

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 47-17645

Exam Date: 9-19-2018

1. Current Owner:
CITY OF TWIN FALLS
PO BOX 1907
TWIN FALLS ID 83303-1907
(208) 736-2275
2. Accompanied by:
Scott Fuller
Phone No: (208) 734-9933
Address: 350 Canyon Springs Road, Twin Falls, ID 83301
Relationship to Permit Holder: Employee of JACOBS, the company that operates the Twin Falls Sewer Treatment Plant
3. SOURCE: GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: none
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 NE¼SW¼ Sec. 33, Twp 09S, Rge 17E, B.M. TWIN FALLS County

Method of Determination: on-site inspection, GPS location, & 2017 NAIP aerial imagery

2. 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	
09S	17E	33									X								

Method of Determination: on-site inspection, GPS location, & 2017 NAIP aerial imagery

3. ATTACHMENTS

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

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0072468	UNKNOWN				

*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
None						

2. Measurements: No measurement required per IDAPA 37.03.02 Beneficial Use Examination Rules as the permitted flow rate of 0.06 cfs falls below the measurement threshold of 0.24 cfs.

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Per IDAPA 37.03.02 Beneficial Use Examination Rules, no measurement was required for this permit. The permit was issued with a diversion rate of 0.06 cfs. The well driller's report filed with IDWR identified a discharge of 10 gallons per minute (approx. 0.02 cfs) during the well test conducted by the driller. A control panel located within the odor abatement facility contains a gauge showing the real-time inlet flow rate from the well. According to discussions with Mr. Fuller, the maximum capacity of the well is 20 gallons per minute. This converts to 0.04 cfs.

$$20 \text{ gpm} \times \frac{1 \text{ cfs}}{448.83 \text{ gpm}} = 0.04 \text{ cfs}$$

Per IDAPA 37.03.02, Rule 35.01.o the amount of water shall be limited to the smaller of the following amounts:

- Permitted amount: 0.06 cfs
- Amt. upon which the license exam fee is paid: up to 0.2 cfs
- Capacity of diversion works: 0.04 cfs
- Amt. beneficially used: 0.04 cfs

In this case, the capacity of the diversion works is the limiting factor at 0.04 cfs.

Measured Method: n/a

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

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

2. Volume Calculations for Other Uses: Industrial

Per information supplied by Mr. Fuller, the facility is typically operated at a rate of 1 gal/minute for 24 hours per day, 365 days per year. This equates to an annual volume usage of 1.6 acre feet.

$$\frac{1 \text{ gal}}{\text{min}} \times \frac{1440 \text{ min}}{1 \text{ day}} \times \frac{365 \text{ days}}{1 \text{ year}} \times \frac{1 \text{ AF}}{325,850 \text{ gal}} = 1.6 \frac{\text{AF}}{\text{year}}$$

G. NARRATIVE/REMARKS/COMMENTS

Application for Permit 47-17645 was filed on August 13, 2015, by the City of Twin Falls for the diversion of 0.06 cfs from ground water for industrial use in an odor abatement facility associated with the City's municipal wastewater system. The permit was issued on December 7, 2015. Proof of Beneficial Use was filed on December 15, 2017. On September 19, 2018, Corey Skinner, Kent Aasa, and I met Mr. Scott Fuller at the industrial facility to perform the field exam.

The point of diversion and place of use are located in the Snake River Canyon near Twin Falls at the base of the Perrine Coulee. The point of diversion is a 6 inch diameter well (D0072468) which was drilled for the purpose of this permit in September-October 2016 under drilling permit number 880102. Mr. Fuller did not have any information regarding the pump. From the well, water is piped approximately 150 feet to the industrial place of use – the odor abatement facility - which consists of an enclosed, locked structure containing a large tank where the odor abatement occurs along with associated infrastructure to operate it. The well water flows into a pressure tank, then into the odor abatement tank where it is used to moisten the biological odor control media. A separate pipe conveying gas captured from the sewer line is routed into the odor control tank, through the biological media, then emitted from the top of the tank after treatment.

Mr. Fuller explained that the facility is operated 24 hours per day, 365 days per year. A control panel in the facility allows the operator to regulate the inflow of fresh water from the well. Mr. Fuller said the peak flow rate pumped from the well is 20 gallons per minute. This scenario would likely only occur occasionally; for example, if the tank was emptied and had to be refilled. For regular operations, Mr. Fuller explained that the tank is operated using a re-circulating water mode, which internally reuses water within the tank, with a small proportion of fresh water added in from the well. He estimated the average inflow of freshwater to be approximately 1 gallon per minute under the typical operating scenario.

This permit is conditioned to be non-consumptive. The application materials noted that after being used in the tank, spent water would be conveyed via a pipe to a nearby sewer line, routed through the City's wastewater treatment plant, and eventually released into the Snake River. Mr. Fuller confirmed that this is how the used water is routed, and during the field exam we observed the discharge pipe where the spent water is released from the odor abatement tank. Mr. Fuller explained that the discharge pipe connects to a sewer line just outside the facility.

During the field exam, photos were collected of the point of diversion and place of use (see attachment). A direct measurement of the diversion rate was not taken because diversion rates less than 0.24 cfs are exempt per IDAPA 37.03.02 Beneficial Use Exam Rules.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
INDUSTRIAL	01/01 to 12/31	0.04 CFS	1.60 AF
Totals:		0.04 CFS	1.60 AF

2. Recommended Amendments

☐ Change P.D. as reflected above	☐ Add P.D. as reflected above	☒ None
☐ Change P.U. as reflected above	☐ Add P.U. as reflected above	☒ None

I. AUTHENTICATION

Field Examiner's Name Alison J. [Signature] Date 9.21.2018

Reviewer _____ Date _____

Attachment to Field Exam for Permit 47-17645 – Photographs of POD and POU

Top: Point of Diversion - 6" well (D0072468)

Bottom: Place of Use – industrial odor abatement facility



Top: Inside POU. Facility infrastructure including pressure tank & control panel

Bottom: Inside POU. Pressure tank (left) and inlet pipe conveying water from pressure tank into odor control tank (right)



Pressure tank & control panel

Permit 47-17645
19 Sep 2018, 13:15



Pressure tank

Permit 47-17645
19 Sep 2018, 13:13



Water inlet line

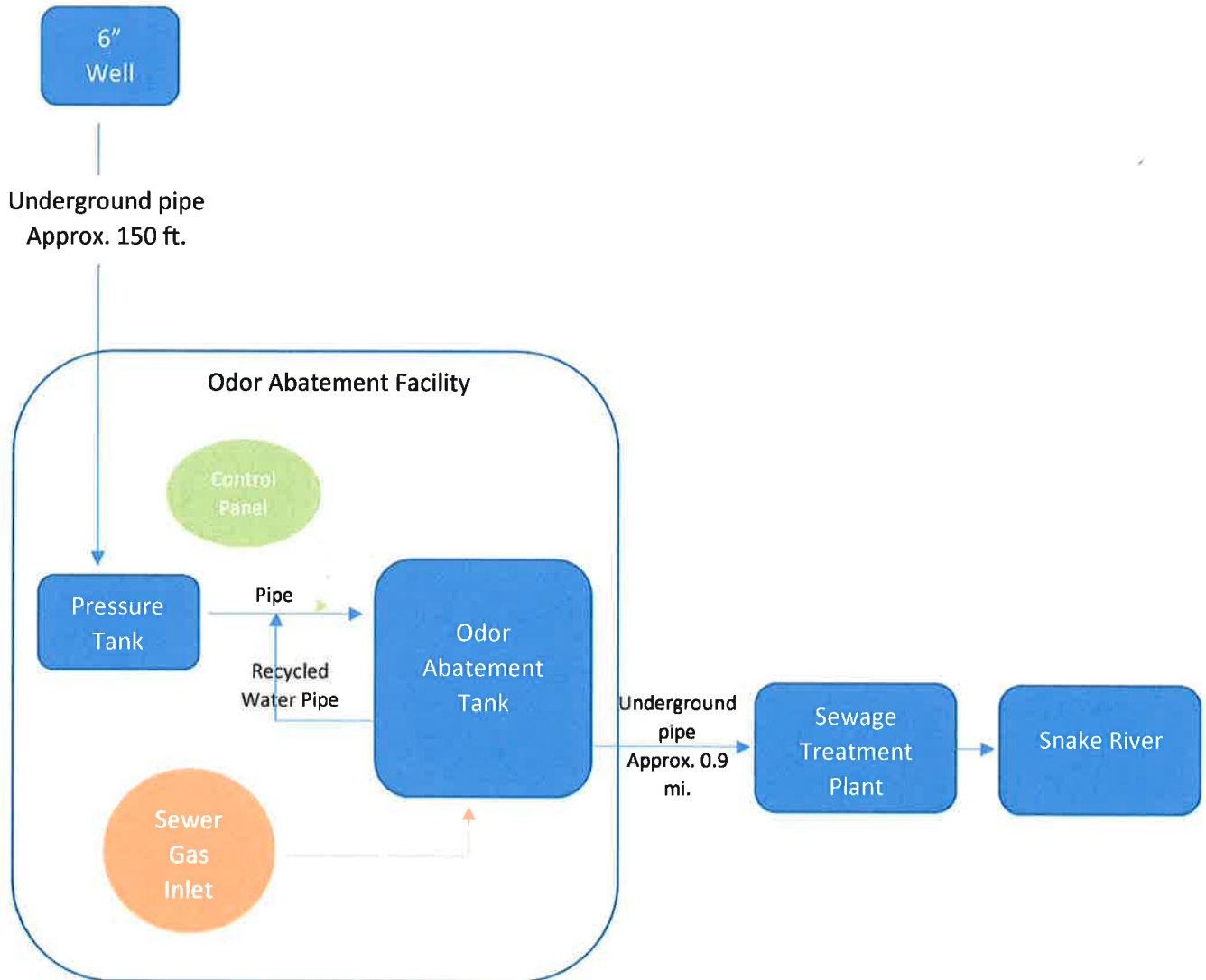
Permit 47-17645
19 Sep 2018, 13:19

Top: Inside POU. Pipe conveying sewer gas into odor control tank (left), odor control tank (right).
Bottom: Inside POU. Pipe conveying spent water from odor control tank to nearby sewer line.



Attachment to Field Exam for Permit 47-17645 – Delivery System Diagram

Not to scale



Attachment to Field Exam for Permit 47-17645 - Map



Legend

-  47-17645 POD
-  47-17645 POU
-  Township/Range
-  Sections
-  QQ



0 0.05 0.1 0.2 Miles

Field Exam 47-17645