

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 47-8406

Exam Date: 8/19/04

1. Current Owner: CITY OF TWIN FALLS
PO BOX 1907
TWIN FALLS ID 83301-1907
(208)735-7240
2. Accompanied by: Mike Schroeder
Phone No: 736-2274 – Office, 308-7248 - cell
Address:
Relationship to Permit Holder: City of Twin Falls Water Department Supervisor

3. **SOURCE** **TRIBUTARY**
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: Numerous Groundwater rights – (36-2603A, 36-2646, 47-2361, 47-2373, 47-11815, 47-11817) Permits: 47-8389A, 47-8406 and 47-8410
2. Other water rights with the same point of diversion: None at present but there is discussion about amendment of 47-8406 that may include this well or transfer of all groundwater rights to associate this well with them.

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

GROUND WATER	NE1/4SE1/4SE1/4	Sec. 14, Twp 10S, Rge 17E, B.M.
TWIN FALLS County		
GROUND WATER	NE1/4SE1/4SE1/4	Sec. 14, Twp 10S, Rge 17E, B.M.
TWIN FALLS County		

Method of Determination: GPS and Maps

Well #1 GPS coordinates of point outside of pump house 12' west of building was 2465322 easting 1261230 northing in the IDTM NAD 83 projection. Pump is located inside a building east of Storage Tank. Well tagged by DEQ E0007835. Building contains booster pumps for distribution from storage tank.

Well #2 GPS coordinates of point outside of pump house 10' north of building was 2465378 easting 1261358 northing in the IDTM NAD 83 projection. Pump is located inside a building northeast of Well #1. Well tagged by DEQ E0007836.

2. PLACE OF USE

Place of Use is within the service area of the City of Twin Falls delivery system.

Method of Determination:

3. _____ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- ___x___ 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).
- ___x___ Photo of Diversion and System Attached

4.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Size</u>
Well #1	GE Motor	75	OPG085244	Ingersoll-Dresser	12 NKL 39TG

Pump Serial No. or Discharge

LP 99112

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Size</u>
Well #2	US Motor	40	B11-S3314-M02	NO PLATE	

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

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
<u>Well #1</u>						

Dept Polysonic Meter used (See Attached Printout)

Also used the installed Data Industrial Model 2100 flow meter

2. Measurements: (See attached Sheets)

Polysonic reading ranged from 869 gpm to 932 gpm during 10 minute test >>>> 1.94 cfs to 2.08 cfs

Using the totalizer over 10 minutes found >>>> 2.01 cfs

Installed meter tested over 10.11 minutes yielded 2.20 cfs

Well #2

Dept Fugi Meter (NO Printout)

Also used the installed Data Industrial flow meter

2. Measurements: (See attached Sheets)

Fugi reading 5 minute test >>>> 0.86 cfs

Installed meter tested over 10 minutes yielded 0.89 cfs

Additional Data

On 12/1/04 Lance Bates with the city brought in a book of 2 years worth of pump data from Wells 1, 2, 3 and 4. It is noted that the capacities of the wells fluctuate during the year and is most probably dependant and associated with when water is flowing in the TFCC system. Review of the data also shows that the wells are not continuously ran and are cycled in some cases daily to meet peak demand. It is also noted that the capacities of wells 1 and 2 drop off dramatically once turned on. My estimate of the reasonably peak capacity is as follows....

Well #1 1025 gpm or 2.28 cfs

Well #2 385 gpm or 0.86 cfs

Well #3 1715 gpm or 3.82 cfs

Well #4 2975 gpm or 6.69 cfs

Recommend limit for permit for Well #1 & Well #2
(2.28 + 0.86)

>>>>>>>>>>> 3.14 cfs

***** Note that if an amendment of this permit is sought and ultimately approved then the licensed rate could increase to include the capacity of well #4 that is not licensed under 47-8410. Approval of any amendment of this permit is contingent on resolution or buy-in by the protestants to 47-8389. Attached are two draft licenses ...one based on 3.14 cfs and the other based on including well #4.

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method:

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

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

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

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

2. Volume Calculations for Other Uses:

None calculated for Municipal Use

G. NARRATIVE/REMARKS/COMMENTS

The field exam was conducted on 8/19/04. Corbin Knowles assisted. We met Mike Schroeder with the city water department and other city employees during the exam. We tested well no.3 covered under permit 47-8389, well no. 4 covered under permit 47-8410 and Eastland well no. 1 and Eastland well no. 2 covered under permit 47-8406. All wells tested are tied into a common distribution system that includes other wells in Basin 47 and water diverted from the Blue Lakes Springs well pumping plant in Basin 36. The system includes covered storage tanks near well no. 3, a covered storage tank near the Eastland well no. 1, and a storage tank on Falls Avenue near the College of Southern Idaho. The diverted under the permits being examined listed above is used for municipal purposes for the City of Twin Falls and the surrounding service area.

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>
MUNICIPAL	01/01 to 12/31	3.140 CFS	
<u>Totals:</u>		3.140 CFS	

*** Note that if an amendment of this permit is sought and ultimately approved then the licensed rate could increase to include the capacity of well #4 that is not licensed under 47-8410. Approval of any amendment of this permit is contingent on resolution or buy-in by the protestants to 47-8389.

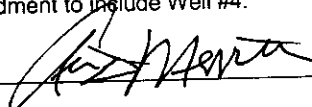
2. Recommended Amendments

☐x 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 ☐Other

***See note about potential amendment to include Well #4.

I. AUTHENTICATION

Field Examiner's Name  Date 12/15/04

Reviewer _____ Date _____

IDAHO DEPARTMENT OF WATER RESOURCES
Water Measurement Program

WATER MEASURING DEVICE CERTIFICATION

(Revised 7/2002)

District N/A

Diversion Name EASTLAND #2

Inventory Date _____

Inventory Examiner _____

PCC o.k.? ☐ Yes ☐ No

Test Date 8-19-04

Person performing test A. Merritt & C. Kunkle

Exam complete? ☒ Yes ☐ No

Name: City of Twin Falls
 Water Right No.: 47-8406
 Legal Description: T 10S R 17E Sec. 14 NE 1/4 SE 1/4 SE 1/4
 Site Tag No.: E0007636
 Diversion Name: EASTLAND well #2

Current Owner

Name _____

Phone _____

Address _____

Cell _____

City _____ St _____ Zip _____

E-mail _____

Operator (if leased or operated by person other than owner)

Name _____

Phone _____

Address _____

Cell _____

City _____ St _____ Zip _____

E-mail _____

SECTION 1 – Well Site Identification

Global Positioning System Data:

Data Collection Filename _____ Offset _____

IDWR Site Tag Identification No. _____

Site Tag Location description: _____

PLS/USGS LOCATOR _____

For Department/District Use Only

Received by _____ Date _____

Reviewed by _____ Date _____

Data Entry By _____ Date _____

SECTION II – Installed Meter Information

METER AND MOUNTING PIPE INFORMATION			
Motor HP	40	Volume units	Acre-Feet <u>Gallons</u> Other (specify) _____
Meter Install Date		Volume multiplier	$\times 1$
Manufacturer		Installation location	☒ Excel ☐ Fair ☐ Good ☐ Poor
Meter Type		Pipe material	Ductile
Meter Model		Outside diameter	
Serial Number		Wall thickness	
Size (nominal)		Inside diameter	
Measure Flow Rate?	☒ Yes ☐ No	Amount of straight pipe upstream from meter	_____ Inches _____ Pipe Lengths
Measurement Units	☐ CFS ☒ GPM Other (specify) _____	Amount of straight pipe downstream from meter	_____ Inches _____ Pipe Lengths
Flow Rate Multiplier	$\times 1$	Standard Meter Type	☒ Sonic ☐ Pyg ☐ Collins ☐ Hall ☐ Anub ☐ Dye/chem ☐ Other _____
Measure Cumulative Volume?	☒ Yes ☐ No	Standard Meter Confidence	☐ Excellent 2% ☒ Good 5% ☐ Fair 10% ☐ Poor > 10%

Multiple Flowmeters

Are multiple flowmeters used to measure diversions from this well? ☐ Yes ☐ No

If yes, how many? _____

(Attach separate form for each meter checked and/or calibrated.)

Multiple Wells

If this meter measures diversions from multiple wells, list names and locations of other wells:

SECTION III – Certification for Calibration of a Water Measurement Meter

Measurement No. 1 (M_1) is the measured rate of flow from the permanently installed flow meter.

Measurement No. 2 (M_2) is the measured rate of flow from the measuring device being used to check the flow for the calibration. This method or device must be accurate to within $\pm 5\%$ error. Describe below the method and equipment used to perform this measurement.

$$\text{Percent Difference} = (M_1 - M_2) \div M_2 \times 100 = \pm \% \quad (\text{Acceptable is within } \pm 10\%) \quad (\text{equation 1})$$

$$\text{Calibration Multiplier} = M_2 \div M_1 \quad (\text{equation 2})$$

Is flowmeter installed according to manufacturer's specifications? ☐ Yes ☐ No ☐ Unsure

Describe any apparent problems with installation or operation _____

Flowmeter accuracy prior to any adjustments: _____ Totalizer reading _____

Flowmeter accuracy after final adjustment: _____ Totalizer reading _____

Flowmeter calibration multiplier: _____

FLOWMETER ACCURACY CALIBRATION TABLE							
Installed meter (totalizer reading)	Time	Total Gallons	Average Flow Rate GPM (M_1)	Standard total gallons	Average Flow Rate GPM (M_2)	% diff. ($\pm$)	Comments and adjustments
76740292	START	3985	398.5	3870	387.0	+2.98%	
76744277	10.0 min						

Notes – Comments – Calculations: Used FWSI on this measurement due to turbulence or air problem in the water, only got about a 4-5 min run before meter quit reading.

WATER LEVEL DATA	
Does the well have access to measure water levels? ~ Yes ~ No (check one)	
Is this well part of USGS, IDWR, or another network of water level monitoring wells? ~ Yes ~ No (check one)	
Static Water Level _____ ft Date _____	Pumping Water Level _____ ft (at condition _____) Date _____

Sketch and/or photograph of installation:

I certify that the above information is true and correct to the best of my knowledge and ability and the measurements taken and recorded are in accordance with the standards and specifications of the equipment used.

Signature C. M. R. M. L. Date 8-18-04
(person performing measurements)

IDAHO DEPARTMENT OF WATER RESOURCES
Water Measurement Program

WATER MEASURING DEVICE CERTIFICATION

(Revised 7/2002)

District N/A

Diversion Name EASTLAND # 1

Inventory Date _____

Inventory Examiner _____

PCC o.k.? ☐ Yes ☐ No

Test Date 8-19-04

Person performing test A. Menitt & C. Knowles

Exam complete? ☒ Yes ☐ No

Name: City of Twin Falls
Water Right No.: _____
Legal Description: T 10S R 17E Sec. 14 1/4 SE 1/4 SE 1/4
Site Tag No.: EC0007835
Diversion Name: EASTLAND # 1

Current Owner

Name _____

Phone _____

Address _____

Cell _____

City _____ St _____ Zip _____

E-mail _____

Operator (if leased or operated by person other than owner)

Name _____

Phone _____

Address _____

Cell _____

City _____ St _____ Zip _____

E-mail _____

SECTION 1 – Well Site Identification

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PLS/USGS LOCATOR _____

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Reviewed by _____ Date _____

Data Entry By _____ Date _____

SECTION II – Installed Meter Information

METER AND MOUNTING PIPE INFORMATION			
Motor HP	75	Volume units	Acre-Feet <u>Gallons</u> Other (specify) _____
Meter Install Date		Volume multiplier	X1
Manufacturer	DATA Instruments	Installation location	☒ Excel ☐ Fair ☐ Good ☐ Poor
Meter Type	Impeller	Pipe material	Ductile
Meter Model		Outside diameter	11.07
Serial Number		Wall thickness	.455
Size (nominal)	10"	Inside diameter	
Measure Flow Rate?	☒ Yes ☐ No	Amount of straight pipe upstream from meter	_____ Inches _____ Pipe Lengths
Measurement Units	☐ CFS ☒ GPM Other (specify) _____	Amount of straight pipe downstream from meter	_____ Inches _____ Pipe Lengths
Flow Rate Multiplier	X1	Standard Meter Type	☒ Sonic ☐ Pyg ☐ Collins ☐ Hall ☐ Anub ☐ Dye/chem ☐ Other _____
Measure Cumulative Volume?	☒ Yes ☐ No	Standard Meter Confidence	☒ Excellent 2% ☐ Good 5% ☐ Fair 10% ☐ Poor > 10%

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Percent Difference = $(M_1 - M_2) \div M_2 \times 100 = \pm \%$ (Acceptable is within $\pm 10\%$) (equation 1)

Calibration Multiplier = $M_2 \div M_1$ (equation 2)

Is flowmeter installed according to manufacturer's specifications? ☐ Yes ☐ No ☐ Unsure

Describe any apparent problems with installation or operation _____

Flowmeter accuracy prior to any adjustments: _____ Totalizer reading _____

Flowmeter accuracy after final adjustment: _____ Totalizer reading _____

Flowmeter calibration multiplier: _____

FLOWMETER ACCURACY CALIBRATION TABLE							
Installed meter (totalizer reading)	Time	Total Gallons	Average Flow Rate GPM (M_1)	Standard total gallons	Average Flow Rate GPM (M_2)	% diff. ($\pm$)	Comments and adjustments
6194260000 ~~6194360000~~	START		909.12	9010	901.0	+9.78%	
6194360000	10.11min						

Notes – Comments – Calculations: _____

WATER LEVEL DATA	
Does the well have access to measure water levels? ~ Yes ~ No (<i>check one</i>)	
Is this well part of USGS, IDWR, or another network of water level monitoring wells? ~ Yes ~ No (<i>check one</i>)	
Static Water Level _____ ft Date _____	Pumping Water Level _____ ft (at condition _____) Date _____

Sketch and/or photograph of installation:

See Attached Print out from T&P Instrument

I certify that the above information is true and correct to the best of my knowledge and ability and the measurements taken and recorded are in accordance with the standards and specifications of the equipment used.

Signature *C. K. K.* Date *8-19-04*
(person performing measurements)

Eastland
Well #1

751P

OUTER DIAMETER
11.0799 IN

PIPE MATERIAL
? AL-DI

WALL THICKNESS
0.4551 IN

SPACING
8.713 IN U

08-19 14:5800 *R
+002.70 % AI2

0381.9 MMSEC
100.49 % T0

15:15+931.734E 0GPM 00R
+ 3.681E 0FPS 00R
+00000 *10 G 00R
-00000 *10 G 00R

15:16+928.564E 0GPM 00R
+ 3.667E 0FPS 00R
+00091 *10 G 00R
-00000 *10 G 00R

15:17+919.318E 0GPM 00R
+ 3.631E 0FPS 00R
+00182 *10 G 00R
-00000 *10 G 00R

15:18+890.259E 0GPM 00R
+ 3.517E 0FPS 00R
+00271 *10 G 00R
-00000 *10 G 00R

15:19+909.544E 0GPM 00R
+ 3.592E 0FPS 00R
+00362 *10 G 00R
-00000 *10 G 00R

15:20+871.239E 0GPM 00R
+ 3.441E 0FPS 00R
+00449 *10 G 00R
-00000 *10 G 00R

15:21+923.545E 0GPM 00R
+ 3.648E 0FPS 00R
+00540 *10 G 00R
-00000 *10 G 00R

15:22+868.597E 0GPM 00R
+ 3.431E 0FPS 00R
+00629 *10 G 00R
-00000 *10 G 00R

15:23+918.526E 0GPM 00R
+ 3.628E 0FPS 00R
+00721 *10 G 00R
-00000 *10 G 00R

15:24+889.467E 0GPM 00R
+ 3.513E 0FPS 00R
+00809 *10 G 00R
-00000 *10 G 00R

15:25+887.089E 0GPM 00R
+ 3.503E 0FPS 00R
+00901 *10 G 00R
-00000 *10 G 00R

901
gpm

Eastland
Well #1

751P

OUTER DIAMETER
11.0799 IN

PIPE MATERIAL
? AL-DI

WALL THICKNESS
0.4551 IN

SPACING
8.713 IN U

08-19 14:5800 *R
+002.70 % AI2

0381.9 MMSEC
100.49 % T0

15:15+931.734E 0GPM 00R
+ 3.681E 0FPS 00R
+00000 *10 G 00R
-00000 *10 G 00R

15:16+928.564E 0GPM 00R
+ 3.667E 0FPS 00R
+00091 *10 G 00R
-00000 *10 G 00R

15:17+919.318E 0GPM 00R
+ 3.631E 0FPS 00R
+00182 *10 G 00R
-00000 *10 G 00R

15:18+890.259E 0GPM 00R
+ 3.517E 0FPS 00R
+00271 *10 G 00R
-00000 *10 G 00R

15:19+909.544E 0GPM 00R
+ 3.592E 0FPS 00R
+00362 *10 G 00R
-00000 *10 G 00R

15:20+871.239E 0GPM 00R
+ 3.441E 0FPS 00R
+00449 *10 G 00R
-00000 *10 G 00R

15:21+923.545E 0GPM 00R
+ 3.648E 0FPS 00R
+00540 *10 G 00R
-00000 *10 G 00R

15:22+868.597E 0GPM 00R
+ 3.431E 0FPS 00R
+00629 *10 G 00R
-00000 *10 G 00R

15:23+918.526E 0GPM 00R
+ 3.628E 0FPS 00R
+00721 *10 G 00R
-00000 *10 G 00R

15:24+889.467E 0GPM 00R
+ 3.513E 0FPS 00R
+00809 *10 G 00R
-00000 *10 G 00R

15:25+887.089E 0GPM 00R
+ 3.503E 0FPS 00R
+00901 *10 G 00R
-00000 *10 G 00R

901
gpm

Field Exam 47-8406
City of Twin Falls
8/19/04

Well house for
Eastland Well #1
with storage tank in
back (behind
berm). Viewed
from Eastland Well
#2 looking
southwest.



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City of Twin Falls
8/19/04

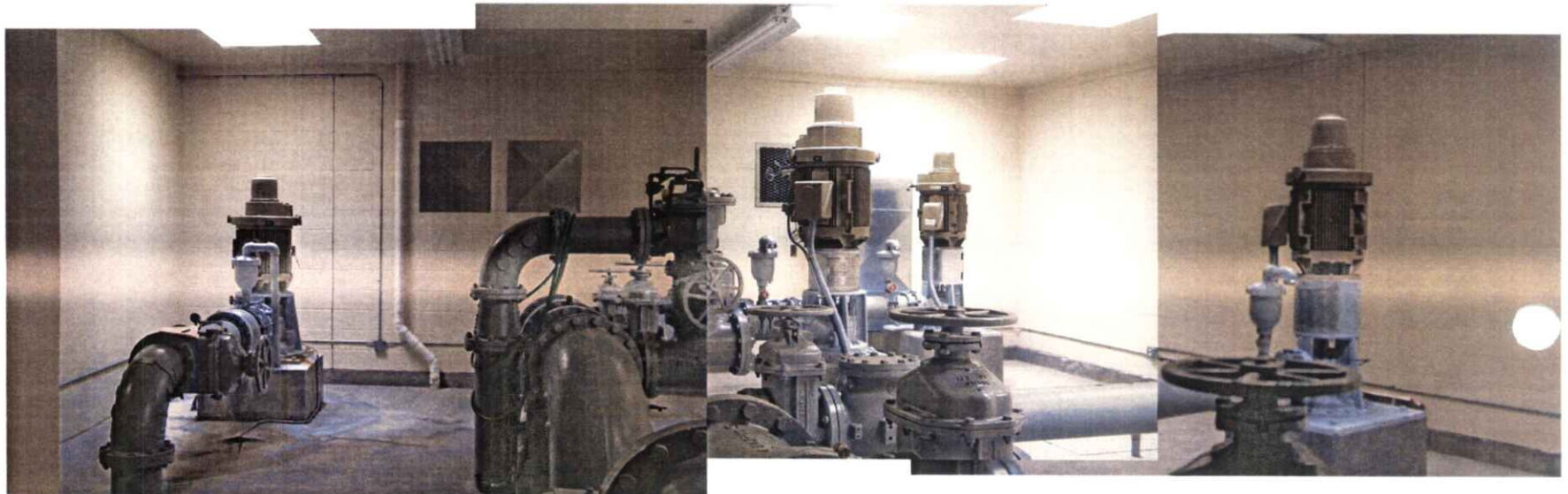
View inside Eastland Well#1 house with well & pump far left with booster pumps at right.

Motor

General Electric 75HP
Serial No. OPG085244
Volts 230/460
Amps 173.8/ 86.9
RPM 1785

Pump

Ingersoll-Dresser
Serial No. LP 99112
Model 12 NKL 39TG



Field Exam 47-8406
City of Twin Falls
8/19/04

Eastland Well #2 Building



Eastland Well #2 inside building.

Motor

US Motors 40 HP
ID# B11-53314-M02
Volts 230/460
Amps 90/45
RPM 180-1800

Pump

No Plate



Field Exam 47-8406



1320

0

1320

2640

Section 14, T10S, R17E, B.M.

ADM
8/19/04

Field Exam

47-8389A, 47-8406, and 47-8410

City of Twin Falls Service Area

