Power Services, Inc.

Report ID: PT-24631

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

**CONFIDENTIAL/PROPRIETARY INFORMATION**

Ralph Heringer

Wednesday, Jan 06, 2021

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

SUBJECT: PUMPING COST ANALYSIS
HP: 100.00 Plant: North Pump 2
PUMP TEST REFERENCE NUMBER: PT-24631
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: 72.5%**
- **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 | 40.6 | 40.6 | * |
| Estimated Total kWh | 84,002 | 84,002 | * |
| Average Cost per kWh | $0.18 | $0.18 | |
| Average Cost per hour | $15.51 | $16.65 | * |
| Cost Per Acre Ft. | $7.5 | $7.5 | * |
| Estimated Acre Ft. Per Year | 2,067.45 | 2,067.45 | |
| Run Hours | 1,000.00 | 1,000.00 | |
| Overall Plant Efficiency | 72.5% | 72.5% | |
| Estimated Total Annual Cost | $15,508.51 | $15,508.51 | * |

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

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24631

# Agricultural and Domestic Pump Test Report
## Rec Dist 2028 Bacon Island - North Pump 2 - Run 1

Latitude: 38.435 | Longitude: -121.54816 | Elevation: 0
Test Date: Jan 05 2021 | Tester: Bill Power | Nameplate HP: 100.00

### Customer Information

**Rec Dist 2028 Bacon Island**

P O Box 4005
Stockton, CA 95204

Contact: Ralph Heringer
Cell: 916-777-6091

### Power Company Data

**PG&E**

Meter #: **1010055722**
Rate Schedule: **AG5B**
Average Cost: **$0.18**

### Equipment Data

Motor Make: **U.S.**
Volts/Amps: **460V/121.00A**
Serial #: **C1007149**
Pump Make: **No Name Plate**
Pump Type: **Mix Flow**
Drive Type: **Electric Motor**
Gearhead Make:

### Hydraulic Data

Pumping Water Level (PWL): 14.00 ft
Discharge Pressure: 6.40 lb/sqft
Discharge Level: 14.78 ft
Total Lift: 28.78 ft
Water Source: Canal

### Flow Data

Run Number: 1 of 1
Measured Flow: 11228 gpm
Customer Flow: 0 gpm
Flow Velocity: 8.44 ft/sec
Acre Feet per 24 Hr: 49.68
Cubic Feet Per Second (CFS): 25.01 ft

### Power Data

Horsepower Input to Motor: 112.6 hp
Brake Horsepower: 102.47 hp
Kilowatt Input to Motor: 84 kW
Energy Cost: $15.51/hr
Nameplate RPM: 900 rpm
VFD: 0 hz

Percent of Rated Motor Load: 102%
Kilowatt Hours per Acre Foot: 40.63
Cost to Pump an Acre Foot: $7.5
**Overall Plant Efficiency: 72.48%**
Water Horsepower: 81.61 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 good assuming this run represents plant's normal operating condition.

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24631

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

**Pump Name:** North Pump 2

**HYDRAULIC TEST RESULTS** PT-24631 **Test Date:** Jan 05 2021

**Tester:** Bill Power
**Meter #:** 1010055722
**Annual Run Hrs:** 1000
**Utility:** PG&E
**Rate Sched:** AG5B
**Avg Cost kWh:** $0.18
**Meter kH:** 4.80
**Meter Const:** 80

**Motor Make:** U.S.
**Volts:** 460
**Gearhead Make:**
**Pump Make:** No Name Plate
**Water Source:** Canal
**Motor Serial:** C1007149
**Amps:** 121.00
**NameplateRPM:** 900
**Pump Type:** Mix Flow
**Horsepower:** 100.00
**Drive Type:** Electric Motor
**Pipe Diameter:** 23.31

| **Results** | **Test 1** |
|---|---|
| Discharge Pressure, PSI | 6.40 |
| Standing Water Level, Feet | 0.00 |
| Recovered Water Level | 0.00 |
| Drawdown, Feet | 14 |
| Discharge Head, Feet | 14.78 |
| Pumping Water Level, Feet | 14.00 |
| Total Measured Head, Feet | 14.784 |
| Measured GPM | 11228.00 |
| Customer Meter, GPM | |
| Well Yield, GPM/ft Drawdown | 802 |
| Acre Feet Pumped in 24 Hours | 49.68 |
| kW Input to Motor | 84 |
| HP Input to Motor | 112.6 |
| Motor Load % | 102.5 |
| Measured Speed of Pump, RPM | |
| VFD, Hz: | |
| **kWh per Acre Foot** | **40.63** |
| **Overall Plant Efficiency (%)** | **72.5** |
| Energy Cost per Hour | 15.51 |
| Water Horsepower, hp | 81.61 |
| Flow Velocity, ft/sec | 8.44 |