



IDAHO DEPARTMENT OF
WATER RESOURCES

BRBA FIELD EXAMINATION REPORT

Claim Number: 11-4093

Exam Date: 09/09/2026

Exam Time: 10:00 AM

IDWR Staff Present: Brent Bonney, Jose Pacheco

Claimant/Representative Present: Claimant David Lakey

Exam Location: Fields surrounding 3284 Lakey Ln Soda Springs, Idaho, 83276

Township	Range	Section	Quarter Quarter
09S	42E	25	SENW
09S	42E	25	SWNE
09S	42E	25	SENE
09S	42E	25	NWSW
09S	42E	25	NESW
09S	42E	25	NWSE
09S	42E	25	NESE
09S	43E	30	NWSW 3
09S	42E	25	SESW
09S	42E	25	SESE
09S	43E	30	SWSW 4

09S	43E	30	SESW
09S	43E	30	SWSE
09S	43E	30	SESE
09S	43E	29	SWSW

Examiner's Signature: 

Purpose of Exam: Beneficial Use Irrigation Claim.

Summary of Exam: Agents met with claimant David Lakey. David showed agents the point of diversion, diversion works and irrigated acres. David turned on the system so agents could take an in-pipe measurement. Priority date evidence was collected during the exam. Irrigated acres is being decreased, diversion rate is being recommended as claimed.

Exam Narrative:

Agents began the field examination by reviewing priority date evidence provided by David. The claim references a 1961 special use permit, and agents requested a copy for verification. David searched his records but was unable to locate the permit.

Agents then reviewed a map with David and asked several clarifying questions. First, agents asked whether any irrigation occurs in the northeastern portion of the claimed place of use (POU). David confirmed that this area is dry farmed, and it will therefore not be included in the recommendation. Agents also asked about irrigation practices prior to the installation of pivots in 1989. David stated that historically, and before 1989, more acres were irrigated by wheel

lines than are irrigated under the current system. Based on this information, agents determined that no enlargement occurred after the recommended priority date.

Two areas within the claimed POU are not owned by the claimant. Agents asked David whether he had a lease or written authorization from the landowner. David explained that he does not have a formal agreement but has been verbally permitted to irrigate and farm these parcels. He noted that he previously sent a lease agreement to the landowner in an attempt to formalize the arrangement but received no response. David also stated that NRCS had asked him similar questions. Because beneficial use of these areas is clearly visible in historical aerial imagery, these sections are likely to be recommended.

Agents asked whether any portion of the claimed POU is irrigated using shared water. David confirmed that it is not.

David then guided agents to the point of diversion (POD) and showed them Lakey Reservoir, which he reported was near its high-water mark. From the reservoir, water is diverted through a headgate (Figure 1) into a canal. The canal runs west to a second headgate (Figure 2), which diverts water into a concrete structure that captures and regulates the flow (Figure 3). The water then passes over a debris-screening surface and enters a 12-inch pipe (Figure 4). The system is gravity-fed to the POU.

David opened the headgate and activated the system so agents could observe operation and take a measurement. Agents then traveled to the POU to inspect the risers shown on the map provided in this examination. These risers and associated hand lines irrigate portions of the POU that are not reached by the pivots.

Agents next visited the central pivot, where David turned on water at the pivot tower. Agents attempted to take an accurate in-pipe measurement but concluded that it was not possible. To take an accurate measurement the instrumentation would need to be installed on a section of pipe that was buried and inaccessible. David then drew the alignment of the buried pipe on a map, indicating how water is conveyed from the source to each of the pivots.

This concluded the field examination.

Flow/Volume Calculations:

Because conditions during the field exam did not allow for an accurate in-pipe measurement, a theoretical measurement was calculated instead. This theoretical assessment was performed to determine the maximum potential diversion capacity of the system, expressed in cubic feet per second (cfs).

Manning's equation for circular pipe flow

Manning's equation is $Q = (k/n)AR^{2/3}S^{1/2}$, with $V = Q/A$. For a full circular pipe, $A = \pi D^2/4$ and $P = \pi D$, so $R = A/P = D/4$. Use $k = 1.486$ in US customary units or 1.0 in SI. It applies to uniform gravity/free-surface flow, not a pressurized or surcharged pipe.

Sources: [FHWA HEC-22](#), [FHWA HDS-4](#), and [EPA SWMM](#).



Ground

Length
8,698.4 ft

Max
6,247.1 ft

Gain
97.1 ft

Avg
6,123.9 ft

Loss
324.9 ft

Max Slope
↑ 7.6° ↓ 13.6°

Min
5,985.6 ft

Avg Slope
↑ 2.1° ↓ 2.8°

Input Parameters

Pipe Properties

Pipe Diameter
Unit
Inches (in)

12

Internal diameter of the pipe

[Don't know this value?](#)
[Look it up](#)

Roughness Coefficient

Pipe Material Preset

Steel - Smooth, coated ($n = 0.012$)

Select a material to auto-fill Manning's n or enter a custom value below.

Manning's n Coefficient *

0.012

Typical values: 0.009-0.015 for smooth pipes, 0.022-0.030 for corrugated metal

Slope *

0.028

ft/ft

Enter slope as rise/run, not percent: 0.005 = 0.5% = 1:200.
Supported range: 0.0001-1.

Discharge (Q)

6.459 cfs

Conclusion:

The max theoretical flow of the diversion system exceeds the claimed diversion rate.

Recommending a diversion rate of 5 cfs as claimed.

System Map:



Photos:

Figure 1: Point of Diversion out of Lakey Reservoir.



Figure 2: Second headgate that diverts water from the canal to a screen.



Figure 3: Screen that transfers the water to a pipe. This water is supplied by the headgate in figure 2.



Figure 4: Pipe that takes the water from the screen in Figure 3.



Field Notes:



Hand pipe

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 • Could not find direct special use permit.
 • DWS told us that J.R. Simpson has tried to reach out to have a lease approved. J.R. Simpson says that it's cheap according to him.
 • No shore water
 • 3ft 2 1/2 inch circumference of water at the stream.
 • Water level of Swan Lake is near max

2 1/2 inch circumference of pipe leading to
 2ft 1 1/2 in
 6 inch pipe (1ft 9 inch circumf)
 1015 GPM
 1455 GPM was max rate we saw