

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 11-07413
Exam Date: 9/4/2015

1. Current Owner:
FISH HAVEN PIPELINE CO INC
PO BOX 158
FISH HAVEN ID 83287-0158
(208)945-2680
2. Accompanied by: Henry Howell
Phone No: 317-7499
Relationship to Permit Holder: President of Fish Haven Pipeline Co.
3. SOURCE: Ground Water

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 11-4270 (Fish Haven Spring)
2. Other water rights with the same point-of-diversion: None

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

GROUND WATER L2 (NE $\frac{1}{4}$ SE $\frac{1}{4}$) Sec. 22, Twp 16S, Rge 43E, B.M. BEAR LAKE County
GROUND WATER L2 (NE $\frac{1}{4}$ SE $\frac{1}{4}$) Sec. 22, Twp 16S, Rge 43E, B.M. BEAR LAKE County

Method of Determination: Site visit, aerial photo

2. PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
16S	43E	14		X L 1	X L 2		X L 1		X	X L 2	X L 3	X	X L 4	X L 4		X L 3			
16S	43E	15			X	X				X					X	X			
16S	43E	22	X			X L 1									X L 2			X L 3	
16S	43E	23						X L 1	X L 1										
16S	43E	27	X L 1			X L 2									X L 3	X L 3	X L 4	X L 4	

Method of Determination: Aerial photo, permit map

D. FLOW MEASUREMENTS

Not possible to measure the system directly. There is not a straight section of pipe within well house large enough to accommodate portable flow meter. In-line flow meter installed on West Well (main well in vault) reports a diversion of 64 gpm (0.14 cfs). Mr. Howell confirmed that 64 gpm is the max capacity of the well.

East Well was tied into system during the development period (1994-1999). East Well is no longer tied into system and is not equipped with a flow meter. 5 hp pump in East Well. Wells are only 50 feet apart.

E. FLOW CALCULATIONS

Discharge at West Well is known (64 gpm or 0.14 cfs). Because wells are so close, it is possible to calculate the theoretical discharge from the East Well. Assuming that the wells have the same efficiency, friction losses, discharge pressure and dynamic pumping level, the East Well would theoretically produce 42.7 gpm or 0.10 cfs. Total system capacity during the development period will be assumed as 0.24 cfs (0.14 + 0.10).

F. VOLUME CALCULATIONS

Standard Domestic Volume = 1.2 af/home for inside and outside use

200 homes x 1.2 af/home = 240 acre-feet

Apply a combined volume limit of 240 acre-feet for Spring (11-4270) and Well (11-7413)

G. NARRATIVE/REMARKS/COMMENTS

Fish Haven generally relies on Fish Haven Spring (11-4270) as its primary source of water. Well is only used during summer months to meet peak demand or as a replacement source if spring system is temporarily down. In 2015, the company replaced some of the electrical equipment at the well, moving the control panel out of the concrete vault. Flow meter was installed at that time. During the spring, the East Well has water flowing out of the top, indicating some artesian pressure in the aquifer. East Well is no longer tied to the system, but was during the development period. Since 1999, the company has replaced pipeline from the spring source, restoring some of the original capacity of the spring source and reducing the demand for ground water. Company currently serves 202 homes and adds homes occasionally. Permit is limited to 200 homes. Company would like to install large pump in well to create a full backup supply if spring system ever goes down. Company is contemplating filing another application for permit to cover the increased diversion rate and the additional homes.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DOMESTIC	1/01 to 12/31	0.24 CFS	240 AF
	<u>Totals:</u>	0.24 CFS	240 AF

2. Recommended Amendments

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

 Change P.U. as reflected above Add P.U. as reflected above X None

I. AUTHENTICATION

Field Examiner's Name Scott Bergendorf Date

Reviewer James Cefalo Date 8/26/16



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

444 Hospital Way, #300 • Pocatello, Idaho 83201 • (208) 236-6160

C.L. "Butch" Otter, Governor
Curt Fransen, Director

August 29, 2013

Certified Mail No. 7011 1570 0002 8894 1664
Return Receipt Requested

Mr. Henry Howell
Fish Haven Pipeline Company
P.O. Box 116
Fish Haven, ID 83287

RE: Fish Haven Pipeline 2013 Sanitary Survey PWS#6040011

Dear Mr. Howell:

On August 19, 2013, the Idaho Department of Environmental Quality (DEQ) conducted a sanitary survey of the Fish Haven Pipeline Company water system. The purpose of the survey was to identify any areas where the system does not meet the requirements of IDAPA 58.01.08 Idaho Rules for Public Drinking Water Systems. The following paragraphs describe the physical features of the system and identify any significant deficiencies, deficiencies, or recommendations noted during the survey.

General Description

The Fish Haven Pipeline Company water system is located in Bear Lake County near the Idaho-Utah border. In the summertime, approximately 400 people are served through **201 unmetered connections**. During the winter months, the population drops to between 55 – 60 residents. The water system consists of **a spring, one well, two storage reservoirs**, and associated distribution piping. A water line replacement project has nearly been completed to increase the distribution mainlines to 8-inch PVC pipe. This project also included installation of new valves and hydrants.

Sources

Spring

The spring is located approximately 2 miles west of town up Canyon Road. The spring water is captured by a 6-foot by 6-foot concrete box which is cast against the rock. The spring has an overflow pipe. The water flows via a 6-inch PVC pipe from the spring to the upper reservoir.

The spring sits on land that is owned by the Bureau of Land Management (BLM) and is not fenced to prevent trespass. Access to the spring box requires crossing a corrugated metal pipe which encases the main transmission line as it crosses Fish Haven Creek. It is uncertain as to whether Fish Haven has a long-term lease agreement with the BLM for the use and protection of the spring.

Well

The well is located on the west side of highway 89 and south of the community. It is housed in a 6-foot by 12-foot concrete vault. The well was constructed in 1975. No well log information was available; but according to the operator and information from a previous survey, the 8-inch steel casing extends to a depth of 100 feet with a 6-inch casing to 320 feet. The well casing was extended 6 feet in 2002 to bring the top of the well above ground level. The well is properly vented and can be pumped to waste. The discharge line is equipped with a check valve, threaded sample tap, pressure gauge, pressure relief valve and flow meter and isolation valve. The well vault has an elevated, locked access hatch; floor drain; and houses two pressure tanks, as well as an electrical panel. The floor drain and well pump-to-waste pipe combine underground outside the well vault, and flow to a pipe that drains to daylight at the edge of the well lot. The only ventilation in the vault is a series of small holes that have been drilled into the side of the access hatch. This well vault represents a confined space and should have adequate ventilation. It appears there is some deterioration due to moisture within the vault.

Storage

Upper Reservoir

The partially buried, concrete reservoir has a capacity of 10,000 gallons and was constructed in the 1970's. The reservoir is located approximately 1 mile west of town, up Fish Haven Canyon Road. Water from the spring is collected in the reservoir then piped to the 50,000-gallon reservoir. The reservoir has an overlapping manhole cover that is secured with a padlock. The manhole is showing signs of deterioration. The reservoir also has an overflow pipe and vent. The tank cannot be isolated from the system. Through the use of valves, the spring water can be diverted to the overflow, and the water level can be lowered so that the tank can be inspected. The overflow pipe discharges to daylight in the adjacent creek, but is covered with moss and not screened.

Lower Reservoir

This partially buried concrete reservoir has a capacity of 50,000 gallons and was constructed in 1989. The reservoir is located adjacent to the Upper Reservoir. Water from the upper reservoir flows to the lower reservoir and then is piped to the community. The reservoir has an overlapping manhole cover that is secured with a padlock. The reservoir also has a drain that discharges to the adjacent creek. The tank is properly vented and is covered with a screen. There is no overflow for this tank. The tank cannot be isolated from the system for cleaning without necessitating a loss in pressure to the system. A fence surrounds both reservoirs to prevent unauthorized access, but is in need of maintenance. The water line to town is constructed of 8-inch PVC.

Treatment

The water system does not utilize any type of treatment system.

Distribution System

The distribution piping is primarily 8-inches in diameter and constructed of PVC pipe. Most of the distribution system has been recently upgraded. The service connections are not metered. The system has 21 fire hydrants that are exercised and flushed annually. The system has dead end lines that are flushed biannually. There are three air release stations located on the water line between the reservoirs and the town. Their purpose is to release air that may become trapped in the pipeline at high points. Since the installation of the new distribution piping, pressure throughout the system is generally good. Inside the well vault are two Well X-trol pressure tanks. The tanks are within the well vault but have been permanently disconnected from the system at the time of the inspection. The transmission line between the spring and the storage tank is a shot-coat steel main. This transmission line between the spring and the tanks will be reconstructed in a project slated for the fall of 2013.

Monitoring/Reporting/Data Verification

Currently, the water system is in compliance with all chemical and bacteriological monitoring.

Pumps/Pumping Facilities and Controls

The well is equipped with a 7.5 hp pump set at 145-feet. There are no other pumps used to transport water throughout the system. At the time of the visit, the pump was not in service due to electrical control issues from corrosion from condensation within the vault. The operator indicated that they have plans to place electrical control equipment above grade.

Management/ Operator Compliance

The Fish Haven Pipeline Company water system is under the direction of a board. Henry Howell serves as the president and operator; and is certified as a Drinking Water Distribution Very Small Water System (DWDVSWs) operator. William Stock is the backup operator and is also certified as a DWDVSWs operator. The annual water rate is \$225.00. The board has its annual meeting with all residents invited every August, and otherwise usually meets on a semi-annual basis.

Ground Water Under the Direct Influence of Surface Water (GWUDI)

At this time, the spring and well are determined to be groundwater.

You will find a list of the significant deficiencies, deficiencies, and recommended improvements for the system summarized below.

A **Significant Deficiency** is defined in IDAPA 58.01.08.003.88. that states: As identified during a sanitary survey, any defect in a system's design, operation, maintenance, or administration, as well as any failure or malfunction of any system component, that the Department determines to cause, or have the potential to cause, risk to health and safety, or that could affect the reliable delivery of safe drinking water.

A **Deficiency** states: As identified during a sanitary survey, the systems design, operation, maintenance, or administration, as well as any failure or malfunction of any system component, that the Department determines are not in compliance with the drinking water rules and do not cause or do not have the potential to cause, risk to health or safety, or that could not affect the reliable delivery of safe drinking water.

Recommendations are made as an item to consider in order to improve the overall operation of the water system.

Significant Deficiencies

1. All previously required deficiencies identified in the last sanitary survey have not been addressed, as required by IDAPA 58.01.08.008.02. or IDAPA 58.01.08.302.03&04.
2. Adequate ventilation is not provided in the wellhouse for dissipation of excess heat and moisture from the equipment, as required by IDAPA 58.01.08.541.01.e. At the time of the inspection there was evidence of corrosion of metal parts and electrical from excessive moisture.

Deficiencies

1. The area within 100 feet of the spring box is not fenced to prevent trespass of livestock and/or sources of contamination, as required by IDAPA 58.01.08.514.05.
2. The area within 100 feet of spring box is not owned by the supplier or controlled by a long-term lease, as required by IDAPA 58.01.08.514.05.
(Ensure that a written, long-term lease is on file with the Fish Haven documents. Provide DEQ a copy for our records.)
3. A flow meter or other flow-measuring device is not provided for spring source, as required by IDAPA 58.01.08.514.04. A flow meter or other measuring device must be installed the next time material modifications occur to this section of the water system. *(It is understood by DEQ that this will be corrected in the Fall 2013 construction project.)*
4. The discharge pipe for spring source does not provide a sample tap that is properly located, pursuant to IDAPA 58.01.08.501.09. *(It is understood by DEQ that this will be corrected in the Fall 2013 construction project.)*

5. The access port for spring box is not elevated at least 24-inches above the top of the box or covering sod, whichever is higher as required by IDAPA 58.01.08.514.02.
6. An overflow is not provided with an expanded metal screen installed within the pipe to exclude rodents and deter vandalism, as required by IDAPA 58.01.08.544.06.
(The spring overflow pipe is covered with moss, and should be cleaned and screened if construction is not by October 2013.)
7. The sample tap that is used to collect bacteria samples at the well is not of the smooth-nosed type without interior or exterior threads, pursuant to IDAPA 58.01.08.501.09.
(A threaded sample tap is approved if it is provided with an appropriate backflow prevention device.)
8. The pump distribution line for well does not provide an instantaneous and totalizing flow meter equipped with nonvolatile memory pursuant to IDAPA 58.01.08.511.04. An instantaneous and totalizing flow meter equipped with nonvolatile memory must be installed the next time material modifications occur to this section of the water system.
9. A pressure gauge is not provided at all installations for the well or the existing pressure gauge is not properly working, as required by IDAPA 58.01.08.511.03.
(Repair of the gauge is required)
10. An overflow is not provided for the lower storage structure; and both the lower and upper storage structure do not discharge to daylight in a way that will preclude the possibility of backflow to the reservoir and/or is not provided with an expanded metal screen installed within the pipe to exclude rodents and deter vandalism, as required by IDAPA 58.01.08.544.06.
(An overflow is required on the lower storage structure and the upper storage structure's overflow requires a screen. It is understood by DEQ that this will be an add-on item to the Fall 2013 construction project.)
11. The finished water storage structures which provides pressure directly to the distribution system are not designed so that they can be isolated from the distribution system without causing a loss of pressure in the distribution system, as required by IDAPA 58.01.08.546.02. *(It is understood by DEQ that this will be corrected in the Fall 2013 construction project.)*
12. There is no cross connection control program for the PWS, as required by IDAPA 58.01.08.552.06.
13. An operation and maintenance manual is not provided for the PWS; not having daily operating instructions and/or operator safety procedures and/or location of valves and other key system features and/or parts list and parts order form and/or information for contacting the water system operator, as required by IDAPA 58.01.08.501.12.
14. Ensure that the old water well that was identified in the 2003 sanitary survey has been properly abandoned, as required by IDAPA 58.01.08.510.09. It was unclear if this well

has been abandoned. Any water supply well that will no longer be used must be abandoned by sealing the borehole carefully to prevent pollution of the ground water, eliminate any physical hazard, conserve aquifer yield, maintain confined head conditions in artesian wells, and prevent mixing of waters from different aquifers. The objective of proper well abandonment procedures is to restore, as far as possible, the original hydrogeologic conditions. The services of a licensed well driller are required. Instructions for abandoning various types of wells may be obtained from the Idaho Department of Water Resources. Rules of the Idaho Water Resources Board are available at www.adm.idaho.gov/adminrules/rules/idapa37/37/index.htm

Idaho Department of Water Resources
Idaho Water Center
322 E. Front St.
P.O. Box 83720
Boise, Idaho 83720-0098
Telephone (208) 287-4800.

Recommendations

1. DEQ recommends that a leak detection program be put in place and utilized.
2. DEQ recommends the PWS set up a water conservation program.
3. DEQ recommends that all storage tanks be inspected for integrity and silt build-up annually. *(It is understood by DEQ that this will be corrected in the Fall 2013 construction project.)*
4. DEQ recommends that all storage tanks be cleaned every five (5) years. The cleaning of any storage tank should be coordinated with the DEQ regional office. Be advised that AWWA standards do not allow a tank to be cleaned while in service unless a Boil Water Advisory is administered. *(It is understood by DEQ that this will be corrected in the Fall 2013 construction project.)*
5. At the time of the inspection, the Public Drinking Water System (PWS) does not have a means to measure the water level in the storage unit. DEQ recommends the PWS provide the operator with the ability to easily monitor and measure the water level in the storage unit.
6. A possible confined space entry violation exists in your public water system. DEQ administrative rules require that all confined space entry requirements be considered, in accordance with IDAPA 58.01.08.501.14. DEQ recommends providing the necessary equipment, plans and confined space DEQ does not, however, specifically enforce Occupational Safety & Health Administration (OSHA) regulations and therefore you should refer to the OSHA web site at www.osha.gov/SLTC/confinedspaces/index.html or their Boise, Idaho Office in order to develop and implement a comprehensive confined space entry program in order to protect personnel from dangerous conditions.

OSHA - Boise Area Office
1150 North Curtis Road, Suite 201
Boise, Idaho 83706
(208) 321-2960
(208) 321-2966 Fax

(The well vault represents a confined space.)

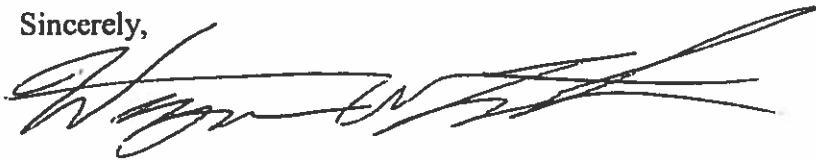
For all modifications to existing water systems, an engineering report shall be submitted to DEQ for review and approval prior to or concurrent with the submittal of plans and specifications as required in Subsection 551.04, pursuant to IDAPA 58.01.08.551.01.

Prior to modifications of existing public water supply systems, plans and specifications must be submitted to DEQ for review, and approved, pursuant to IDAPA 58.01.08.551.04.a. Please contact this office at 236-6160 prior to making any system modifications.

DEQ recommends the significant deficiencies be addressed as soon as possible; however, pursuant to IDAPA 58.01.08.302.03, the water system must respond in writing no later than forty-five (45) days after receipt of the sanitary survey report, describing how and on what schedule the system will address significant deficiencies identified in the survey.

Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Wayne W. Crowther', with a stylized flourish at the end.

Wayne W. Crowther, P.E., CPESC
Senior Regional Engineer

cc: Tom Hepworth, Regional Engineering Manager, DEQ-PRO

Fish Haven Sanitary Survey August 19, 2013



Photo 1. Fish Haven Spring. Overflow is not screened, and lid is not of the proper height.



Photo 2. Pipeline crossing Fish Haven Creek.

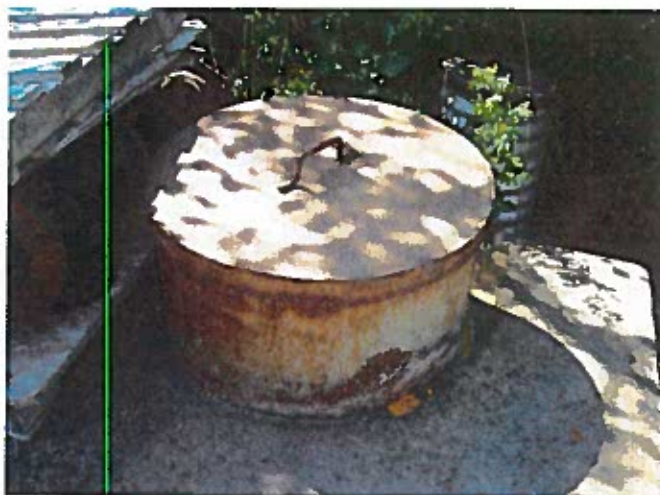


Photo 3. Tank #1 access and drain valve box.



Photo 4. Tank 1 interior.

Fish Haven Sanitary Survey August 19, 2013



Photo 5. Overflow and drain for tank #1 –



Photo 6. Tank #2



Photo 7. Tank #2 interior, no overflow.



Photo 8. Tank vent for tank #2.

Fish Haven Sanitary Survey August 19, 2013

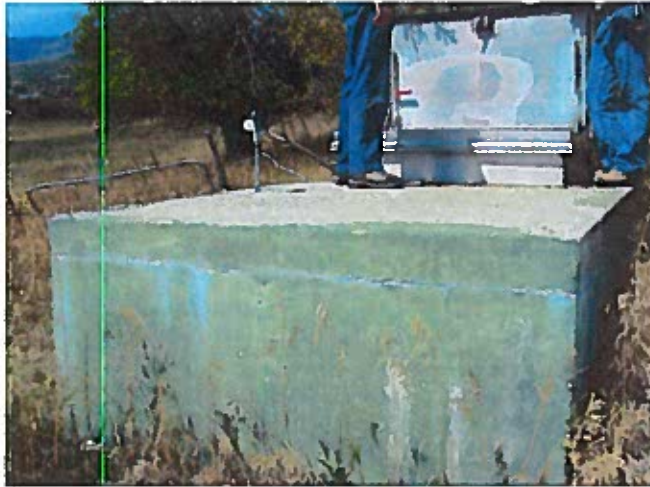


Photo 9. Well #1 vault.



Photo 10. Well is raised above ground surface within the well vault.



Photo 11. Inside view of the well vault.

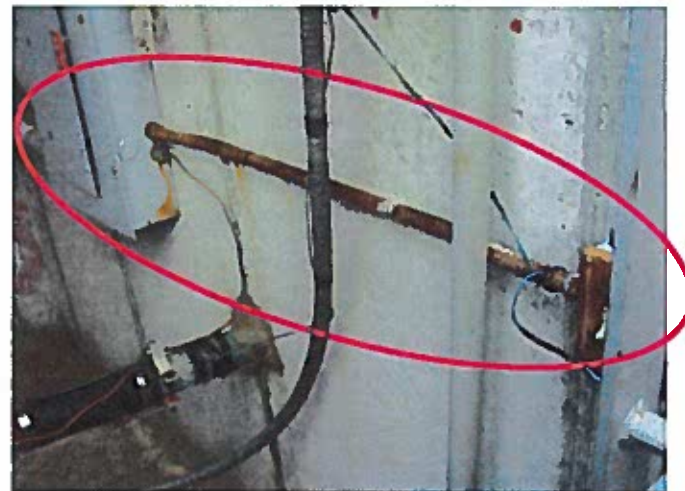


Photo 12. There is significant corrosion of metal and electrical equipment in the vault.

8/25/2016

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	FISH HAVEN PIPELINE CO INC PO BOX 158 FISH HAVEN, ID 83287-0158 (208)945-2680

Status: Active

Tributary
FISH HAVEN CREEK

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	4/01	11/01	4.000 CFS	
DOMESTIC	1/01	12/31	4.000 CFS	
	Total Diversion		4.000 CFS	

Sec. 16, Twp 16S, Rge 43E, BEAR LAKE County

IRRIGATION within BEAR LAKE County

			NE				NW				SW				SE				
Twp	Rng	Sec	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
16S	43E	14			2.0				1.0	2.0	2.0	1.0	1.0	2.0					11.0
16S	43E	15													1.0				1.0
16S	43E	22				1.0									2.0			2.0	5.0
16S	43E	23						2.0											2.0
16S	43E	27	2.0			2.0									1.0			2.0	7.0

POU Total Acres: 26.0

Page 1 of 1

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

CLAIM TO A WATER RIGHT



Under the provisions of Section 42-243, Idaho Code, any person using or claiming rights to the public waters of Idaho established by diversion and application to a beneficial use must file a claim with the Department of Water Resources on or before June 30, 1983. Exempted from this filing are single family domestic uses as defined in Section 42-230(d), Idaho Code. Also exempted are rights represented by a permit, license, decree, adjudicated right, or a previously filed claim.

The filing of this claim does not confirm the water right claimed but failure to file may result in forfeiture of a water right.

Notice is hereby given that Fish Haven Pipeline Co. Inc. C/o Clarence Nelson Sec.

(Name of Claimant)

Fish Haven Id. Box ~~5~~ 68
(Mailing Address)

83261

Telephone No. **945-2498**

(Mailing Address)

(Zip Code)

claims a right to the diversion and beneficial use of the surface or ground water. The extent and nature of said claim is as follows:

- (1) Date of priority: (When was the water first applied to a beneficial use) September 1, 1939

A claim is not acceptable on a ground water source with a priority later than March 25, 1963 or on a surface water source with a priority later than May 20, 1971. An exception is that a claim may be filed on single family domestic use from a ground water source.

Describe the source of water: (Name of stream, lake, spring, etc., or ground water)

Fish Haven Spring tributary to Fish Haven Creek

Describe the purpose for which the water has been used and the time during the year when you have used the right claimed:

(cfs, at)

(Domestic, Irrigation, Stock, Etc.)

(Both dates inclusive)

(Mo., Day)

(Mo., Day)

Quantity 4.0 Use Domestic Period of Use From 1-1 To 12-31

Quantity 4.0 Use Irrigation Period of Use From 4-1 To 11-1

Quantity _____ Use _____ Period of Use From _____ To _____

Quantity _____ Use _____ Period of Use From _____ To _____

Quantity _____ Use _____ Period of Use From _____ To _____

- (4) 4.0cfs TOTAL QUANTITY USED.
(cfs. at)

- (5) A) Point of diversion: (Location of point where water is diverted from its source)
SW $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 16 Twp. 16S Rge. 43E B.M., County of Bear Lake
 Additional points of diversion:

B) Describe means of diversion of water: (Pump and pipeline, well, diversion dam, reservoir, length of ditch and field, etc.). Give sizes and capacities: be as specific as possible. Describe any changes in the system and give the date of the change. Pipeline from springs to 116 residences with domestic and garden and fire protection.

- (6) A) Describe location of use by listing number of irrigated acres within each 40-acre tract in appropriate box. If use is not for irrigation, place an "X" in appropriate box to show location.

[illegible]

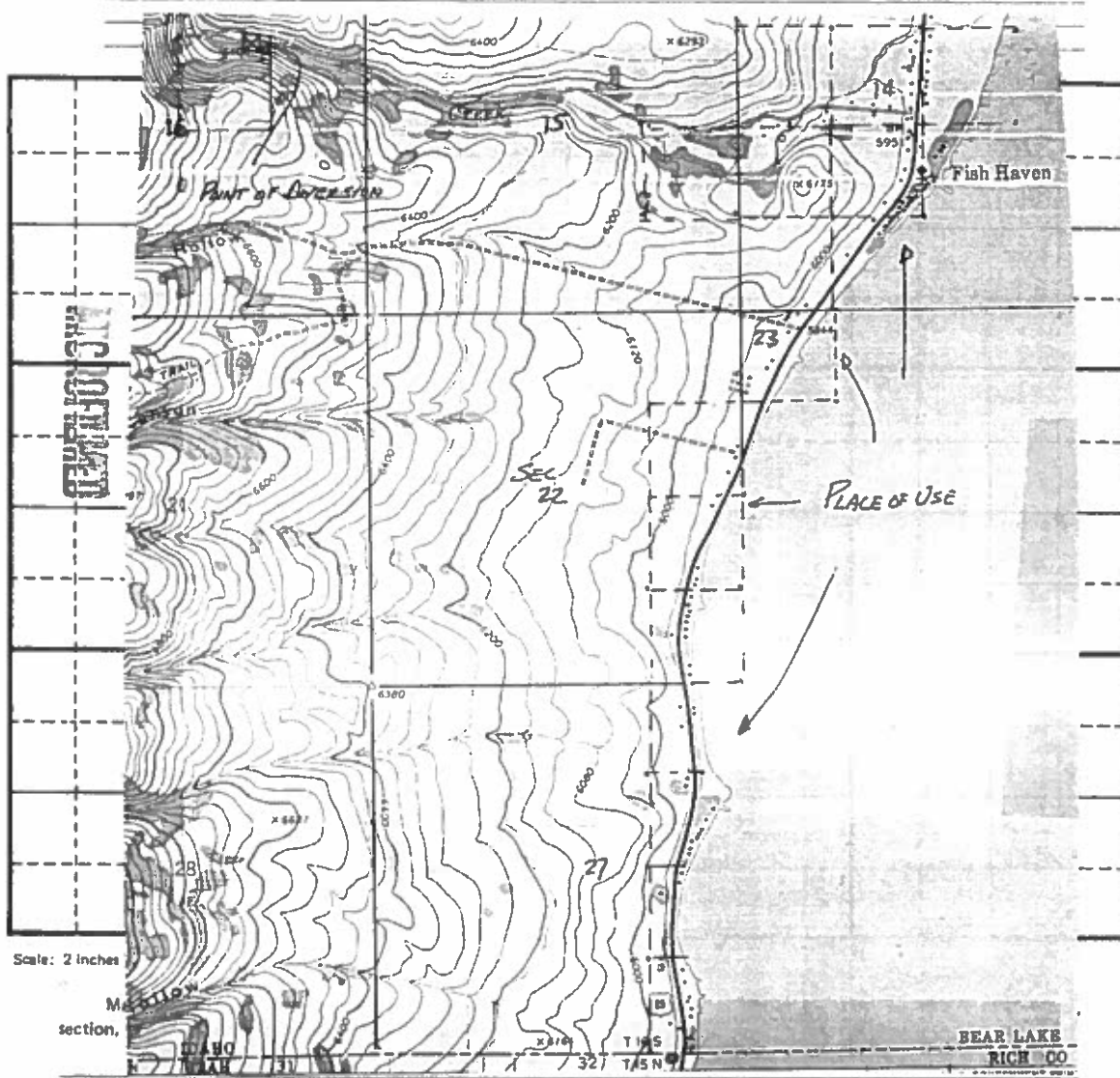
No. of acres 26

- B) If water is used for other than irrigation, fully describe that use, being as specific as possible: _____

NOTE: Include here the type and number of stock watered:

- (7) If you are claiming water as a member of an organization, list name of organization: _____

(8) Remarks Irrigation use is based on 1/4 acre per residence.



State of Idaho)

County of Bear Lake) ss.

Be it known that the undersigned, being duly sworn, deposes and says that he, she, they subscribed the foregoing claim to a water right, together with all attached information, and that the matters and facts therein are true to the best of the affiant's knowledge.

Sworn to before me this 13th day of August

Clarence Nelson
(Claimant)

1983.

Julia P. Howell
Notary Public
Residing at Fish Haven, Id

My commission expires Lifetime

Received by CW Date 8-16-83 FOR DEPARTMENT USE ONLY
Prelim. check by SM Date 8-3-83
\$30.00 fee received by CW Date 6-22-83 #30660
Published in News Examiner
Dates 9/23 - 9/29/83

Forwarded to
claimant by: _____ Date _____

11 45:00







THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: Nov-13
 Examiner: S Bergendorf
 Date of Field Exam: 9/4/2015

	West Well	East Well
P/D No.:		
PUMP HORSEPOWER	7.5	5.0
BOOSTER HORSEPOWER	0	0
PUMPING LEVEL	162.1	162.1
DISCHARGE PRESSURE	60	60
FRICTION	0	0
RATE OF FLOW (cfs)	0.14	0.10
(gpm)	64.0	42.7

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: 65% efficiency.

Examiners Notes: