



November 9, 2012

PETER TUCULET  
PALM RANCH IRRIGATION DISTRICT  
4871 W. COLUMBIA WAY  
QUARTZ HILL, CA 93536

**HYDRAULIC TEST RESULTS, Plant: WELL #7**  
Location: 5175 1/4 W AVE J-12                      HP: 250  
Cust #: 0-003-0391                      Serv. Acct. #: 003-7904-83  
Meter: V349M-6056                      Pump Ref. #: 17902

In accordance with your request, an energy efficiency test was performed on your turbine well pump on November 5, 2012. If you have any questions regarding the results which follow, please contact RICK KOCH at (805)654-7312.

**Equipment**

Pump: IR                      No: NO PLATE  
Motor: NEWMN                      No: T428A-1

<b>Results</b>	<u>Test 1</u>	<u>Test 2</u>	<u>Test 3</u>
Discharge Pressure, PSI	47.0	64.7	82.6
Standing Water Level, Feet	214.6	214.6	214.6
Drawdown, Feet	158.4	126.4	110.2
Discharge Head, Feet	108.6	149.5	190.8
Pumping Water Level, Feet	373.0	341.0	324.8
Total Head, Feet	481.6	490.5	515.6
Capacity, GPM	659	601	546
GPM per Foot Drawdown	4.2	4.8	5.0
Acre Feet Pumped in 24 Hours	2.913	2.656	2.413
kW Input to Motor	87.7	85.4	83.1
HP Input to Motor	117.6	114.5	111.4
Motor Load (%)	44.3	43.2	42.0
Measured Speed of Pump, RPM	1,794		
Customer Meter, GPM	628		
<b>kWh per Acre Foot</b>	<b>723</b>	<b>772</b>	<b>827</b>
<b>Overall Plant Efficiency (%)</b>	<b>68.1</b>	<b>65.0</b>	<b>63.8</b>

There is a considerable amount of falling water in the well, making it difficult to make an accurate water level measurement. We believe that the ones shown are approximately accurate. Test 1 is the normal operation of this pump at the time of the above test(s). The other results were obtained by throttling the discharge.

RUSS JOHNSON  
Manager  
Hydraulic Services



SOUTHERN CALIFORNIA  
**EDISON**<sup>®</sup>

An EDISON INTERNATIONAL<sup>®</sup> Company

**Confidential/Proprietary Information**

November 9, 2012

PETER TUCULET  
PALM RANCH IRRIGATION DISTRICT  
4871 W. COLUMBIA WAY  
QUARTZ HILL, CA 93536

**PUMPING COST ANALYSIS,** Plant: WELL #7  
Location: 5175 1/4 W AVE J-12 HP: 250  
Cust #: 0-003-0391 Serv. Acct. #: 003-7904-83  
Meter: V349M-6056 Pump Ref. #: 17902

The following energy efficiency analysis is presented as an aid to your cost accounting. This is an estimate based on the conditions present during the Edison pump test performed on November 5, 2012, billing history for the past 12 months, and your current rate of TOU-PA-SOP-2.

	<u>Existing</u>
Total kWh	<b>327,168</b>
kW Input	<b>87.7</b>
kWh per Acre Foot	<b>723</b>
Acre Feet per Year	<b>452.7</b>
Average Cost per kWh	<b>\$0.09</b>
Average Cost per Acre Foot	<b>\$62.97</b>
Overall Plant Efficiency (%)	<b>68.1</b>
<hr/>	
Total Annual Cost	<b>\$28,506.15</b>

The hydraulic test results indicate that this pump is operating in an efficient manner.

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 regarding this report, please contact RICK KOCH at (805)654-7312.

RUSS JOHNSON  
Manager  
Hydraulic Services



Confidential/Proprietary Information

October 7, 2011

AFTER WELL REHAB

PETER TUCULET
PALM RANCH IRRIGATION DISTRICT
4871 W. COLUMBIA WAY
QUARTZ HILL, CA 93536

HYDRAULIC TEST RESULTS, Plant: WELL #7
Location: 5175 1/4 W AVE J-12 HP: 250
Cust #: 0-003-0391 Serv. Acct. #: 003-7904-83
Meter: V349M-6056 Pump Ref. #: 17902

In accordance with your request, an energy efficiency test was performed on your turbine well pump on October 5, 2011. If you have any questions regarding the results which follow, please contact RICK KOCH at (805)654-7312.

Table with columns: Results, Test 1, Test 2. Rows include Discharge Pressure, Standing Water Level, Drawdown, Discharge Head, Pumping Water Level, Total Head, Capacity, GPM per Foot Drawdown, Acre Feet Pumped in 24 Hours, kW Input to Motor, HP Input to Motor, Motor Load (%), Measured Speed of Pump, RPM, Customer Meter, GPM, kWh per Acre Foot, Overall Plant Efficiency (%).

There is a considerable amount of falling water in the well, making it difficult to make an accurate water level measurement. We believe that the ones shown are approximately accurate. Test 1 is the normal operation of this pump at the time of the above test(s). The other results were obtained by throttling the discharge.

RUSS JOHNSON
Manager
Hydraulic Services



SOUTHERN CALIFORNIA  
**EDISON**<sup>®</sup>

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**Confidential/Proprietary Information**

October 7, 2011

PETER TUCULET  
PALM RANCH IRRIGATION DISTRICT  
4871 W. COLUMBIA WAY  
QUARTZ HILL, CA 93536

**PUMPING COST ANALYSIS,** Plant: WELL #7  
Location: 5175 1/4 W AVE J-12 HP: 250  
Cust #: 0-003-0391 Serv. Acct. #: 003-7904-83  
Meter: V349M-6056 Pump Ref. #: 17902

The following energy efficiency analysis is presented as an aid to your cost accounting. This is an estimate based on the conditions present during the Edison pump test performed on October 5, 2011, billing history for the past 12 months, and your current rate of TOU-PA-SOP-2.

	<u>Existing</u>
Total kWh	<b>252,600</b>
kW Input	<b>88.0</b>
kWh per Acre Foot	<b>707</b>
Acre Feet per Year	<b>357.3</b>
Average Cost per kWh	<b>\$0.13</b>
Average Cost per Acre Foot	<b>\$93.72</b>
Overall Plant Efficiency (%)	<b>65.6</b>
<hr/>	
Total Annual Cost	<b>\$33,487.18</b>

The hydraulic test results indicate that this pump is operating in an efficient manner.

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 regarding this report, please contact RICK KOCH at (805)654-7312.

RUSS JOHNSON  
Manager  
Hydraulic Services



SOUTHERN CALIFORNIA  
**EDISON**<sup>®</sup>

EDISON INTERNATIONAL<sup>®</sup> Company

**Confidential/Proprietary Information**

October 29, 2010

PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
4871 W. COLUMBIA WAY  
QUARTZ HILL, CA 93536

**PUMPING COST ANALYSIS,** Plant: WELL #7  
Location: 5175 1/4 W AVE J-12 HP: 250  
Cust #: 0-003-0391 Serv. Acct. #: 003-7904-83  
Meter: V349M-6056 Pump Ref. #: 17902

The following energy efficiency analysis is presented as an aid to your cost accounting. This is an estimate based on the conditions present during the Edison pump test performed on October 25, 2010, billing history for the past 12 months, and your current rate of TOU-PA-B.

Assuming that water requirements will be the same as for the past year, and all operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test, it is estimated that:

1. Overall plant efficiency can be improved from 64.7% to 70.0%.
2. This can save you up to 27,707 kWh and \$3,253.86 annually.
3. These kWh savings translate to a 12-ton decrease in CO<sub>2</sub> emissions.

	Existing	Plant Efficiency Improved	Savings
Total kWh	367,596	339,889	27,707
kW Input	121.8	112.6	9.2
kWh per Acre Foot	990	916	75
Acre Feet per Year	371.2		
Average Cost per kWh	\$0.12		
Average Cost per Acre Foot	\$116.29	\$107.53	\$8.77
Overall Plant Efficiency (%)	64.7	70.0	
<b>Total Annual Cost</b>	<b>\$43,170.47</b>	<b>\$39,916.61</b>	<b>\$3,253.86</b>

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 regarding this report, please contact RICK KOCH at (805)654-7312.

RUSS JOHNSON  
Manager  
Hydraulic Services

Confidential/Proprietary Information

November 12, 2010

*BEFORE  
WELL PULLED*

PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
4871 W. COLUMBIA WAY  
QUARTZ HILL, CA 93536

HYDRAULIC TEST RESULTS, PlantWELL #7  
Location: 5175 1/4 W AVE J-12      HP: 250  
Cust #: 0-003-0391      Serv. Acct. #: 003-7904-83  
Meter: V349M-6056      Pump Ref.#: 17902

In accordance with your request, an energy efficiency test was performed on your turbine well pump on October 25, 2010. If you have any questions regarding the results which follow, please contact RICK KOCH at (805)654-7312.

	Equipment	
Pump:	IR	No: NO PLATE
Motor:	NEWM	No: T428A1
Discharge Pressure, PSI		134.7
Standing Water Level, Feet		208.2
Drawdown, Feet		107.3
Discharge Head, Feet		311.2
Pumping Water Level, Feet		315.5
Total Head, Feet		626.7
Capacity, GPM		668
GPM per Foot Drawdown		6.2
Acre Feet Pumped in 24 Hours		2.953
kW Input to Motor		121.8
HP Input to Motor		163.3
Motor Load (%)		61.5
Measured Speed of Pump, RPM		1,792
Customer Meter, GPM		597
kWh per Acre Foot		990
Overall Plant Efficiency (%)		64.7

DAN L. JOHNSON  
Manager  
Hydraulic Services

Confidential/Proprietary Information

November 12, 2010

PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
4871 W. COLUMBIA WAY  
QUARTZ HILL, CA 93536

PUMPING COST ANALYSIS, Plant: WELL #7  
Location: 5175 1/4 W AVE J-12 HP: 250  
Cust #: 0-003-0391 Serv. Acct. #: 003-7904-83  
Meter: V349M-6056 Pump Ref. #: 17902

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Assuming that water requirements will be the same as for the past year, and all operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test, it is estimated that:

1. Overall plant efficiency can be improved from 64.7% to 70.0%.
2. This can save you up to 27,707 kWh and \$3,253.86 annually.
3. These kWh savings translate to a 12-ton decrease in CO<sub>2</sub> emissions.

	<u>Existing</u>	<u>Plant Efficiency Improved</u>	<u>Savings</u>
Total kWh	367,596	339,889	27,707
kW Input	121.8	112.6	9.2
kWh per Acre Foot	990	916	75
Acre Feet per Year	371.2		
Average Cost per kWh	\$0.12		
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Overall Plant Efficiency (%)	64.7	70.0	
<hr/> Total Annual Cost	<hr/> \$43,170.47	<hr/> \$39,916.61	<hr/> \$3,253.86

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum energy efficiency will be continued. If you have any questions regarding this report, please contact RICK KOCH at (805)654-7312.

DAN L. JOHNSON  
Manager  
Hydraulic Services

**Save Energy,  
Save Money. . .  
Your test results show that you can!**

November 12, 2010

PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
4871 W. COLUMBIA WAY  
QUARTZ HILL, CA 93536

**PUMPING COST ANALYSIS, Plant: WELL #7**  
Location: 5175 1/4 W AVE J-12      HP: 250  
Cust #: 0-003-0391      Serv. Acct. #: 003-7904-83  
Meter: V349M-6056      Pump Ref. #: 17902

Dear SCE Customer:

Helping California businesses save energy and money is a major goal at SCE. As you know, our Technical Specialist performed a free energy efficiency test on one or more pumps at your facility on October 25, 2010. We thank you for the opportunity to provide this service, and appreciate your interest in the performance of your pumps.

The results of the testing, shown in the table below, indicate that the pump listed above has the potential for improved Overall Plant Efficiency (OPE), lower energy costs, and a cash incentive.

	Projected Incentive, Energy, and Cost Savings			
	<u>Existing</u>	<u>Improved</u>	<u>Savings</u>	<u>Cash Incentive</u>
Total kWh	367,596	339,889	27,707	\$2,493.59
kW Input	121.8	112.6	9.2	
kW on-peak activity factor *			6.0	\$596.72
Acre Feet per Year	371.2			
kWh per Acre Foot	990	916	75	
Average Cost per Acre Foot	\$116.29	\$107.53	\$8.77	
Overall Plant Efficiency (%)	64.7	70.0		
<b>Annual Total</b>	<b>\$43,170.47</b>	<b>\$39,916.61</b>	<b>\$3,253.86</b>	<b>\$3,090.32</b>

(\*The kW on-peak activity factor represents how the kW impacts the SCE system during on-peak periods as determined by SCE's agricultural and water pumping customers' average load profiles. By improving efficiency, your expected kW savings is 9.2 kW, and the savings used for incentive calculations is 65% of 9.2, or 6.0 kW.)

Case studies have shown that repairing, retrofitting, or replacing inefficient pumps can save energy and money, and may even help you avoid serious operational problems. For your business, this could mean the following:

- **Improved Plant Efficiency:** Your OPE can be improved from 64.7% to 70.0%.
- **Lower Energy Costs:** Based on the test data, your past energy usage, and your current rate of TOU-PA-B, we estimate that you may save up to 27,707 kWh annually (which translates to a 12-ton decrease in CO<sub>2</sub> emissions). This may result in energy cost savings of \$3,253.86.
- **Cash Incentive:** Through the retrofit and installation of more energy-efficient equipment, you have the potential to receive an incentive of \$0.09 per kWh and \$100 per on-peak activity factored kW reduced, courtesy of SCE's Customized Efficiency Program. Based on your estimated kWh and kW, you would be eligible for a Potential Cash Incentive of \$3,090.32, capped at 50% of your project cost. (See contract for details.)

You may also be eligible for a *Premium Efficiency Motor Incentive*. For more information about your test results, options, and incentive opportunities, contact CAROLINE LEE at (760)951-3210.

We encourage you to review your results and take advantage of SCE's energy efficiency expertise and incentives. Visit [www.sce.com/rebatesandsavings](http://www.sce.com/rebatesandsavings), or give us a call and let us know how we can be of further service to you.

Sincerely,

Southern California Edison





**Save Energy,  
Save Money. . .  
Your test results show that you can!**

October 29, 2010

PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
4871 W. COLUMBIA WAY  
QUARTZ HILL, CA 93536

**PUMPING COST ANALYSIS**, Plant: WELL #7  
Location: 5175 1/4 W AVE J-12 HP: 250  
Cust #: 0-003-0391 Serv. Acct. #: 003-7904-83  
Meter: V349M-6056 Pump Ref.#: 17902

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	Projected Incentive, Energy, and Cost Savings			
	<u>Existing</u>	<u>Improved</u>	<u>Savings</u>	<u>Cash Incentive</u>
Total kWh	367,596	339,889	27,707	\$2,493.59
kW Input	121.8	112.6	9.2	
kW on-peak activity factor *			6.0	\$596.72
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kWh per Acre Foot	990	916	75	
Average Cost per Acre Foot	\$116.29	\$107.53	\$8.77	
Overall Plant Efficiency (%)	64.7	70.0		
<b>Annual Total</b>	<b>\$43,170.47</b>	<b>\$39,916.61</b>	<b>\$3,253.86</b>	<b>\$3,090.32</b>

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Case studies have shown that repairing, retrofitting, or replacing inefficient pumps can save energy and money, and may even help you avoid serious operational problems. For your business, this could mean the following:

- **Improved Plant Efficiency:** Your OPE can be improved from 64.7% to 70.0%.
- **Lower Energy Costs:** Based on the test data, your past energy usage, and your current rate of TOU-PA-B, we estimate that you may save up to 27,707 kWh annually (which translates to a 12-ton decrease in CO<sub>2</sub> emissions). This may result in **energy cost savings of \$3,253.86.**
- **Cash Incentive:** Through the retrofit and installation of more energy-efficient equipment, you have the potential to receive an incentive of \$0.09 per kWh and \$100 per on-peak activity factored kW reduced, courtesy of SCE's Customized Efficiency Program. Based on your estimated kWh and kW, you would be eligible for a **Potential Cash Incentive of \$3,090.32**, capped at 50% of your project cost. (See contract for details.)

You may also be eligible for a **Premium Efficiency Motor Incentive**. For more information about your test results, options, and incentive opportunities, contact **CAROLINE LEE** at (760)951-3210.

We encourage you to review your results and take advantage of SCE's energy efficiency expertise and incentives. Visit [www.sce.com/rebatesandsavings](http://www.sce.com/rebatesandsavings), or give us a call and let us know how we can be of further service to you.

Sincerely,

Southern California Edison

Program funded by California utility ratepayers, and administered by Southern California Edison under the auspices of the California Public Utilities Commission.

10180 Telegraph Road  
Ventura, CA 93004

## Exception Package Calculations

Section 1: Customer Data			
Customer Name	Customer Number	Service Account Number	
Palm Ranch Irrigation District	0-003-0391	003-7904-83	
Section 2: Project Name			
Well #7 Pump replacement and Total Head reduction			
Meter Number	Pump Reference #	Test Date	Customer Plant Designation
V349M-6056	17902	10/25/2010	Well #7
Account Representative		Pump Test Representative	Phone / FAX
Caroline Lee		Rick Koch	79312
Section 2: Exception Type(s)			
Exception Type	Notes		
<input type="checkbox"/> Unable to obtain Overall Plant Efficiency			
<input type="checkbox"/> Projected Usage			
<input type="checkbox"/> No Billing History			
<input checked="" type="checkbox"/> Plant Redesign for EE Improvement	Current plant design does not match system requirements		
<input type="checkbox"/>			
Section 3: Calculated Data			
Baseline kWh	Installed kWh	Net kWh Savings	Incentive
367,595	233,209	134,386	\$12,094.74
Baseline kW	Installed kW	Net kW Reduction	Post Test Required (>\$5,000)
121.8	77.3	44.5	YES

### Section 4: Measure Background Information

The water from this well is contaminated with Arsenic. The customer installed an Arsenic removal plant in July 2009. Well #7 was originally designed to pump into the system at 140 psi. The treatment facility only requires 50 psi. Due to treatment plant limitations and instructions from The Department of Health Services, the well is throttled to meet the necessary flow required in conjunction with Well #8. The pre-inspection pump test shows that the valve is throttled to 134.7 psi and the flow is 668 gpm. Plant requirements recommend 50 psi and 668 gpm. The calculations below demonstrate the new installed baseline aside from a standard pump test calculation. Incentive amount + kW kicker amount: kW incentive = 44.5 \* 65 = \$2892.5 Total incentive = \$12,094.74 + \$2892.5 = \$14,987.24

Section 5: Derivation Data				
	Derivation Methodology	Projection Equation	Projected Usage Calculation Methodology	Data
Total Head (2-3)	Pump Test Data			626.7
Annual Acre Ft. (1)	Pump Test Data			371.2
Improved kWh/Acre Ft. (8-9)	Pump Test Data			916
OPE (7)	Pump Test Data			64.7%
Baseline kWh (4)	Pump Test Data			367,595
Installed kWh (6) = (10) * (11)	Projected	11	Installed kWh: Annual Operating Hours Baseline x Installed kW Input	233,209
Improved kW Input (6) = (11) * (8)	Projected	11	Installed kWh: Annual Operating Hours Baseline x Installed kW Input	77.3
Improved OPE				70%



SOUTHERN CALIFORNIA  
**EDISON**<sup>®</sup>

An EDISON INTERNATIONAL<sup>®</sup> Company

CONFIDENTIAL/PROPRIETARY INFORMATION

December 2, 2005

ATTN: PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
42116 50TH ST WEST, SUITE D  
QUARTZ HILL, CA 93586

SUBJECT: HYDRAULIC TEST RESULTS - ~~WELL # 17~~  
5175 1/4 W AVE J-12  
CUST #: 0-003-0391 - SERV ACCT #: 003-7904-83  
DATE OF TEST: ~~November 29, 2005~~

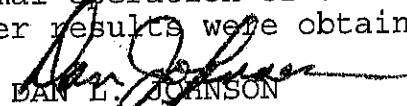
In accordance with your request, a test was made on your turbine well pump on the date listed above. If you have any questions regarding the results which follow, please contact RICK KOCH at (805)654-7312.

EQUIPMENT

PUMP: IR NO: NO PLATE  
MOTOR: NEWM NO: T428A1 250 HP  
METER: V349M-6056  
HYDRAULIC TEST REFERENCE NUMBER: 17902

TEST RESULTS	TEST 1	TEST 2	TEST 3
Discharge Pressure, PSI	130.0	165.0	194.5
Standing Water Level, Ft.	182.9	182.9	182.9
Drawdown, Ft.	115.6	106.6	93.9
Discharge Head, Ft.	300.3	381.2	449.3
Pumping Water Level, Ft.	298.5	289.5	276.8
Total Head, Ft.	598.8	670.7	726.1
Capacity, GPM	768.0	677.0	564.0
GPM per Ft. Drawdown	6.6	6.4	6.0
Acre Ft. Pumped in 24 Hrs.	3.395	2.992	2.493
kW Input to Motor	123.7	123.2	118.0
HP Input to Motor	165.9	165.2	158.2
Motor Load (%)	61.4	61.1	58.5
Measured Speed of Pump, RPM	1,791		
kWh per Acre Ft.	875	988	1,136
Overall Plant Efficiency (%)	<del>74.0</del>	69.4	65.4
Customer Meter, GPM	744.0		

Test 1 is the normal operation of this pump at the time of the above test(s). The other results were obtained by throttling the discharge.

  
DAN L. JOHNSON  
Manager  
Hydraulic Services



CONFIDENTIAL/PROPRIETARY INFORMATION

December 2, 2005

ATTN: PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
42116 50TH ST WEST, SUITE D  
QUARTZ HILL, CA 93586

SUBJECT: PUMPING COST ANALYSIS  
HP: 250 - PLANT: WELL #7  
CUST #: 0-003-0391 - SERV ACCT #: 003-7904-83  
HYDRAULIC TEST REFERENCE NUMBER: 17902

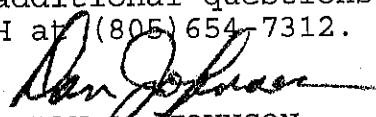
The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the Edison Pump Test performed November 29, 2005 and billing history for the past 12 months.

	EXISTING PLANT EFFICIENCY TOU-PA-SOP1 Current Rate
Total kWh	302,592
kW Input	123.7
kWh per Acre Ft.	875
Acre Ft. per Year	345.9
Avg. Cost per kWh	\$0.07
Avg. Cost per Acre Ft.	\$61.69
Overall Plant Eff. (%)	70.0
-----	-----
TOTAL ANNUAL COST	\$21,338.79

The hydraulic test results indicate that this pump is operating in an efficient manner.

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 additional questions regarding this report, please contact RICK KOCH at (805) 654-7312.

  
DAN E. JOHNSON  
Manager  
Hydraulic Services



CONFIDENTIAL/PROPRIETARY INFORMATION

November 19, 2004

ATTN: PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
42116 50TH ST WEST, SUITE D  
QUARTZ HILL, CA 93586

SUBJECT: HYDRAULIC TEST RESULTS - WELL #7  
5175 1/4 W AVE J-12  
CUST #: 0-003-0391 - SERV ACCT #: 003-7904-83  
DATE OF TEST: November 15, 2004

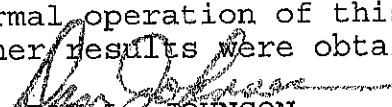
In accordance with your request, a test was made on your turbine well pump on the date listed above. If you have any questions regarding the results which follow, please contact RICK KOCH at (805)654-7312.

EQUIPMENT

PUMP: IR NO: NO PLATE  
MOTOR: NEWM NO: T428A1 250 HP  
METER: PO726K-1494  
HYDRAULIC TEST REFERENCE NUMBER: 17902

TEST RESULTS	TEST 1	TEST 2	TEST 3
Discharge Pressure, PSI	131.5	161.0	187.0
Standing Water Level, Ft.	189.5	189.5	189.5
Drawdown, Ft.	112.6	103.7	95.5
Discharge Head, Ft.	303.8	371.9	432.0
Pumping Water Level, Ft.	302.1	293.2	285.0
Total Head, Ft.	605.9	665.1	717.0
Capacity, GPM	760.0	685.0	609.0
GPM per Ft. Drawdown	6.7	6.6	6.4
Acre Ft. Pumped in 24 Hrs.	3.359	3.028	2.692
kW Input to Motor	124.6	124.2	120.6
HP Input to Motor	167.1	166.6	161.7
Motor Load (%)	61.8	61.6	59.8
Measured Speed of Pump, RPM	1,791		
kWh per Acre Ft.	890	985	1,075
Overall Plant Efficiency (%)	69.6	69.1	68.2
Customer Meter, GPM	741.0		

Test 1 is the normal operation of this pump at the time of the above test(s). The other results were obtained by throttling the discharge.

  
DAN L. JOHNSON  
Manager  
Hydraulic Services



CONFIDENTIAL/PROPRIETARY INFORMATION

November 19, 2004

ATTN: PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
42116 50TH ST WEST, SUITE D  
QUARTZ HILL, CA 93586

SUBJECT: PUMPING COST ANALYSIS  
HP: 250 - PLANT: WELL #7  
CUST #: 0-003-0391 - SERV ACCT #: 003-7904-83  
HYDRAULIC TEST REFERENCE NUMBER: 17902

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 Edison Pump Test performed November 15, 2004 and billing history for the past 12 months.

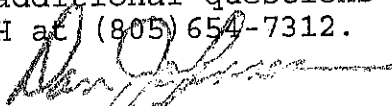
EXISTING PLANT EFFICIENCY  
TOU-PA-SOP  
Current Rate

Total kWh	283,116
kW Input	124.6
kWh per Acre Ft.	890
Acre Ft. per Year	318.0
Avg. Cost per kWh	\$0.08
Avg. Cost per Acre Ft.	\$68.11
Overall Plant Eff. (%)	69.6
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TOTAL ANNUAL COST	\$21,658.37

The hydraulic test results indicate that this pump is operating in an efficient manner.

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 additional questions regarding this report, please contact RICK KOCH at (805) 654-7312.

  
DAN L. JOHNSON  
Manager  
Hydraulic Services



SOUTHERN CALIFORNIA  
**EDISON**<sup>®</sup>

An EDISON INTERNATIONAL<sup>®</sup> Company

CONFIDENTIAL/PROPRIETARY INFORMATION

April 26, 2003

ATTN: PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
P. O. BOX 3396  
QUARTZ HILL, CA 93586-0396

SUBJECT: HYDRAULIC TEST RESULTS - WELL #7  
5175 1/4 W AVE J-12  
CUST #: 0-003-0391 SERV ACCT #: 003-7904-83  
DATE OF TEST: April 22, 2003

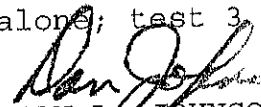
In accordance with your request, a test was made on your turbine well pump on the date listed above. If you have any questions regarding the results which follow, please contact GARY PARDUE at (661)726-5662.

EQUIPMENT

PUMP: IR NO: NO PLATE  
MOTOR: NEWM NO: T428A1 250 HP  
METER: PO726K-1494  
HYDRAULIC TEST REFERENCE NUMBER: 17902

TEST RESULTS	TEST 1	TEST 2	TEST 3
Discharge Pressure, PSI	145.5	130.0	160.5
Standing Water Level, Ft.	199.9	199.9	199.9
Drawdown, Ft.	116.7	125.3	114.1
Discharge Head, Ft.	336.1	300.3	370.8
Pumping Water Level, Ft.	316.6	325.2	314.0
Total Head, Ft.	652.7	625.5	684.8
Capacity, GPM	698.0	722.0	648.0
GPM per Ft. Drawdown	6.0	5.8	5.7
Acre Ft. Pumped in 24 Hrs.	3.085	3.191	2.864
kW Input to Motor	126.0	126.3	124.5
HP Input to Motor	169.0	169.4	167.0
Motor Load (%)	62.5	62.7	61.8
Measured Speed of Pump, RPM	1,791		
kWh per Acre Ft.	980	950	1,043
Overall Plant Efficiency (%)	68.1	67.3	67.1
Customer Meter, GPM	698.0		

The above test results indicate various operating conditions of this pump. Test 1 is the normal operating point of this well with a K-8 booster running; test 2 is this well running alone; test 3 is running with a throttled discharge valve.

  
DAN L. JOHNSON  
Manager  
Hydraulic Services



CONFIDENTIAL/PROPRIETARY INFORMATION

April 26, 2003

ATTN: PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
P. O. BOX 3396  
QUARTZ HILL, CA 93586-0396

SUBJECT: PUMPING COST ANALYSIS  
HP: 250 - PLANT: WELL #7  
CUST #: 0-003-0391 SERV ACCT #: 003-7904-83  
HYDRAULIC TEST REFERENCE NUMBER: 17902

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 Edison Pump Test performed April 22, 2003 and billing history for the past 12 months.

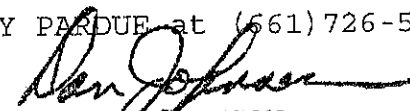
EXISTING PLANT EFFICIENCY  
TOU-PA-SOP  
Current Rate

Total kWh	602,316
kW Input	126.0
kWh per Acre Ft.	980
Acre Ft. per Year	614.4
Avg. Cost per kWh	\$0.08
Avg. Cost per Acre Ft.	\$78.64
Overall Plant Eff. (%)	68.1
-----	-----
TOTAL ANNUAL COST	\$48,314.18

The hydraulic test results indicate that this pump is operating in an efficient manner.

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pump efficiency will be continued.

If you have any questions, please contact GARY PARDUE at (661)726-5662.

  
DAN L. JOHNSON  
Manager  
Hydraulic Services





CONFIDENTIAL/PROPRIETARY INFORMATION

April 26, 2003

ATTN: PHIL SHOTT  
 PALM RANCH IRRIGATION DISTRICT  
 P. O. BOX 3396  
 QUARTZ HILL, CA 93586-0396

SUBJECT: PUMPING COST ANALYSIS  
 HP: 250 - PLANT: WELL #7  
 CUST #: 0-003-0391 SERV ACCT #: 003-7904-83  
 HYDRAULIC TEST REFERENCE NUMBER: 17902

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 Edison Pump Test performed April 22, 2003 and billing history for the past 12 months.

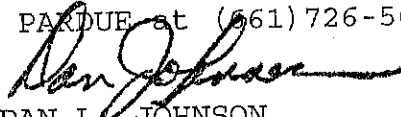
It is recommended and assumed that:

1. Overall plant efficiency can be improved to 72.0%.
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY		IMPROVED PLANT EFFICIENCY	
	TOU-PA-SOP		TOU-PA-SOP	
	Current Rate	Current Rate	Savings	
Total kWh	602,316	569,595	32,721	
kW Input	126.0	119.2	6.8	
kWh per Acre Ft.	980	927	53	
Acre Ft. per Year	614.4	614.4		
Avg. Cost per kWh	\$0.08			
Avg. Cost per Acre Ft.	\$78.64	\$74.37	\$4.27	
Overall Plant Eff. (%)	68.1	72.0		
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TOTAL ANNUAL COST	\$48,314.18	\$45,689.52	\$2,624.65	

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 GARY PARDUE at (661)726-5662.

  
 DAN L. JOHNSON  
 Manager  
 Hydraulic Services



SOUTHERN CALIFORNIA  
**EDISON**

an EDISON INTERNATIONAL<sup>SM</sup> Company

CONFIDENTIAL/PROPRIETARY INFORMATION

October 25, 2001

ATTN: PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
P. O. BOX 3396  
QUARTZ HILL, CA 93586-0396

SUBJECT: HYDRAULIC TEST RESULTS - WELL #7  
5175 1/4 W AVE J-12  
CUST #: 0-003-0391 SERV ACCT #: 003-7904-83  
DATE OF TEST: October 22, 2001

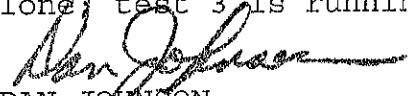
In accordance with your request, a test was made on your turbine well pump on the date listed above. If you have any questions regarding the results which follow, please contact GARY PARDUE at (661)726-5662.

EQUIPMENT

PUMP: IR NO: NO PLATE  
MOTOR: NEWM NO: T428A1 250 HP  
METER: PO726K-1494  
HYDRAULIC TEST REFERENCE NUMBER: 17902

TEST RESULTS	TEST 1	TEST 2	TEST 3
Discharge Pressure, PSI	145.0	128.0	157.5
Standing Water Level, Ft.	211.7	211.7	211.7
Drawdown, Ft.	105.2	111.9	103.2
Discharge Head, Ft.	335.0	295.7	363.8
Pumping Water Level, Ft.	316.9	323.6	314.9
Total Head, Ft.	651.9	619.3	678.7
Capacity, GPM	727.0	764.0	632.0
GPM per Ft. Drawdown	6.9	6.8	6.1
Acre Ft. Pumped in 24 Hrs.	3.213	3.377	2.793
kW Input to Motor	124.9	125.5	123.7
HP Input to Motor	167.5	168.3	165.9
Motor Load (%)	62.0	62.3	61.4
Measured Speed of Pump, RPM	1790		
kWh per Acre Ft.	933	892	1063
Overall Plant Efficiency (%)	71.5	71.0	65.3
Customer Meter, GPM	664.0	700.0	587.0

The above test results indicate various operating conditions of this pump. Test 1 is the normal operating point of this well with a K-8 booster running; test 2 is this well running alone; test 3 is running with a throttled discharge valve.

  
DAN JOHNSON  
Manager  
Hydraulic Services



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CONFIDENTIAL/PROPRIETARY INFORMATION

October 25, 2001

ATTN: PHIL SHOTT  
PALM RANCH IRRIGATION DISTRICT  
P. O. BOX 3396  
QUARTZ HILL, CA 93586-0396

SUBJECT: PUMPING COST ANALYSIS  
HP: 250 - PLANT: WELL #7  
CUST #: 0-003-0391 SERV ACCT #: 003-7904-83  
HYDRAULIC TEST REFERENCE NUMBER: 17902

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 Edison Pump Test performed October 22, 2001 and billing history for the past 12 months.

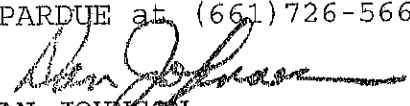
EXISTING PLANT EFFICIENCY  
TOU-PA-SOP  
Current Rate

Total kWh	485556
kW Input	124.9
kWh per Acre Ft.	933
Acre Ft. per Year	520.4
Avg. Cost per kWh	\$0.07
Avg. Cost per Acre Ft.	\$65.96
Overall Plant Eff. (%)	71.5
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TOTAL ANNUAL COST	\$34,325.90

The hydraulic test results indicate that this pump is operating in an efficient manner.

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pump efficiency will be continued.

If you have any questions, please contact GARY PARDUE at (661)726-5662.

  
DAN JOHNSON  
Manager  
Hydraulic Services