

IDAHO DEPARTMENT OF WATER RESOURCES  
Water Measurement Program

## POWER CONSUMPTION COEFFICIENT WORKSHEET

(Revised 6/2006)

District WD11  
 Diversion Name Paul Keetch - Canal Pump  
 Inventory Date 6/13/07 Test Date 6/13/07  
 Inventory Examiner \_\_\_\_\_ Person performing test C Knowles  
 PCC o.k.? ☐ Yes ☒ No Exam complete? ☐ Yes ☐ No

Name:	_____
Water Right No.:	_____
Legal Description:	T _____ R _____ Sec. _____ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$
Site Tag No.:	_____
Diversion Name:	_____

### Current Owner

Name Paul Keetch Phone 847-0128  
 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 \_\_\_\_\_

### Global Positioning System Data:

Data Collection Filename N/A 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 \_\_\_\_\_

## Well Pump and Motor Information

60(1.15) = 66 hp.  
S.F. = 1.15 (Service Factor)  
before pump will burn out  
PCC W 4-02 out

Pump Data		Motor Data	
Manufacturer	Marathon.	Manufacturer	
Serial Number		Serial Number	
Model Number		Rated Horsepower	
Type	60hp	Rated Amps	
Impeller Diameter		Rated Volts	
Rated Speed		Rated Speed	
Rated Discharge		Phase	
Rated Head		Service Factor	

## Booster Pump and Motor Information

Pump Data		Motor Data	
Manufacturer		Manufacturer	
Serial Number		Serial Number	
Model Number		Rated Horsepower	
Type		Rated Amps	
Impeller Diameter		Rated Volts	
Rated Speed		Rated Speed	
Rated Discharge		Phase	
Rated Head		Service Factor	

## Power and Water Metering Information

Kilowatt-Hour Meter		Water Measurement Equipment and Pipe Information	
Utility	Pacificorp	Std. Meter Manufacturer	
Pole Number	264800	Std. Meter Model No.	
Meter Manufacturer	GE	Std. Meter Type (circle one)	Sonic Pyg Collins Hall Anub Dye/chem. Other
Meter Serial No.	21464351	Std. Meter Confidence (circle one)	Excl 2% Good 5% Fair 10% Poor >10%
Disc Constant (Kh)	21.6.	PSI gauge ID location = discharge head	District / Owner _____ Yes / No
Rated Voltage	480 V	Pipe Material	Steel.
Demand	49.603.	Pipe Outside Diameter	6.0
Multiplier (Mult)	1	Pipe Inside Diameter	5 3/4.
CTR (Current) PTR (Voltage)	✓	Distance of straight pipe upstream and down	Upstream _____ Downstream _____

**Determination of Power Consumption Coefficient**

$$39.14 \times 1.34 = BHP = 52.44$$

**Kilowatts of Energy Consumed**

Service Factor - SF = 1.15

$$KW = 3.6 \times Kh \times \text{Multiplier} \times \text{No. of revolutions (N)} \div \text{Time (T) in seconds per N}$$

Cond.#1 N = 18 (No. of Disc Rev) Time (sec) = (35.57) + (36.13) + (35.59) / 3 = 35.76 Ave

$$3.6 \times \underline{21.6} (Kh) \times \underline{1} (Mult) \times \underline{18} (N) \div \underline{35.76} (T) = * \underline{39.14} KW$$

Cond.#2 N = \_\_\_\_\_ (No. of Disc Rev) Time (sec) = (\_\_\_\_) + (\_\_\_\_) + (\_\_\_\_) / 3 = \_\_\_\_\_ Ave

$$3.6 \times \underline{\hspace{1cm}} (Kh) \times \underline{\hspace{1cm}} (Mult) \times \underline{\hspace{1cm}} (N) \div \underline{\hspace{1cm}} (T) = * \underline{\hspace{1cm}} KW$$

Cond.#3 N = \_\_\_\_\_ (No. of Disc Rev) Time (sec) = (\_\_\_\_) + (\_\_\_\_) + (\_\_\_\_) / 3 = \_\_\_\_\_ Ave

$$3.6 \times \underline{\hspace{1cm}} (Kh) \times \underline{\hspace{1cm}} (Mult) \times \underline{\hspace{1cm}} (N) \div \underline{\hspace{1cm}} (T) = * \underline{\hspace{1cm}} KW$$

**Measured Flow Rate and Discharge Pressure** – Enter flow rate as determined by the "standard" water measurement meter in GPM, and discharge pressure measured in PSI. Attach documentation to support data such as notes, printout tapes, etc.

GPM Cond. #1 \* 794 gpm #2 \* \_\_\_\_\_ #3 \* \_\_\_\_\_

PSI Cond. #1 \* \_\_\_\_\_ #2 \* \_\_\_\_\_ #3 \* \_\_\_\_\_

Preston - Wemp

**Power Consumption Coefficient (PCC) = KW × 5431 ÷ GPM**

$$PCC \text{ Cond \#1} = * \underline{39.14} (KW) \times 5431 \div * \underline{794} (gpm) = \underline{267.72} (kWh/ac.ft)$$

**Qualifier Condition 1: 1 2 3 4 5 6 7 8 9 Other**

Percent of seasonal use \* \_\_\_\_\_ Description \* \_\_\_\_\_

$$PCC \text{ Cond \#2} = * \underline{\hspace{1cm}} (KW) \times 5431 \div * \underline{\hspace{1cm}} (gpm) = \underline{\hspace{1cm}} (kWh/ac.ft)$$

**Qualifier Condition 2: 1 2 3 4 5 6 7 8 9 Other**

Percent of seasonal use \* \_\_\_\_\_ Description \* \_\_\_\_\_

$$PCC \text{ Cond \#3} = * \underline{\hspace{1cm}} (KW) \times 5431 \div * \underline{\hspace{1cm}} (gpm) = \underline{\hspace{1cm}} (kWh/ac.ft)$$

**Qualifier Condition 3: 1 2 3 4 5 6 7 8 9 Other**

Percent of seasonal use \* \_\_\_\_\_ Description \* \_\_\_\_\_

Is the system operator required to track and report changes in system operation? ~ Yes ~ No (check one)

System Type (circle all that apply): Pivot, linear / Wheel In / Hand In / Gated pipe, flood / Drip / Open Discharge

B20 ft = 1/4 mi

	Crop Type	Number of Acres
1	<u>Spring alfalfa</u>	<u>3/8</u>
2		
3		
4		
Total Acres =		

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 <u>network</u> of water level monitoring wells?    ~ Yes    ~ No ~ Uncertain	
Static Water Level _____ ft Date _____	Pumping Water Level _____ ft at condition # _____ ) Date _____

**Further describe system operating conditions (if necessary) and how percentage of seasonal use was obtained:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Sketch of pumping plan layout or photograph of pumping plant and piping:**

**Notes – Comments – Calculations:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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 \_\_\_\_\_ Date \_\_\_\_\_

(person performing measurements)

## PCC Qualifiers

- 1- Simple System with one operating condition, current valid PCC
- 2- Multiple operating conditions, all PCC measured and within 10%
- 3- Multiple Operating conditions, PCC's differ > 10%, tracking required
- 4- Multiple Operating Conditions PCC's differ > 10% tracking not reported use Low PCC
- 5- Multiple Operating Conditions not all PCC's available but could be
- 6- Known problems with Reported Kwh data
- 7- Measured PCC during flow meter Calibration
- 8- Complex system where time clock or flowmeter may be more accurate
- 9- PCC estimated, not actually determined by measurement
- 10- N- No PCC Measurements made
- 11- Q- Other qualifying conditions see PCC comments for explanation
- 12- Z- Zero Pumpage

2 1/4 mi W.L. = 35 H.L. another 10 pipe.

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