

CONFIDENTIAL/PROPRIETARY INFORMATION

Ralph Heringer
Rec Dist 2028 Bacon Island
P O Box 4005
Stockton, CA 95204

Wednesday, Jan 06, 2021

SUBJECT: PUMPING COST ANALYSIS
HP: 125.00 Plant: North Pump 3
PUMP TEST REFERENCE NUMBER: PT-24632
PUMP TEST RUN: Run 1

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed Jan 05 2021 and information provided by you during the pump test.

It is recommended and assumed that:

- **Overall plant efficiency can be improved to: 68%**
- **Water requirements will be the same as for the past year**
- **All operating conditions (annual hours of operation, discharge head, and water pumping level) will remain the same as they were at the time of the pump test**

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	72.3	49.9	22.40
Estimated Total kWh	80,002	55,216	24,787
Average Cost per kWh	\$0.18	\$0.18	
Average Cost per hour	\$14.77	\$20.81	*
Cost Per Acre Ft.	\$13.35	\$9.21	\$4.14
Estimated Acre Ft. Per Year	1,106.27	1,106.27	
Run Hours	1,000.00	1,000.00	
Overall Plant Efficiency	46.9%	68%	
Estimated Total Annual Cost	\$14,770.01	\$10,193.89	\$4,576.11

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued. If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power, III

Enclosures

Agricultural and Domestic Pump Test Report

Rec Dist 2028 Bacon Island - North Pump 3 - Run 1

Latitude: 38.435
Test Date: Jan 05 2021

Longitude: -121.54816
Tester: Bill Power

Elevation: 0
Nameplate HP: 125.00

Customer Information	Power Company Data	Equipment Data
Rec Dist 2028 Bacon Island P O Box 4005 Stockton, CA 95204 Contact: Ralph Heringer Cell: 916-777-6091	PG&E Meter #: R04168 Rate Schedule: AG5B Average Cost: \$0.18	Motor Make: U.S. Volts/Amps: 460V/150.00A Serial #: L51805384-14986-473 Pump Make: No Name Plate Pump Type: Mix Flow Drive Type: Electric Motor Gearhead Make:

Hydraulic Data	Flow Data
Pumping Water Level (PWL): 14.00 ft Discharge Pressure: 8.30 lb/sqft Discharge Level: 19.17 ft Total Lift: 33.17 ft Water Source: Canal	Run Number: 1 of 1 Measured Flow: 6008 gpm Customer Flow: 0 gpm Flow Velocity: 4.59 ft/sec Acre Feet per 24 Hr: 26.58 Cubic Feet Per Second (CFS): 13.38 ft

Power Data
Horsepower Input to Motor: 107.24 hp Brake Horsepower: 97.59 hp Kilowatt Input to Motor: 80 kW Energy Cost: \$14.77/hr Nameplate RPM: 890 rpm VFD: 0 hz
Percent of Rated Motor Load: 78% Kilowatt Hours per Acre Foot: 72.32 Cost to Pump an Acre Foot: \$13.35 Overall Plant Efficiency: 46.93% Water Horsepower: 50.33 hp Run Hours: 1000

Remarks
All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.
This pump has an adequate test section.
This pump did not have a flow meter.
Based on information obtained at the time the test was performed, this test represents the pumps standard operating conditions.
HPI measured with direct read KWI.
Overall efficiency of this plant is considered to be very low assuming this run represents plant's normal operating condition.

Ralph Heringer
Rec Dist 2028 Bacon Island
P O Box 4005
Stockton, CA 95204

Pump Name: North Pump 3

HYDRAULIC TEST RESULTS

PT-24632

Test Date: Jan 05 2021

Tester: Bill Power

Meter #: R04168

Annual Run Hrs: 1000

Utility: PG&E

Rate Sched: AG5B

Avg Cost kWh: \$0.18

Meter kWh: 4.80

Meter Const: 80

Motor Make: U.S.

Volts: 460

Gearhead Make:

Pump Make: No Name Plate

Water Source: Canal

Motor Serial: L51805384-14986-473

Amps: 150.00

Nameplate RPM: 890

Pump Type: Mix Flow

Horsepower: 125.00

Drive Type: Electric Motor

Pipe Diameter: 23.13

Results

Test 1

Discharge Pressure, PSI	8.30
Standing Water Level, Feet	0.00
Recovered Water Level	0.00
Drawdown, Feet	14
Discharge Head, Feet	19.17
Pumping Water Level, Feet	14.00
Total Measured Head, Feet	19.173
Measured GPM	6008.00
Customer Meter, GPM	
Well Yield, GPM/ft Drawdown	429.14
Acre Feet Pumped in 24 Hours	26.58
kW Input to Motor	80
HP Input to Motor	107.24
Motor Load %	78.1
Measured Speed of Pump, RPM	
VFD, Hz:	
kWh per Acre Foot	72.32
Overall Plant Efficiency (%)	46.9
Energy Cost per Hour	14.77
Water Horsepower, hp	50.33
Flow Velocity, ft/sec	4.59