

IDAHO DEPARTMENT OF WATER RESOURCES
Water Measurement Program**POWER CONSUMPTION COEFFICIENT WORKSHEET**

(Revised 6/2006)

District WD 11Diversion Name Reiby Pump

Inventory Date _____

Test Date 6-12-07

Inventory Examiner _____

Person performing test C. Bidd R. HalbrookPCC o.k.? ☒ Yes ☐ NoExam complete? ☐ Yes ☐ No

Name:	_____
Water Right No.:	_____
Legal Description:	T _____ R _____ Sec. _____ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$
Site Tag No.:	<u>1000 8141</u>
Diversion Name:	<u>Reiby Pump</u>

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 _____

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 _____

Well 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	

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	PAK WAP	Std. Meter Manufacturer	Paramedics
Pole Number	319001	Std. Meter Model No.	P3868
Meter Manufacturer	ABB	Std. Meter Type (circle one)	Sonic/Pyg Collins Hall Anub Dye/chem. Other
Meter Serial No.	01847495	Std. Meter Confidence (circle one)	Excl Good Fair Poor 2% 5% 10% >10%
Disc Constant (Kh)	14.4	PSI gauge ID location \approx discharge head	District / Owner _____ Yes / No
Rated Voltage	480	Pipe Material	CS
Demand	23.04	Pipe Outside Diameter	8.05
Multiplier (Mult)	1	Pipe Inside Diameter	13.1" WAM
CTR (Current) PTR (Voltage)	N/A	Distance of straight pipe upstream and down	Upstream _____ Downstream _____

Determination of Power Consumption Coefficient

Kilowatts of Energy Consumed

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

Cond.#1 N = 12 (No. of Disc Rev) Time (sec) = (30.37) + (30.30) + (30.41) / 3 = 30.38 Ave

$$3.6 \times \underline{14.4} (Kh) \times \underline{1} (\text{Mult}) \times \underline{12} (N) \div \underline{30.38} (T) = * \underline{20.48} KW$$

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

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

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

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

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 * 391 #2 * _____ #3 * _____

PSI Cond. #1 * _____ #2 * _____ #3 * _____

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

$$PCC \text{ Cond \#1} = * \underline{20.48} (KW) \times 5431 \div * \underline{391} (gpm) = \underline{284.42} (kWh/ac.ft)$$

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

	Crop Type	Number of Acres
1		
2		
3		
4		
Total Acres =		

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 <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

