

# Assessments Efficiency Report

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## Report Summary

Pumps

2 pumps with a

**-\$191,739.20**

ANNUAL SAVINGS POTENTIAL

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June 14th, 2017



# Pump 1

<b>Baseline</b>	<b>Modification 1</b>
<b>19 %</b>	<b>117 %</b>
OPTIMIZATION RATING	OPTIMIZATION RATING
<b>\$42,793.04</b>	<b>-\$8,939.56</b>
ANNUAL SAVINGS POTENTIAL	ANNUAL SAVINGS POTENTIAL

## ASSESSMENT RESULT DATA

	Existing	Optimal	Modification 1
Pump efficiency (%)	05.46	30.21	81.95
Motor rated power (hp)	200.00	25.00	200.00
Motor shaft power (hp)	127.98	23.15	127.98
Pump shaft power (hp)	127.98	23.15	127.98
Motor efficiency (%)	95.47	92.94	95.47
Motor power factor (%)	82.90	83.52	82.90
Motor current (amps)	151.41	27.93	151.41
Motor power (hp)	100.00	18.58	100.00
Annual Energy (MWh)	876.00	162.78	876.00
Annual Cost	52,560.00	9,766.96	52,560.00

## ASSESSMENT INPUT DATA

	Baseline	Modification 1
<b>Pump &amp; Fluid</b>		
Pump Type	End Suction Slurry	End Suction Slurry
Pump RPM	1,780.00	1,780.00
Drive	Direct Drive	Direct Drive
Kinematic Viscosity (cST)	01.00	01.00
Specific Gravity	01.00	01.00
Stages	01.00	01.00
Fixed specific speed?	Yes	Yes
<b>Motor</b>		
Line Frequency	60 Hz Hz	60 Hz
Horse Power	200.00 hp	200.00
Motor (RPM)	1,780.00	1,780.00
Efficiency Class	Energy Efficient	Energy Efficient
Voltage	460.00	460.00
Full-Load Amps	225.80	225.80
Size Margin	00.00	00.00
<b>Field Data</b>		
Operating Fraction	01.00	01.00
Cost (kW/hr)	00.06	00.06
Flow Rate (gpm)	100.00	1,500.00
Head (ft)	277.00	277.00
Load Estimated Method	Power	Power
Motor Power (kW)	100.00	100.00
Voltage	460.00	460.00

## Pump 2

<b>Baseline</b> <b>203 %</b> OPTIMIZATION RATING  <b>-\$234,532.24</b> ANNUAL SAVINGS POTENTIAL	<b>Cheaper Cost</b> <b>203 %</b> OPTIMIZATION RATING  <b>-\$234,532.24</b> ANNUAL SAVINGS POTENTIAL	<b>Smaller Input</b> <b>203 %</b> OPTIMIZATION RATING  <b>-\$234,532.24</b> ANNUAL SAVINGS POTENTIAL
<b>Bigger Motor</b> <b>203 %</b> OPTIMIZATION RATING  <b>-\$234,532.24</b> ANNUAL SAVINGS POTENTIAL	<b>Less Flow</b> <b>203 %</b> OPTIMIZATION RATING  <b>-\$234,532.24</b> ANNUAL SAVINGS POTENTIAL	

### ASSESSMENT RESULT DATA

	Existing	Optimal	Cheaper Cost	Smaller Input	Bigger Motor	Less Flow
Pump efficiency (%)	178.75	85.80	178.75	178.75	178.75	178.75
Motor rated power (hp)	200.00	14,000.00	200.00	200.00	200.00	200.00
Motor shaft power (hp)	482.88	1,006.04	482.88	482.88	482.88	482.88
Pump shaft power (hp)	482.88	1,006.04	482.88	482.88	482.88	482.88
Motor efficiency (%)	83.39	85.43	83.39	83.39	83.39	83.39
Motor power factor (%)	91.49	25.87	91.49	91.49	91.49	91.49
Motor current (amps)	592.66	4,260.89	592.66	592.66	592.66	592.66
Motor power (hp)	432.00	878.22	432.00	432.00	432.00	432.00
Annual Energy (MWh)	3,784.32	7,693.19	3,784.32	3,784.32	3,784.32	3,784.32
Annual Cost	227,059.20	461,591.44	227,059.20	227,059.20	227,059.20	227,059.20

## ASSESSMENT INPUT DATA

	Baseline	Cheaper Cost	Smaller Input	Bigger Motor	Less Flow
<b>Pump &amp; Fluid</b>					
Pump Type	End Suction Slurry	End Suction Slurry	End Suction Slurry	End Suction Slurry	End Suction Slurry
Pump RPM	1,780.00	1,780.00	1,780.00	1,780.00	1,780.00
Drive	Direct Drive	Direct Drive	Direct Drive	Direct Drive	Direct Drive
Kinematic Viscosity (cST)	01.00	01.00	01.00	01.00	01.00
Specific Gravity	01.00	01.00	01.00	01.00	01.00
Stages	01.00	01.00	01.00	01.00	01.00
Fixed specfic speed?	Yes	Yes	Yes	Yes	Yes
<b>Motor</b>					
Line Frequency	60 Hz Hz	60 Hz	60 Hz	60 Hz	60 Hz
Horse Power	200.00 hp	200.00	200.00	200.00	200.00
Motor (RPM)	1,780.00	1,780.00	1,780.00	1,780.00	1,780.00
Efficiency Class	Energy Efficient	Energy Efficient	Energy Efficient	Energy Efficient	Energy Efficient
Voltage	460.00	460.00	460.00	460.00	460.00
Full-Load Amps	225.80	225.80	225.80	225.80	225.80
Size Margin	12.00	12.00	12.00	12.00	12.00
<b>Field Data</b>					
Operating Fraction	01.00	01.00	01.00	01.00	01.00
Cost (kW/hr)	00.06	00.06	00.06	00.06	00.06
Flow Rate (gpm)	12,344.00	12,344.00	12,344.00	12,344.00	12,344.00
Head (ft)	277.00	277.00	277.00	277.00	277.00
Load Estimated Method	Power	Power	Power	Power	Power
Motor Power (kW)	432.00	432.00	432.00	432.00	432.00
Voltage	460.00	460.00	460.00	460.00	460.00