

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED
OCT 04 2016
Department of Water Resources
Eastern Region

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATIONPermit No. 22-135891. Owner CITY OF DRIGGS Phone No. (208)270-0209 / 354-2362Current address P.O. BOX 48, DRIGGS, ID 834222. Examiner's name Keith C. Wilson EXAM DATE 06/10/20163. Accompanied by Jared Gunderson Email jgunderson@driggsidaho.orgAddress P.O. BOX 48, DRIGGS, ID 83422Relationship to permit holder City Public Works Director Phone No. (208)354-2362 / 270-02094. Source GROUND WATER tributary to _____**B. OVERLAP REVIEW**1. Other water rights with the same place of use 22-2132, 22-7529, 22-7698, 22-7786, 22-7790, 22-78142. Other water rights with the same source and point of diversion "SAME AS ABOVE"**C. DIVERSION AND DELIVERY SYSTEM**1. Point(s) of Diversion: **SEE: "Point of Diversion/Place of Use Supplement" page.**

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks

2. Place(s) of Use: Method of determination City of Driggs Service Area

Twp	Rge	Sec	NE				NW				SW				SE				Totals	
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
City of Driggs Service Area																				

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Ident. No. 22-13589

Point of Diversion/Place of Use Supplement

Attachment to: ☐ Application for Permit to Appropriate Water ☐ Application for Transfer** ☐ Adjudication Claim
☐ Application for Amendment of Permit ☒ Beneficial Use Field Report ☐ Statutory Claim

Location of points of diversion (POD):

New POD?	Twp	Rge	Sec	Govt Lot	¼	¼	¼	County	Source	Local name or well/diversion tag #
☐ Yes	5N	45E	23			NE	SW	TETON	GROUND WATER	Valley Central
☐ Yes	5N	45E	25			SW	NW	TETON	GROUND WATER	High School Well
☒ Yes	5N	45E	26			NE	NW	TETON	GROUND WATER	Huntsman Well
☐ Yes	5N	45E	26		NE	NE	SE	TETON	GROUND WATER	Dalley Well
☐ Yes	5N	45E	35			NW	NE	TETON	GROUND WATER	Lions Park Well
☐ Yes	5N	46E	19			NW	SE	TETON	GROUND WATER	Tank Well
☐ Yes	5N	46E	20			NE	SW	TETON	GROUND WATER	Teton Creek Well
☐ Yes										
☐ Yes										
☐ Yes										

Description of place of use (POU):

- a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.
b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below.

TWP	RGE	SEC	NE				NW				SW				SE				TOTALS
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

City of Driggs Service Area

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.

All Wells have submersible pumps & Motors. Photos of Diversion System & City of Driggs Service Area See "Attachment C-D-F"			
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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) **(See "Attachment C-D-F")**
☒ Photo of diversion and system attached

4. **See "Attachment C-D-F"**

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size

*Code to correspond with no. on map and aerial photo

D. FLOW MEASUREMENTS

See "Attachment C-D-F"

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements: _____

Total Diversion Rate Measured = 4314.5 gpm = 10.73 cfs

E. NARRATIVE/REMARKS/COMMENTS

Seven interconnected wells to the City of Driggs Municipal System. Each well has a totalizing meter that records instantaneous flow in gallons/minute and total gallons pumped. This permit is for 694 homes and volume calculations are based on 1.2 afa/home as per James Cefalo Eastern Region of IDWR.

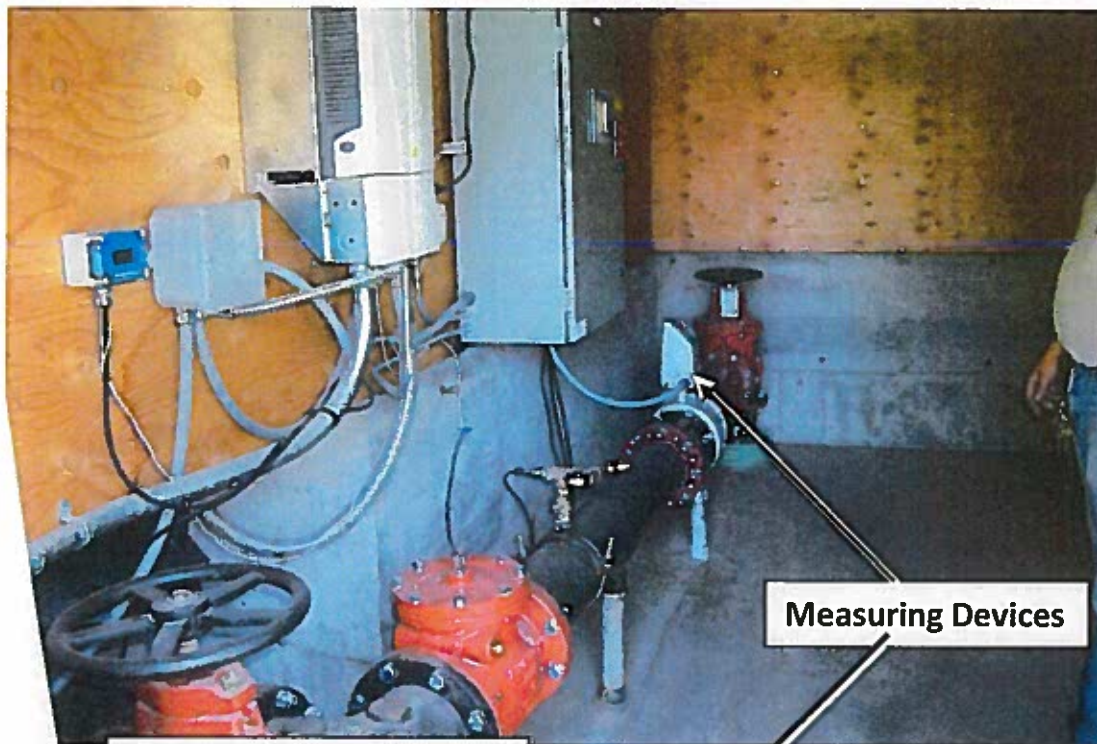
See Attachment E for more comments.

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?

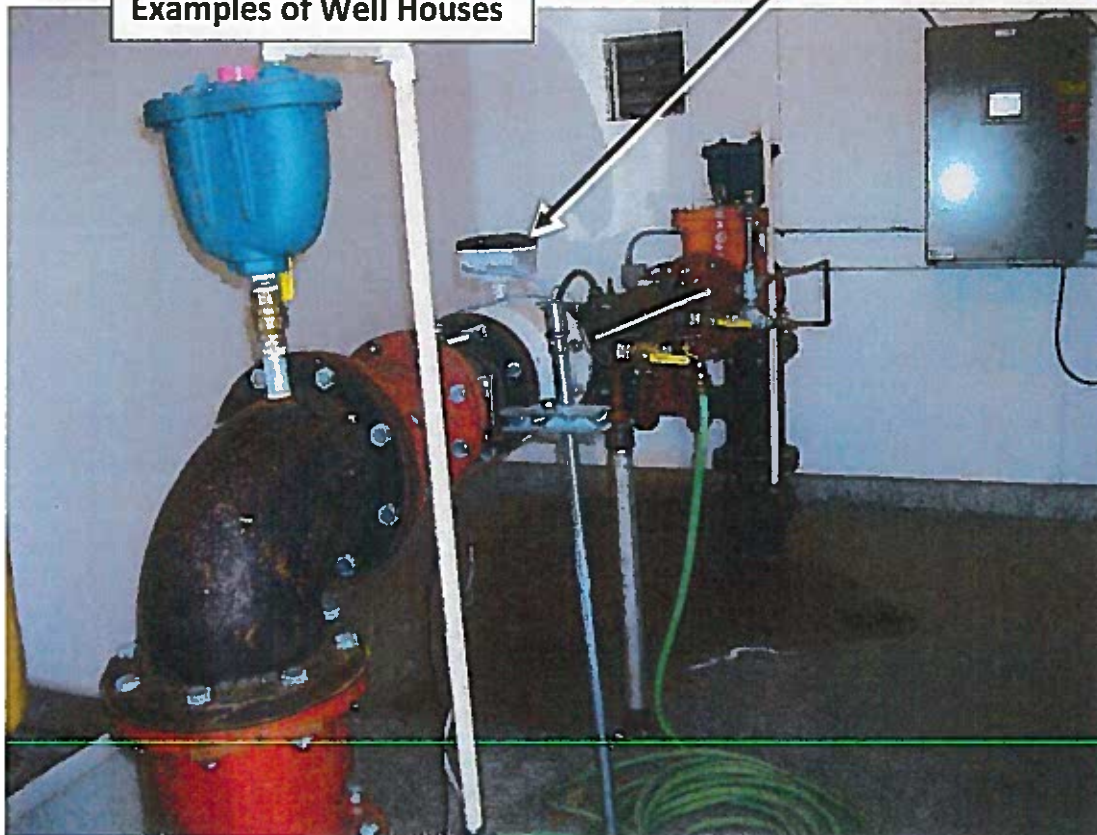
All conditions have been met in full except for Condition #190, requiring reports on diversions during the development period. This permit was amended to include the City's municipal system & the amendment was approved by IDWR on Oct. 7, 2011. Condition #190 was added with the amendment approval. It should be noted that Proof of Beneficial Use was still required to be on or before Jan. 1, 2012, allowing a development period of 85 days to comply with the new condition. The City diligently installed new meters where they were required to ensure that they could monitor their diversion. However, the City did not anticipate all of the requirements under this condition, & did not begin recording instantaneous & daily diversions prior to the amendment approval. Any measurements taken between Oct. 7, 2011 and Jan. 1, 2012 would not have demonstrated peak diversion rates due to the reduced winter flows.

The City of Driggs has been working on improving their municipal system & updating their measuring capabilities, & the data requested by Condition #190 has not been available in full for the development period. (See Attachment E)

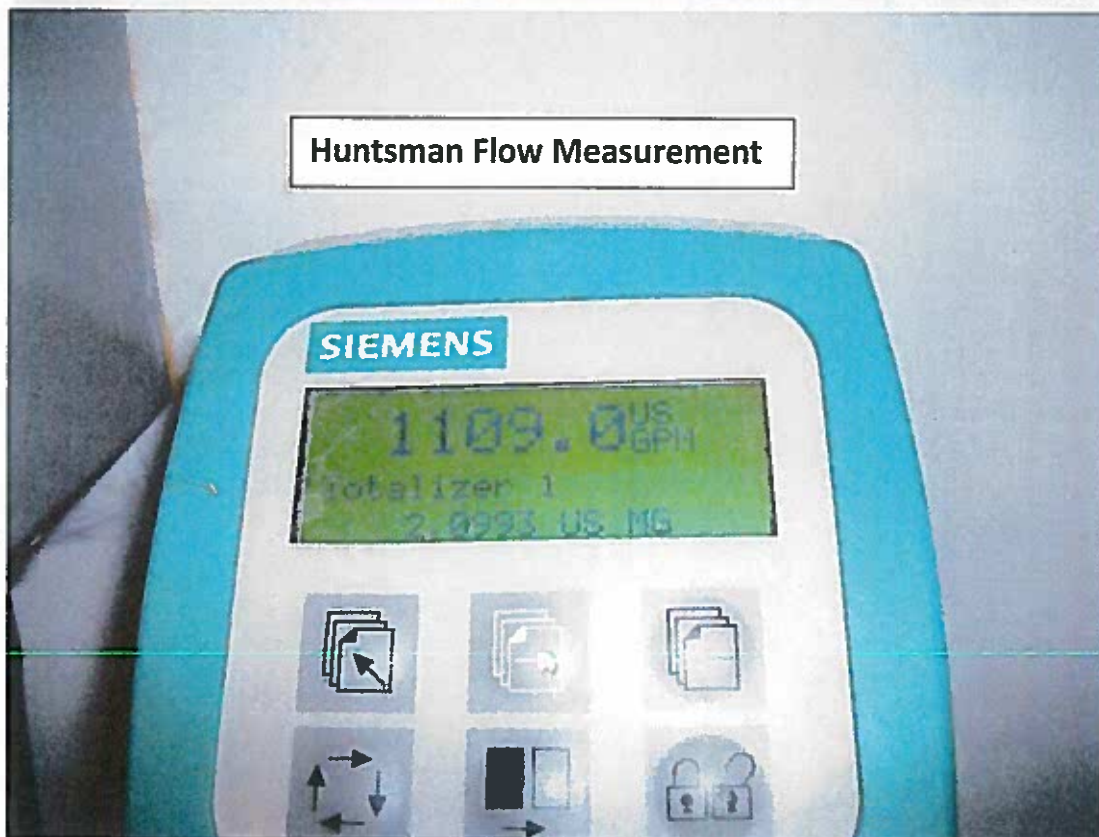
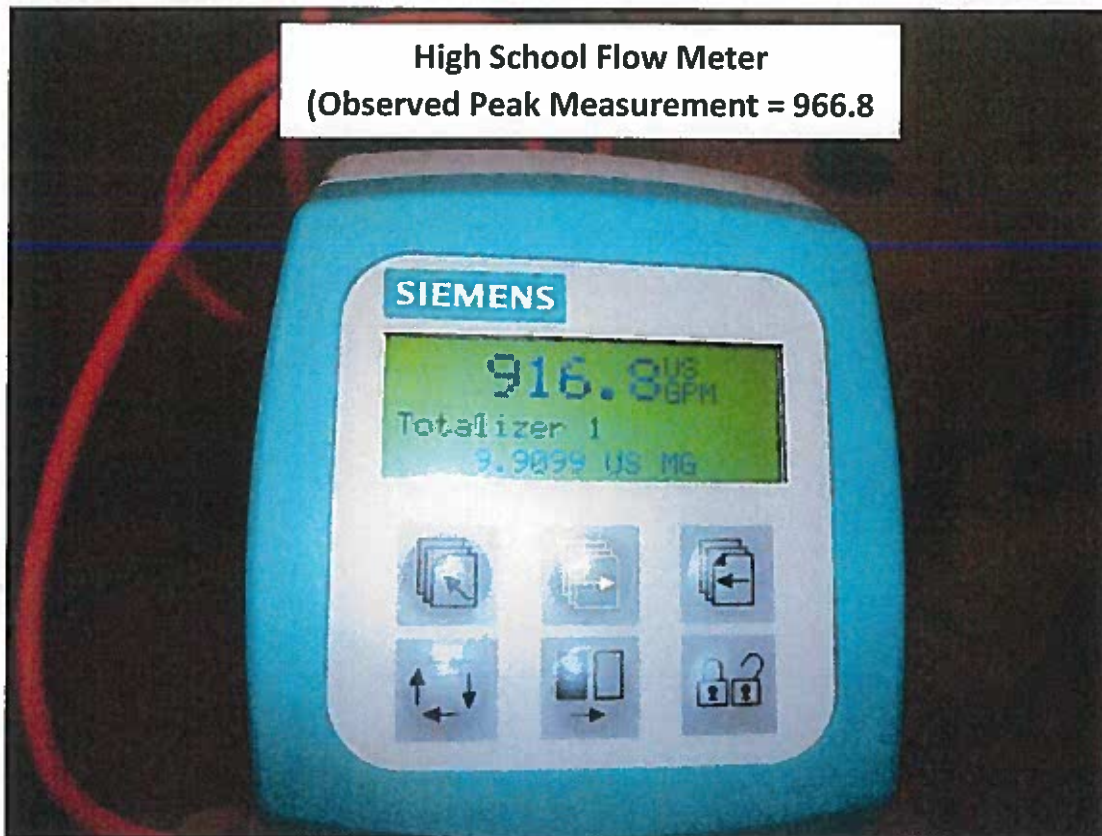
Item # C.3.



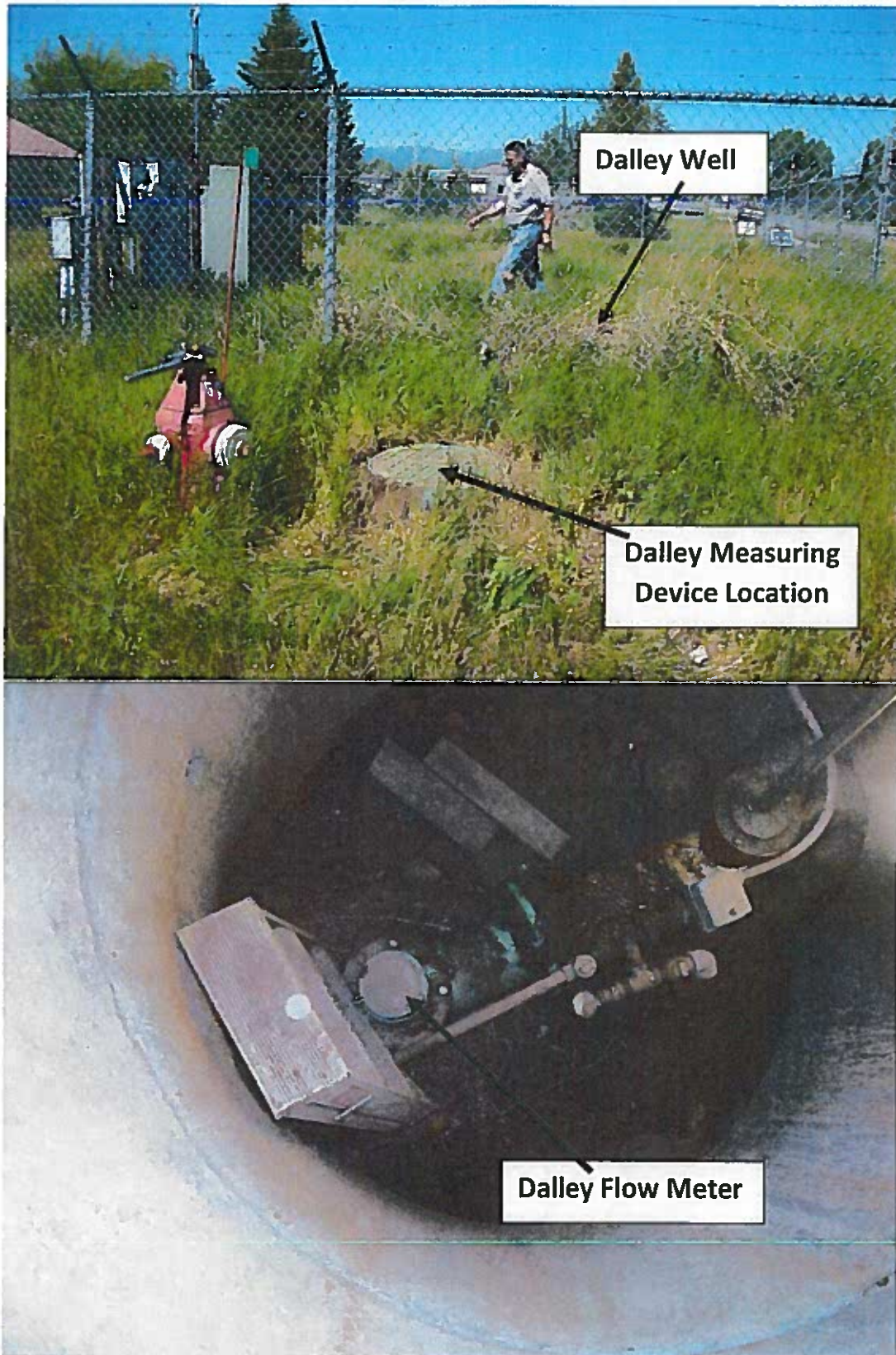
Examples of Well Houses



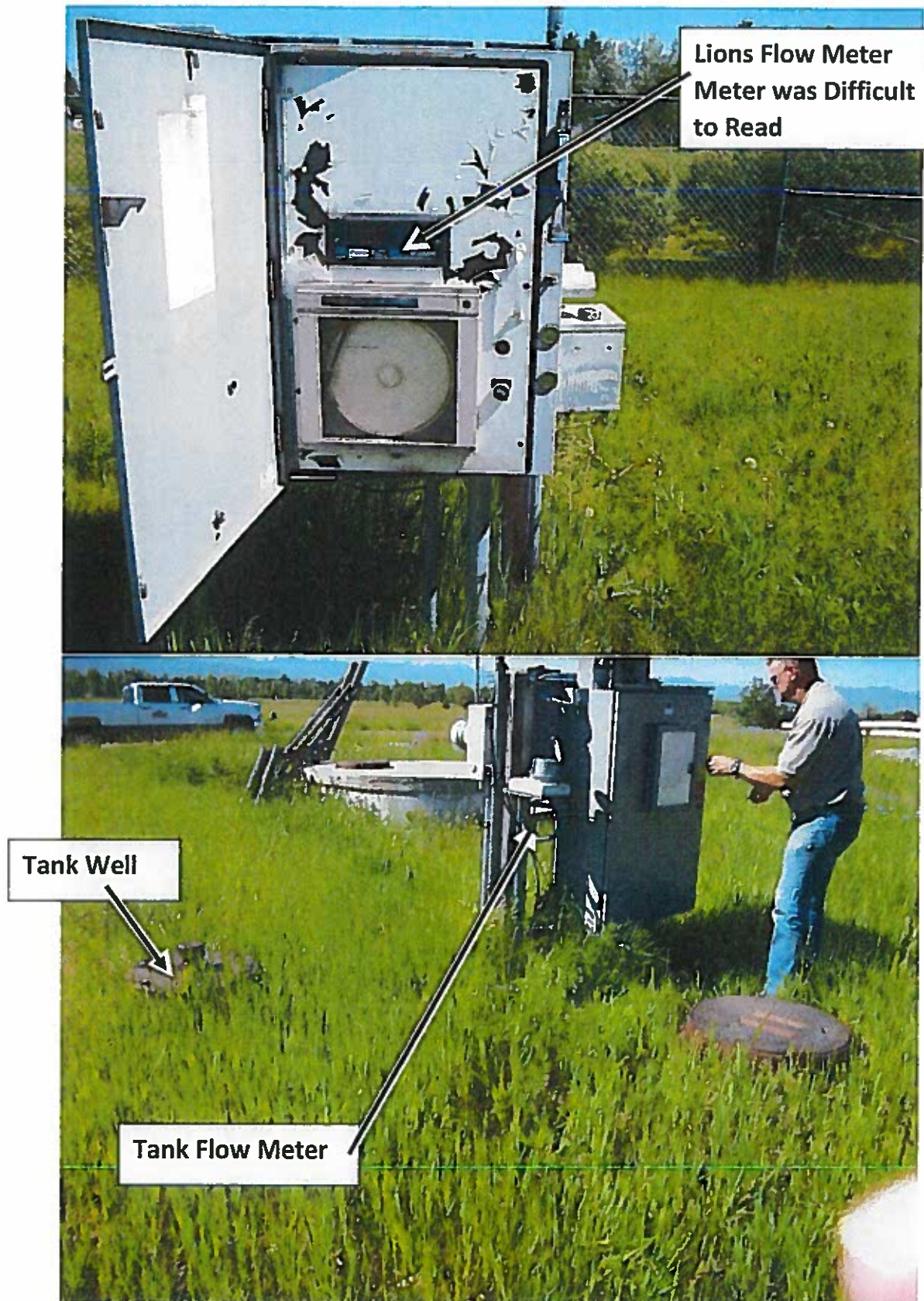
Item # C.3.



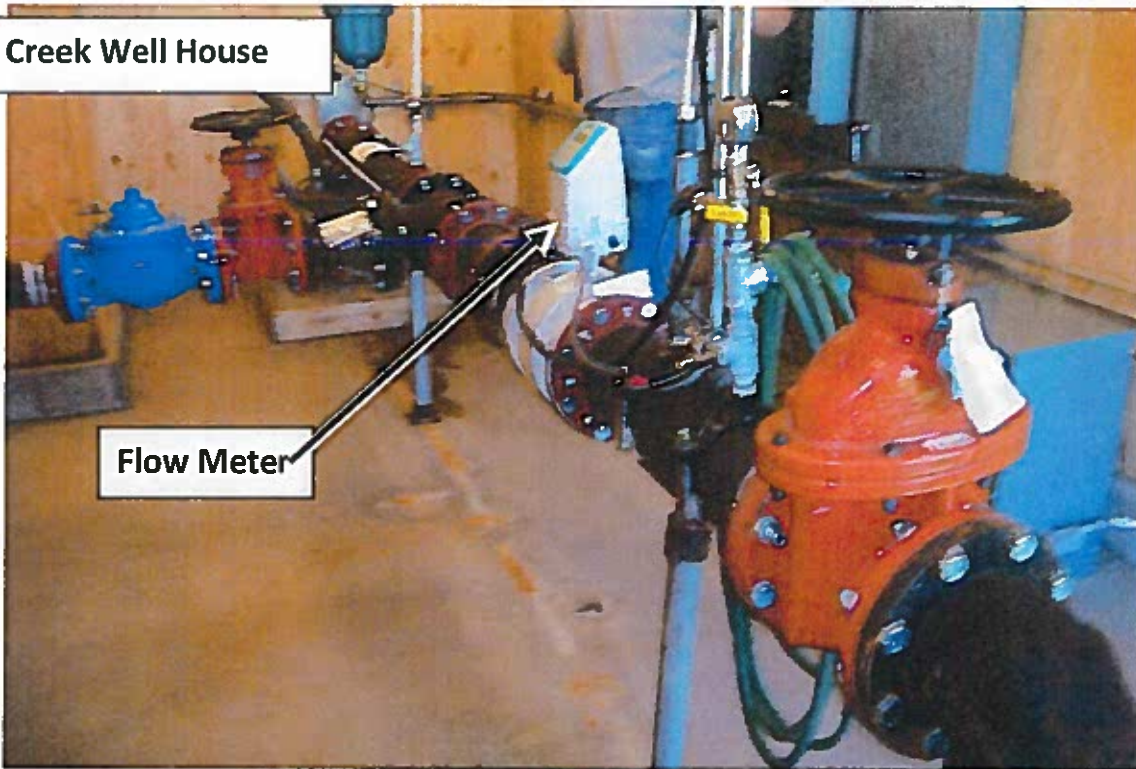
Item # C.3.



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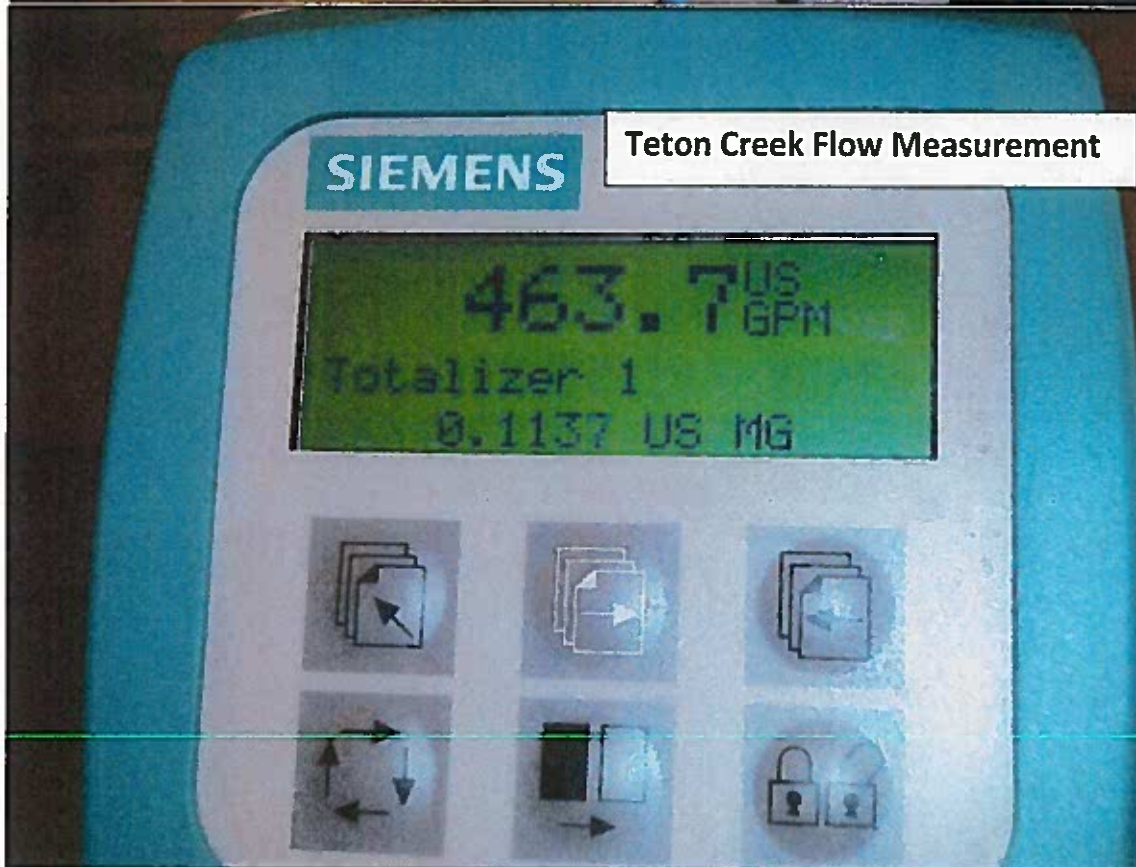


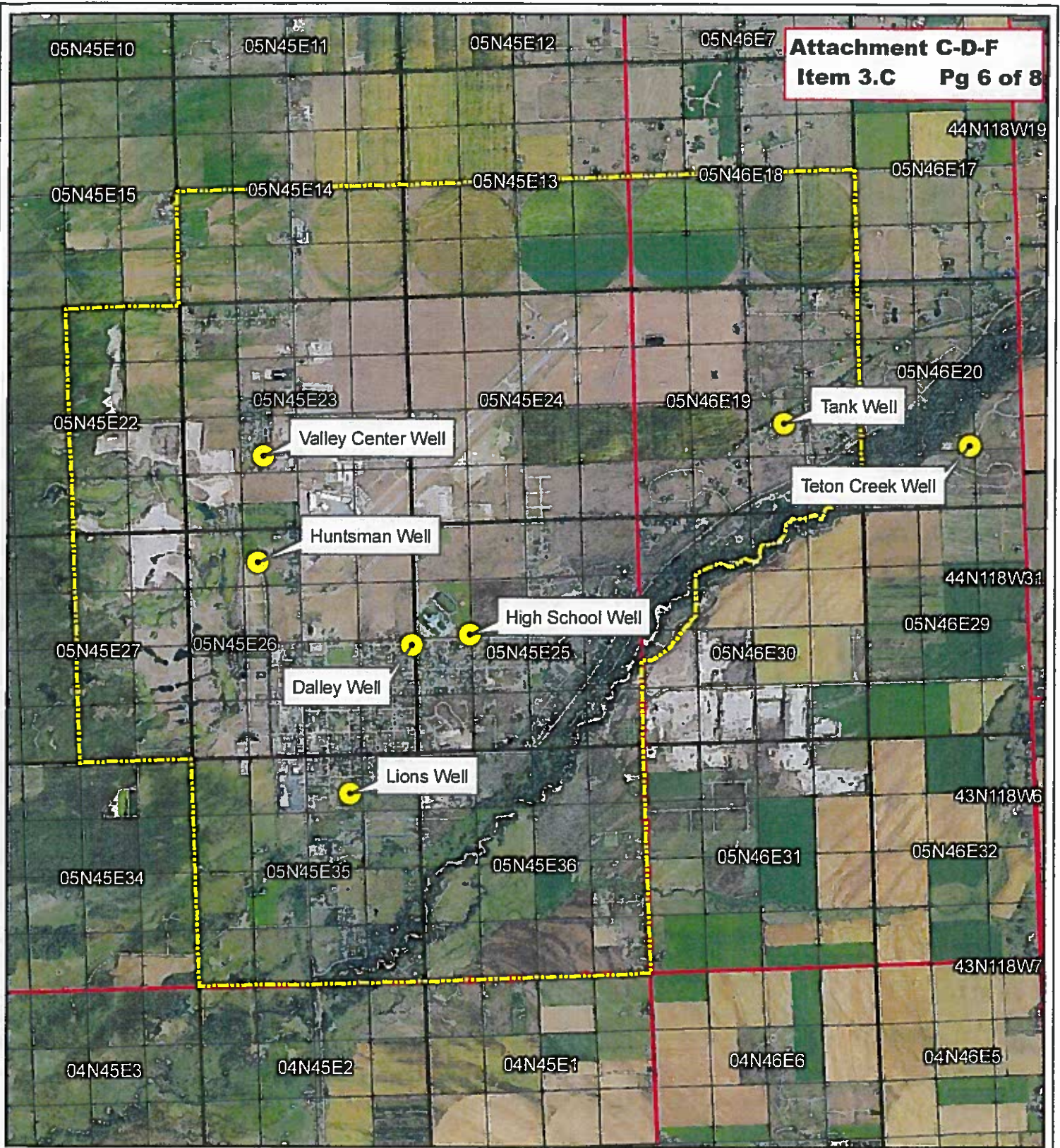
Teton Creek Well House



Flow Meter

Teton Creek Flow Measurement



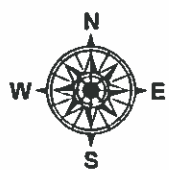


0 0.5 1 2 Miles

2015 Aerial Photography

Legend

- Well Locations
- Service Area
- Twp & Rng
- Section
- QQ



Pg. 6 of 6

Driggs Field Examination

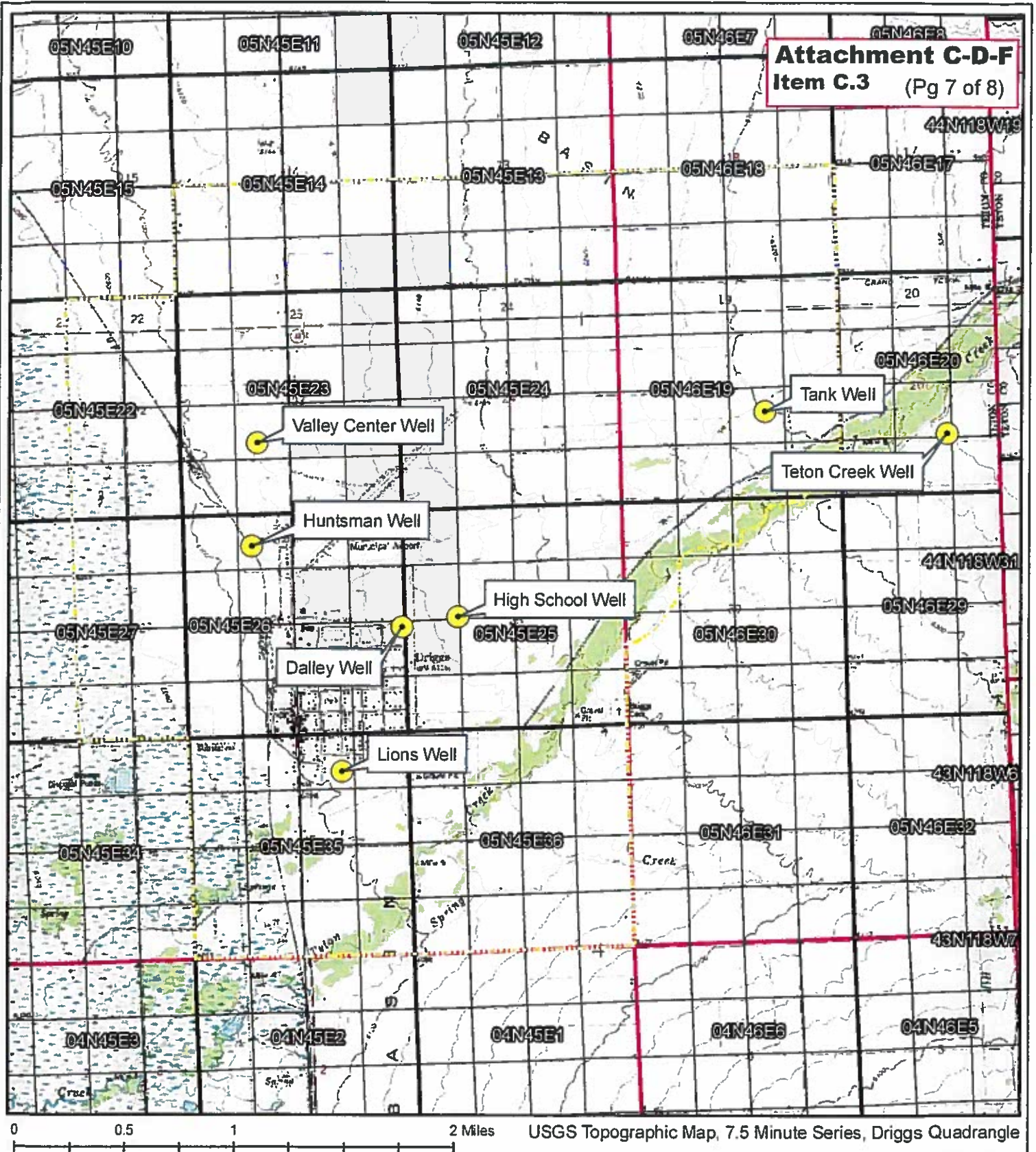
Water Right # 22-13589

RMEA # 08-0042

by: KM

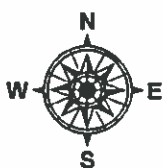
6/15/2016





Legend

-  Well Locations
 Service Area
 Twp & Rng
 Section
 QQ



Driggs Field Examination

Water Right # 22-13589

RMEA # 08-0042

by: KM

6/15/2016



City of Driggs Field Examination Right No. 22-13589

Attachment C-D-F

Item # C.4.							
Well Identification	GPS Coordinates	Motor Make	Hp	Motor Serial No.	Pump Make	Pump S/N or Discharge Size	Well Site Abbreviations
Dalley Well (22-2132)	43°43.795 111°06.076	Franklin	60	Submersible	Franklin	8"	Dalley = DW
Tank Well (22-7529)	43°55.595 111°04.063	Franklin	65	Submersible	Franklin	8"	Tank = TW
Lions Well (22-7698)	43°43.232 111°06.430	Franklin	65	Submersible	Franklin	8"	Lions Park = LP
Teton Creek Well (22-7786)	43°44.485 111°03.082	Goulds	60	Submersible	Goulds	8"	Teton Creek = TC
High School (22-7790)	43°43.827 111°05.770	Goulds	75	Submersible	Goulds	8"	High School = HS
Valley Center (22-7814)	43°44.539 111°06.839	Franklin	60	Submersible	Franklin	8"	Valley Center = VC
Huntsman (22-13589)	43°44.131 111°06.886	Franklin	100	Submersible	Franklin	8"	Huntsman = HM

Item D.1. & D.2 & F						MAX Measured Flow	
Well Identification	Measurement Equipment	Type	Make	Model # / Serial #	Size	GPM	CFS
Dalley Well (22-2132)	Water Specialties	Totalizing Propeller	Water Specialties	Unknown	6"	500.0	1.11
Tank Well (22-7529)	McCrometer	Totalizing Propeller	McCrometer	Unknown	8"	600.0	1.34
Lions Well (22-7698)	Sensus 1000D-ap396118c	Totalizing Electromagnetic	Sensus 1000D-ap396118c	1000D-ap 396118c	8"	670.0	1.49
Teton Creek (22-7786)	Siemens MAG5000	Totalizing Electromagnetic	Siemens MAG5000	MAG5000	8"	463.7	1.03
High School (22-7790)	Siemens MAG5000	Totalizing Electromagnetic	Siemens MAG5000	MAG5000	8"	966.8 *	2.15
Valley Center (22-7814)	Siemens MAG5000	Totalizing Electromagnetic	Siemens MAG5000	MAG5000	8"	505.0	1.13
Huntsman (22-13589)	Siemens MAG5000	Totalizing Electromagnetic	Siemens MAG5000	MAG5000	8"	1109.0	2.47

Current Water Rights Excluding this Permit			Total System Capacity in Gal/Min =	4314.5 gpm
			Total System Capacity in ft ³ /sec =	10.73 cfs

Water Right #	Well Site	Diversion Rate
(22-2132)	Dalley Well	1.11 cfs
(22-7529)	Tank Well	0.77 cfs
(22-7698)	Lions Well	1.34 cfs
(22-7786)	Teton Creek	0.47 cfs
(22-7790)	High School	1.84 cfs
(22-7814)	Valley Center	2.00 cfs
Decree or Licensed Rights =		7.53 cfs

$$\begin{array}{rcl}
 10.73 \text{ cfs} & \text{Measured} & \\
 - 7.53 \text{ cfs} & \text{Licensed/Decreed} & \\
 \hline
 3.20 \text{ cfs} & &
 \end{array}$$

*Photo on Pg 2 of 5 of Attachment B.3 does not reflect observed peak measurement.

E. Narrative/Remarks/Comments:

A requirement of this permit is to describe and explain how this permit provides an additional increment of beneficial use as opposed to an alternate point of diversion. "Attachment C-D-F" is a record that compares the existing total Decreed/Licensed Ground Water Diversion Rate of 7.53 cfs to the total measured ground water diversion rate of 10.73 cfs, an increase of 3.20 cfs. The permit is for an additional increment of beneficial use of 1.10 cfs.

It should be noted that the City's water supply portfolio includes water rights from a spring source located in Alta, Wyoming. The spring is their primary resource choice of water when the water right is available. However, the City does not desire to solely depend on the spring source since it is junior in priority and subject to delivery calls. Therefore, it is imperative the City also be able to independently deliver their water needs solely from their ground water rights when necessary.

In conducting the field exam, and discussing past deliveries with Jared Gunderson, Public Works Director for the City of Driggs, it became apparent that their diversion records are incomplete. Even though they measure instantaneous delivery and keep records of monthly volumes, some measurements inadvertently had errors that resulted in incorrect or incomplete records on some of the city's wells; including the Dalley, Tank (300K), and Lions Park wells.

Water flow data provided from the SCADA (Supervisory Control and Data Acquisition) system was discovered to have been recording in incorrect or unknown units of measure. Although the SCADA system did not provide specific flow measurements, it did indicate which wells were diverting on a given day. Mr. Gunderson supplied peak diversion rates for the date July 27, 2016 that appear to be reliable and accurate. They are:

Spring =	1,339.0 gpm
Huntsman =	953.5 gpm
High School =	<u>927.83 gpm</u>
	3,220.33 gpm = 7.18 cfs

The spring was included in this measurement but if it otherwise would not have been available, that water would have been diverted from city wells. These three diversions together provided 7.18 cfs on a peak-demand day. The other wells that are shown to have been running that day, according to Figure 1, include the Tank (300K) and Lions Park (LP) wells. These wells can provide approximately 2.83 cfs of additional rate, based on the capacity measured during the field examination (i.e. $7.18 + 2.83 = 10.01$ cfs). If all of the water were to be diverted from the city's ground water supply wells, then it would almost fill the 10.73 cfs capacity of the ground water system. Therefore, the exam provides evidence of flows sufficient to show beneficial use of this permit.

 Tank Well Water Daily Flows 								
Date	300K	HM	HS	LP	TC	VC	SPRG	SPRG_Sys
Jul 22, 2016	3.8	75.3	647.5	0.6	0	0	93.6	71.2
Jul 23, 2016	3.8	72.9	717.2	0.3	0	0	93.2	77.4
Jul 24, 2016	3.8	74.5	701.9	0.4	0	0	92.5	71.8
Jul 25, 2016	3.8	72.1	713	0.5	0	0	92.5	71.9
Jul 26, 2016	3.8	74.6	760.7	0.5	0	0	92.5	69.7
Jul 27, 2016	3.8	81.7	713.4	0.4	0	0	92.3	85.5
Jul 28, 2016	3.8	77.8	775.1	0.4	0	0	91.7	78.4
Jul 29, 2016	3.8	83.9	737.1	0.5	0	0	91	80.7
Jul 30, 2016	3.8	80.9	665.7	0.4	0	0	88.7	76.7
Total:	102.6 kG	2121.7 kG	18257.5	7.8 kG	1.1 kG	7 kG	2872.3 kG	2261.4 kG
Daily Ave	3.42 kG	70.72 kG	kG	0.26 kG	0.04 kG	0.23 kG	95.74 kG	75.38 kG
Daily Max:	3.8 kG	83.9 kG	608.58 kG	1.6 kG	1.1	7 kG	99.9 kG	86.8 kG
			775.1 kG					

Figure 1 SCADA System Data



