the system likely loses only 2 or 3 psi between the relift pump and the half-pivot. According to the permit holder, the half-pivot has a pump with a capacity of 850 gallons per minute ("gpm"). This estimated diversion rate should be able to provide the 6 to 8 gpm per acre that would be necessary for adequate irrigation.

Place of Use

I confirmed with the permit holder that only the area served by the half-pivot is receiving water from Jump Creek (see correspondence from November 2020). The place of use authorized by the permit overlaps only a portion of the developed POU. Although 63 acres of irrigation can be carried forward to license, there will need to be an amendment to the place of use at the time of licensing. The amended license should exclude acres outside of the half-pivot, with the majority of those acres to be excluded being in the SENW of section 27, 03N 05W.

Based on GIS analysis of the acres being irrigated by this system, I have provided my recommendation for the legal description for the POU (see item C.2.) to the permit holder as an Application for Amendment (for Licensing Purposes) for his approval.

Conditions for approval

Condition #2 - Condition R65, limiting all overlapping water rights to a maximum diversion rate of 0.02 cfs / acre and a maximum headgate volume of 4.5 AF / acre will be included on the license to address the overlap with the places of use irrigated with shares from Gem Irrigation District.

Condition # 3 - The permit included wastewater condition 176, even though the source is Jump Creek. Condition 176 will not be carried forward to the license.

Condition # 4 - The permit holder appears to own the property at the location of the POD. Condition 004 discussing easements and rights of way will not be carried forward to the license.

Conditions # 5 & 6 – are standard conditions in this area (01M & 121) and will be carried forward to the license.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Acres</u>
IRRIGATION	03/01 to 11/15	1.00 CFS	63

2. Recommended Amendments

☐ Change POD as reflected above ☐ Add POD as reflected above ☒ None

☒ Change POU as reflected above ☐ Add POU as reflected above ☐ None

I. AUTHENTICATION David Betts - Water Resource Agent, Senior

Field Examiner's Name David Betts Date 21-Dec-2022

Reviewer [Signature] Date 2/26/25

State of Idaho
Department of Water Resources
Attachment to Field Exam
57-11853

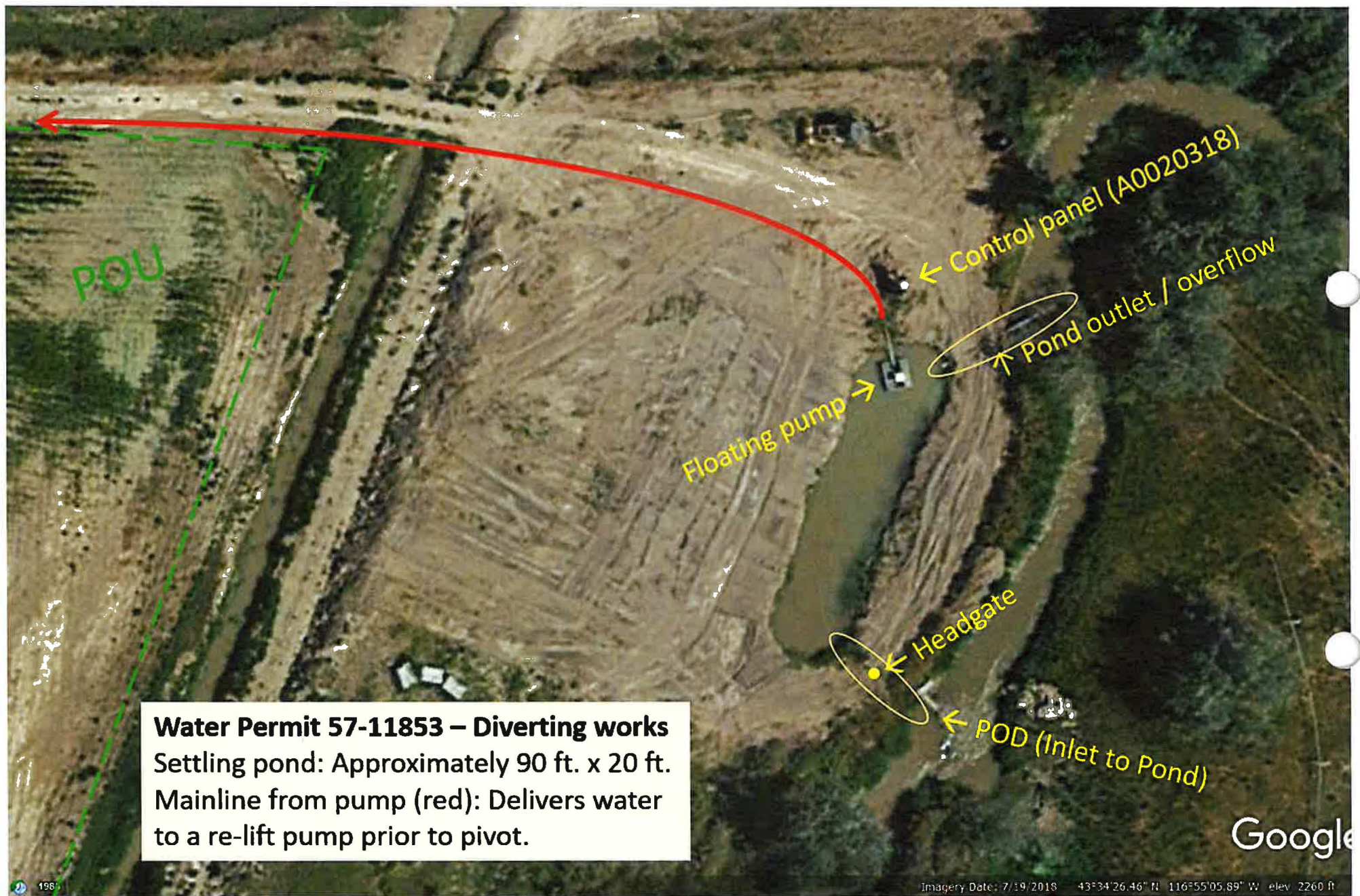
This map depicts the IRRIGATION place of use boundary for this permit at the time of the beneficial use field exam is attached to the field exam report solely for illustrative purposes.

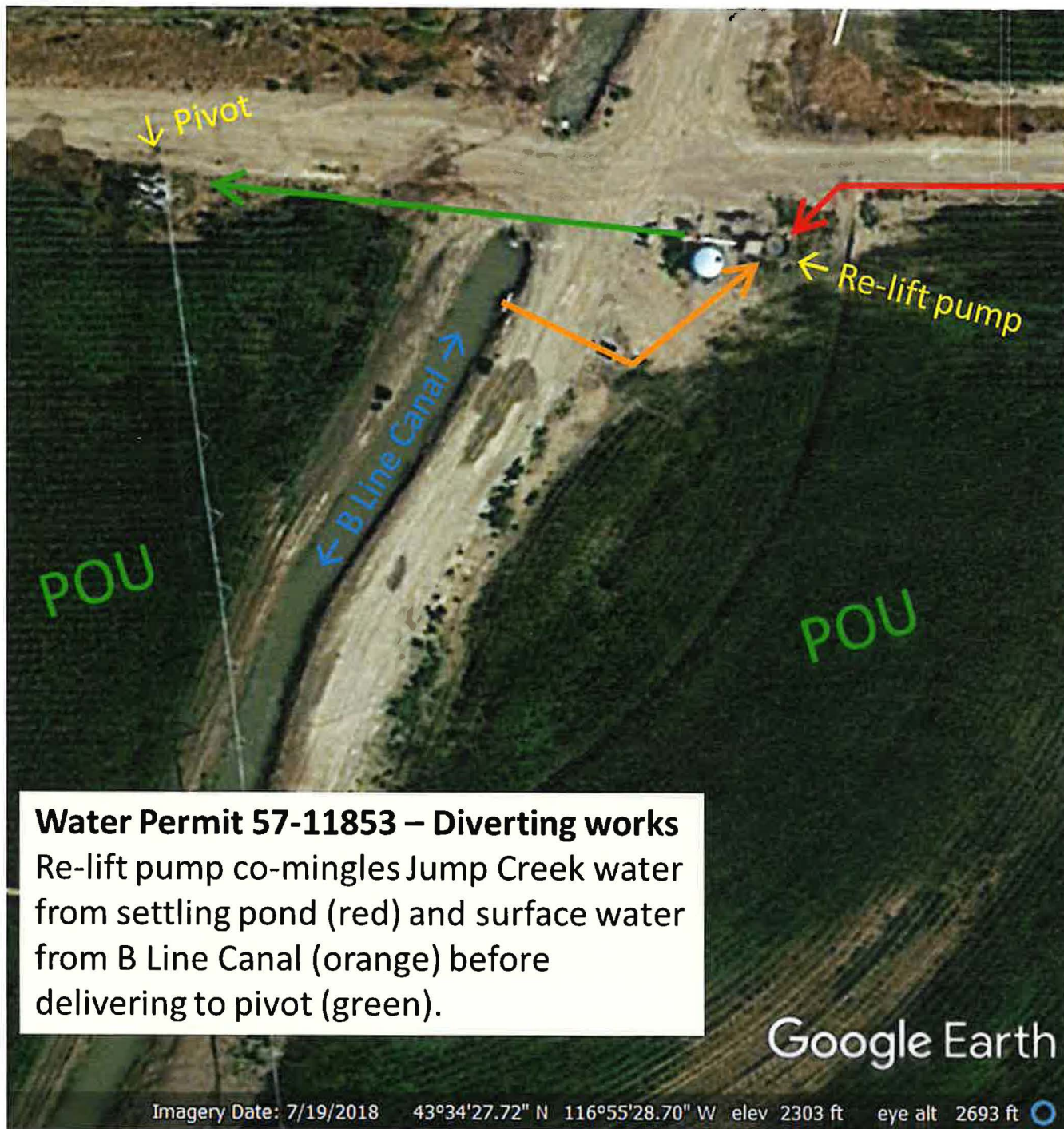


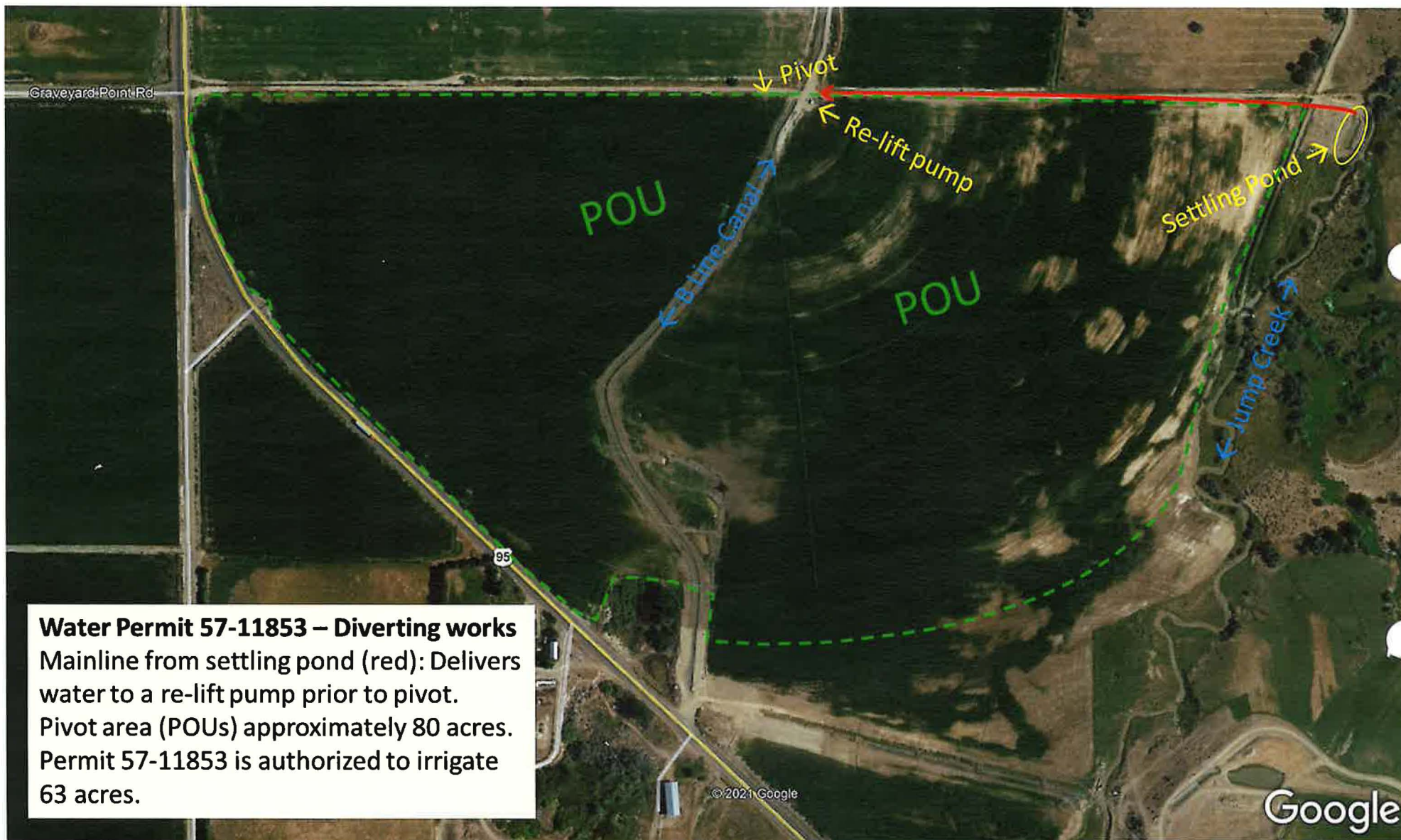
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters
-  Point of Diversion

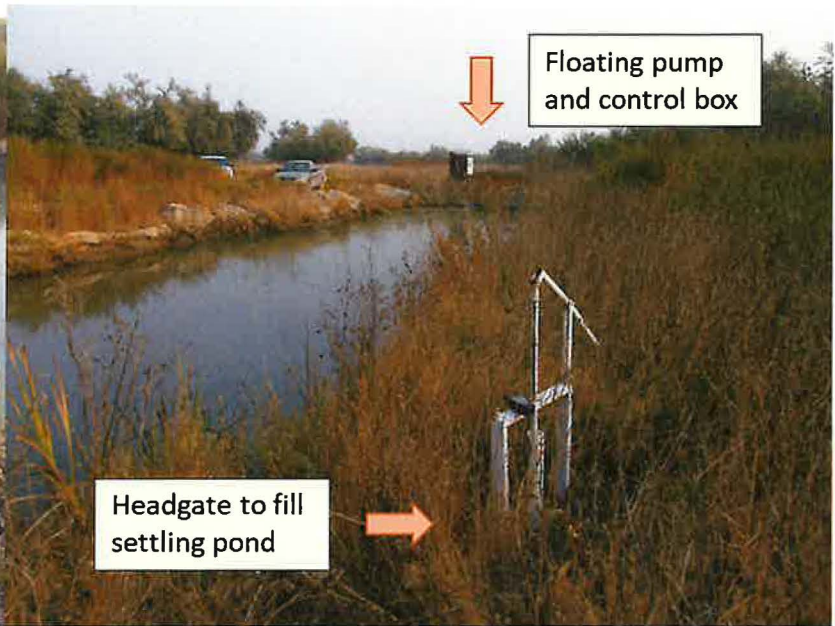
0 0.075 0.15 0.3 Miles











Permit No. 57-11853 – Diverting works
Headgate (top right) controls the point of diversion from Jump Creek to the settling pond (90 ft x 20 ft).

Floating pump (top left) and control box (bottom right) are on the opposite side of settling pond from the headgate.

Metal tag no. A0020318 (not pictured) is posted on the board backing the control box.



Flow measurement:

Flow meter: GE Panametrics PT878

To attach the flow meter, we excavated a descending portion of the metal pipe near the control box for the floating pump.

The blue portion of the pipe in the photo to the left can also be seen in the photo of the floating pump at the top left of this page.



Permit No. 57-11853 – Relift pump

Water from Jump Creek (57-11853) is co-mingled with irrigation shares provided from B Line Canal.

Relift pump is behind the electrical boxes (top right) and supplies water pressure to run the pivot. Inset photo (bottom right) has information for the relift pump.



Headgate from B Line Canal (to relift pump)

Photo faces to the East.

Surface water from B Line Canal is diverted by this headgate and sent to the relift pump. The relift pump is located on the other side of the dark gray truck (approximately 65 ft from the headgate).

The center of the pivot, which receives water from the relift pump, is approximately 70 ft behind (to the west) of the point where this photo of the headgate was taken.

Betts, David

From: Betts, David
Sent: Friday, November 20, 2020 11:57 AM
To: 'Gil Lootens'
Subject: RE: Steve Lootens Permit# 57-11853

Hello Steve,

Looking at your picture, it looks like you have the pivot outlined in black for the place of use that is currently receiving water from your diversion at Jump Creek. When I address the existing use in my review, I will extend what you outlined in black across the whole length of the existing pivot. I'll be basing my recommendations of the full area of the pivot.

Based on our conversation from yesterday, it looks like you have outlined in red the acres that you currently own and may want to develop for additional irrigation.

I also got your voice mail. I may call you back within an hour.

--

Dave Betts - Water Resource Agent
Water Rights Section | Idaho Department of Water Resources
322 East Front St | P.O. Box 83720 | Boise, ID 83720
Phone: (208) 287-4826 | email: david.betts@idwr.idaho.gov

-----Original Message-----

From: Gil Lootens [mailto:gloot7355@gmail.com]
Sent: Friday, November 20, 2020 11:28 AM
To: Betts, David <David.Betts@idwr.idaho.gov>
Subject: Steve Lootens Permit# 57-11853



Please draw an outline around the entire area that receives water from the diversion at Jump Creek (57-11853 - the yellow dot).
(A sharpie marker works best.)

Please make sure include the acres outside of the pivot that receive water from the Jump Creek diversion (57-11853).



State of Idaho

DEPARTMENT OF WATER RESOURCES

322 E Front Street, Suite 648 • PO Box 83720 • Boise ID 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700

Website: idwr.idaho.gov • Email: idwrinfo@idwr.idaho.gov

BRAD LITTLE
Governor

GARY SPACKMAN
Director

November 17, 2020

STEVE LOOTENS
4637 JUMP CREEK RD
HOMEDALE, ID 83628-3675

RE: Description of the acres irrigated by water from the diversion for Permit No. 57-11853

Dear Steve:

During the field exam for permit no. 57-11853, I did not discuss with you the total area served by the water from the diversion from Jump Creek. In order to complete my review, I need to describe the full extent of the developed use before I can provide a recommendation for what should be licensed.

Please use the enclosed map to draw the boundaries around ALL of the acres that receive water from your diversion at Jump Creek. Your pivot appears to serve the majority of the area authorized by permit 57-11853. Unfortunately, it is unclear from the satellite imagery if the pivot can account for all of the acres that appear to be irrigated. For example:

1. Do all of the irrigated acres in the SENW quarter-quarter of Section 27 receive at least some of their water from your diversion at Jump Creek (57-11853)?
2. If yes, how is this area irrigated? (Are these acres irrigated using the end guns from the pivot, hand lines, or another form of irrigation?)

Please return the map with your outline of the boundaries of the areas irrigated from the diversion for 57-11853 at your earliest convenience. Please include a description of the systems used to irrigate the areas that are not directly under the pivot.

If you have any questions, please call me at 208-287-4826, or email me at david.betts@idwr.idaho.gov.

Sincerely,

Dave Betts
Water Resource Agent, Senior

Enclosure: Map for outlining extent of place of use for permit no. 57-11853

Betts, David

From: Betts, David
Sent: Thursday, November 12, 2020 4:56 PM
To: stevelootensfarms@frontier.com
Subject: Place of Use (57-11853) and additional acres

Hello Steve,

Unauthorized irrigation from Jump Creek

A picture of your property is below. The approximate place of use (POU) of 57-11853 is outlined in yellow. Permit 57-11853 is authorized to irrigate 63 acres. About 48 of those acres overlap with the pivot. At the time of the field exam, we discussed the recommendation that you file an application for permit to include the entire area of the pivot as a place of use that can receive water from Jump Creek. Because the water from Jump Creek is co-mingled with the irrigation shares, there is no way to restrict the water from Jump Creek to the area within yellow lines. Please see additional recommendations below the photo.



Recommendations for a new application for permit

1. Based on a quick estimate, you probably need to apply for an additional 32 acres of irrigation in order to be able to use water from Jump Creek on all of the acres covered by the pivot. My estimate of the pivot area was

approximately 80 acres, and the place of use of 57-11853 (yellow boundary) overlaps with approximately 48 acres of the pivot: Total pivot (80 ac.) – Overlap of pivot with 57-11853 (48 ac.) = additional acres (32 ac.).

2. In addition to the number of acres, you may want to file for an additional diversion rate from Jump Creek in order to get a full inch per acre (0.02 cubic feet per second (cfs) / acre) for the entire area. Permit 57-11853 authorized a diversion rate of approximately 0.015 cfs / acre for 63 acres. A new application for permit could include the remainder of the pivot, and additional water for the POU of 57-11853. The maximum quantity of water that I could recommend for the licensing of 57-11853 is 1.00 cfs. You might need approximately an additional 0.9 cfs to get a full inch per acre on all of the acres. If a new application for permit were approved for a sufficient additional diversion rate, the two permits combined could authorize you to irrigate the entire place of use using water from Jump Creek alone.

The numbers above are estimates. I will need to complete my recommendation for the license for 57-11853 before I can narrow down my recommendations. The final recommendation may depend on what the Department decides to authorize under 57-11853.

Question about the extent of the POU of 57-11853

For the field exam, I forgot to bring a map of your property so that we could discuss any acres outside of the pivot area that receive water from the diversion from Jump Creek. In the photo above, I have the portion of the permitted POU that is outside of the pivot area marked with the orange cross-hatching. I will be mailing you a copy of a photo of your property so you can outline the total acres that are irrigated with water from Jump Creek. I'll send the photo with a return envelope. The number of acres outside of the pivot area that are irrigated by the diversion for 57-11853 will affect my final recommendations to you regarding filing for an additional permit.

Thank you for calling me today with your questions. I apologize for the level of detail I provided above. I made a mistake in not bringing a photo of your property to the field exam in order to have this discussion with you in person. Some of the details above are notes to myself to keep me on track with your permit. I will keep your permit at the front of the line so that I can give you my final recommendations sooner. Thank you for your patience.

Please let me know if you have additional questions.

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Dave Betts - Water Resource Agent

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