

Winflows3.x v. 1.2.30 w

Input Data Summary

13-Nov-2008 15:06

Project: Propmech Corp

Project File

Engineer:

Randy Leathers

Analysis File: PROPMECH.DSI

Analysis Name:

User Defined

Element File Date: May-28-1999

Page: 1

---

**Project Information**

---

Description: Propmech Corp  
Client Name: Propmech Corp  
Location: Manila Philippines  
Engineer: Randy Leathers  
Comments: 36000 gpd RO

---

**Flowsheet Configuration**

---

Flowsheet Type: Single Pass Flowsheet  
Feed Predosing? Yes  
Feed Afterdosing? No  
Product Dosing? No  
Feed CO2 Stripping? No  
Product CO2 Stripping? No  
Raw Feed Bypass? No  
First Pass Recycle? No

---

**Feed Information**

---

Temperature, Deg C: 20.0  
Feed pH: 7.2  
Silt Density Index: 2.0  
Fouling Allowance: 0.90  
Feed Stream Composition (mg/l)  
Calcium 40.04  
Iron 1.09  
Potassium 8.30  
Magnesium 5.34  
Manganese 15.80  
Sodium 39.64  
Chloride 2.80  
Bicarbonate 298.68  
Nitrate 0.01  
Sulfate 0.40  
Silica 103.00  
Carbonate 0.25  
Carbon Dioxide 31.03

---

**Flow Rate Specifications**

---

Product Flow: 36,000.0 Gal/day  
Array Recovery: 60.0%

Winflows3.x v. 1.2.30 w

Input Data Summary

13-Nov-2008 15:06

Project: Propmech Corp

Project File

Engineer:

Randy Leathers

Analysis File: PROPMECH.DSI

Analysis Name:

User Defined

Element File Date: May-28-1999

Page: 2

---

**Array Data**

Interbank Pressure Loss: 0.00 Psi

Interbank Pressure Boost: 0.00 Psi

---

Bank	Housings	Elements	Element Type	Element Age
1	4	3	AG4040F	0.00 Years
2	3	3	AG4040F	0.00 Years

---

**Chemical Dosing Specifications**

---

First Feed Dosing to 6.5 pH using Sulfuric Acid

---

**Pump Specifications**

Feed Pump Selection:

**OSMONICS DESAL**

Winflows3.x v. 1.2.30 w

Results Summary

13-Nov-2008 15:07

Project: Propmech Corp

Project File

Engineer:

Randy Leathers

Analysis File: PROPMECH.DSI

Analysis Name:

User Defined

Element File Date: May-28-1999

Page: 1

<b>Flow Data</b>	<b>Gal/day</b>	<b>Analytical Data</b>	<b>mg/L</b>
RO/NF Feed	60,000.0	RO/NF Feed TDS	515.4
Treated Permeate	36,000.0	Treated Permeate TDS	4.2
System Conc	24,000.0	System Conc TDS	1,233.5

**System Data** **Single Pass Design**

Temperature: 20.0 Deg C  
 Overall Recovery: 60.0%

Pass/Stage Recovery: 60.0%    Concentrate TDS: 1,234    Conc. Flow: 24,000.0

Bank	Total Housings	Total Elem	Element Type	Feed Flow Gal/day	Perm Flow Gal/day	Feed Psi	Delta Psi	Perm TDS mg/L
1	4	12	AG4040F	60,000.0	21,083.1	194.6	8.3	3.4
2	3	9	AG4040F	38,916.9	14,981.9	186.3	6.5	5.3
<b>Total</b>	<b>7</b>	<b>21</b>		<b>60,000.0</b>	<b>36,000.0</b>			<b>4.2</b>

**Analytical Data (mg/L)**

	Perm	Feed	Conc		Perm	Feed	Conc
Ca	0.2	40.0	100.1	HCO3	2.3	298.7	495.3
Mg	0.0	5.3	13.3	CO3	0.0	0.3	0.2
Na	0.6	39.6	98.5	Cl	0.0	2.8	7.0
K	0.1	8.3	20.6	SO4	0.2	0.4	199.0
Ba	0.0	0.0	0.0	F	0.0	0.0	0.0
Sr	0.0	0.0	0.0	NO3	0.0	0.0	0.0
NH4	0.0	0.0	0.0	PO4	0.0	0.0	0.0
Fe	0.0	1.1	2.7	SiO2	0.7	103.0	257.2
Mn	0.1	15.8	39.5	CO2	103.1	31.0	103.1
TDS	4.2	515.4	1,233.5	pH	4.6	7.2	6.9
Saturation Data							
CaSO4	0.0%	0.0%	4.7%	BaSO4	0.0%	0.0%	0.0
CaF2	0.0%	0.0%	0.0%	SiO2	0.5%	89.6%	274.5
LSI	-7.6	-0.2	0.0	SrSO4	0.0%	0.0%	0.0

DISCLAIMER: This design does not represent a guarantee of performance & is provided solely as a service. The data contained herein should be used consistent with good engineering judgement. For tech assistance call Osmonics/Desal at 1.800.423.3725.

**OSMONICS DESAL**

Winflows3.x v. 1.2.30 w

Process Data Sheet

13-Nov-2008 15:07

Project: Propmech Corp

Project File

Engineer:

Randy Leathers

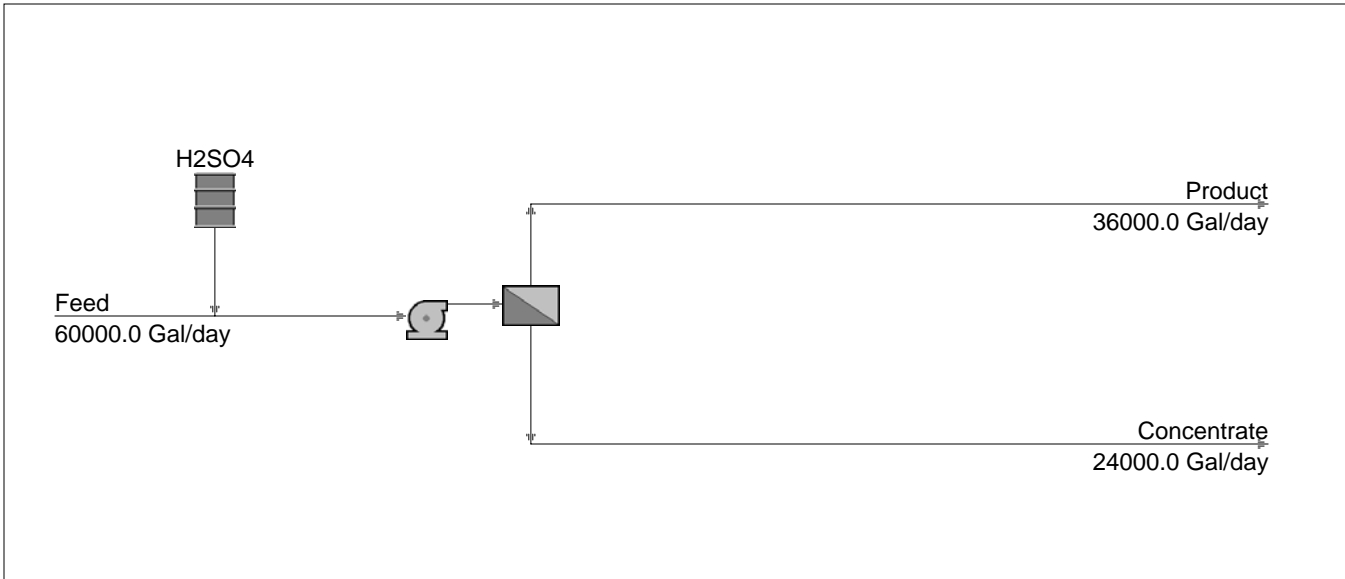
Analysis File: PROPMECH.DSI

Analysis Name:

User Defined

Element File Date: May-28-1999

Page: 1



<b>Flow Data</b>	<b>Gal/day</b>	<b>Analytical Data</b>	<b>mg/L</b>
RO/NF Feed	60,000.0	RO/NF Feed TDS	515.4
Treated Permeate	36,000.0	Treated Permeate TDS	4.2
System Conc	24,000.0	System Conc TDS	1,233.5

<b>System Data</b>	<b>Single Pass Design</b>	
Temperature	20.0	Deg C
Fouling Allowance	90.0	Percent
Feed Pressure	194.6	Psi
Interbank Boost	0.00	Psi
Interbank Loss	0.00	Psi
Element Age	0.00	Years

<b>Pumping Summary</b>	<b>Gal/day</b>	<b>DP, Psi</b>	<b>kW @ 65.0% Efficiency</b>
Feed	60,000.0	194.64	5.4
Interbank Boost	-----	0.00	0.0

<b>Chemical Usage</b>	<b>Chemical</b>	<b>Lb/Day</b>	<b>Kg/Day</b>	<b>pH or ppm TH</b>
Feed Predosing	Sulfuric Acid	40.4	18.4	5.0

Winflows3.x v. 1.2.30 w

Errors and Warnings

13-Nov-2008 15:07

Project: Propmech Corp

Project File

Engineer:

Randy Leathers

Analysis File: PROPMECH.DSI

Analysis Name:

User Defined

Element File Date: May-28-1999

Page: 1

**WARNING!! Concentrate silica exceeds saturation.**

**Warning! - The feed water analysis was balanced with added Na or Cl.**