STW Water Process & Technologies

A Subsidiary of STW Resources Holding

"A Water Solutions Company"

OTCQB: STWS

DESALINATION
WITH
HIGH BRACKISH HIGH RECOVERY HYBRID REVERSE OSMOSIS SYSTEM

In conjunction with

STW's R&D/Strategic Manufacturing Partner

STW Water Process & Technologies

"Environmentally Green Technologies"

STW provides industry leading patented technology with Strategic Manufacturing Partner:

- **REVERSE OSMOSIS DESALINATION:** Brackish water, High brackish water or Seawater or Geothermal Water: STW's "Desalinator" system, combined with a Hybrid high brackish high recovery or Seawater Reverse Osmosis System or the water from geothermal operations, will have no environmentally sensitive concentrated brine reject discharged into the local waterways.

- **Hybrid Membrane Configurations**

  High Rejection, Higher Pressure Membranes in the First Stage
  Lower Pressure Membranes in the Second Stage

- **Interstage Booster Pump**

  Pressure Booster Pump is Installed between 1st and 2nd Stages
  Non-Electric Turbo Charger Can Sometimes Be Utilized

- **Energy Recovery Device**

  Utilizes the Energy From the Reject to Boost Pressure to the Membrane Feed

STW Water Process & Technologies

"REVERSE OSMOSIS SYSTEM"

Hybrid high recovery high brackish Reverse Osmosis System Design Considerations

Advantages

- Evens out Flux Rates Between 1st and 2nd Stages
- Saves Energy
- Better Quality Permeate
- Better Overall Efficiency

STW Water Process & Technologies

"PICTURES OF DESALINATION SYSTEMS FROM ALAN MURPHY'S PAST WORK EXPERIENCE"

STW Water Process & Technologies

"PICTURES OF DESALINATION SYSTEMS"

Municipal RO Plant in West Texas - OPEX DATA

OPEX FOR YEAR 2009-2014 - *EXISTING MUNICIPAL RO PLANT IN WEST TEXAS* - BASED ON *EDWARDS TRINITY* WATER AT *1300-1600 PPM* OF TDS

	HISTORICAL USAGE PER YEAR						HISTORICAL OPEX				
								1 Acre-foot =325,851 Gallons (US)			
	PLANT CONSUMABLES USAGE PER YEAR			PLANT ON HILL ENERGY	WELL FIELD ENERGY	LABOR USAGE PER YEAR	GROSS TOTAL COST EACH YR.	TOTAL BLENDED FINISHED WATER		OPERATING COST	
YEAR	CHEMICALS	FILTERS	FREIGHT	Usage/year	Usage/year	Usage/year	Total Cost/year	Gallons/year	Acre-foot/year	COST Per 1000 Gallons	COST Per Acre-foot
2009	$64,344	$5,675	$5,535	$49,458	$120,551	$206,754	$452,316	1,089,247,997	3,342.78	**0.415**	**135.31**
2010	$66,152	$11,543	$4,184	$72,942	$113,647	$232,318	$500,785	1,037,087,593	3,182.70	**0.483**	**157.35**
2011	$94,680	$9,580	$7,935	$105,000	$172,189	$176,170	$565,555	1,511,852,453	4,639.70	**0.374**	**121.89**
2012	$67,832	$14,045	$5,888	$120,382	$122,745	$158,009	$488,901	1,000,000,000	3,068.89	**0.489**	**159.31**
2013	$60,896	$19,130	$7,722	$149,804	$234,158	$174,529	$646,239	1,238,766,485	3,801.63	**0.522**	**169.99**
2014	$97,700	$3,606	$8,068	$177,148	$258,705	$198,208	$743,434	1,166,148,465	3,578.78	**0.638**	**207.73**
Average Cost /year	**$75,267**	**$10,596**	**$6,555**	**$112,456**	**$170,332**	**$190,998**	**$566,205**	**1,159,547,011**	**3,558.52**	**0.488**	**159.11**

NOTE: Above data is being used with Permission of City of Manager at Municipal Plant

OPERATING COST PROJECTIONS FOR A 1MGD, 10MGD, 30 MGD, 50 MGD PLANT BASED ON AVERAGE COST FROM ABOVE FORT STOCKTON PLANT DATA

	CHEMICALS	FILTERS	FREIGHT	Usage/year	Usage/year	Usage/year	Total Cost/year	Gallons/year	Acre-foot/year	COST Per 1000 Gallons	COST Per Acre-foot
Average cost/day 3.2 MGD	$206	$29	$18	$308	$467	$523	$1,551	3,176,841	9.75	0.488	159.11
1 MGD Finished water	$65	$9	$6	$97	$147	$165	$488	1,000,000	3.07	0.488	159.15
10 MGD Finished water	$649	$91	$57	$970	$1,469	$1,648	$4,884	10,000,000	30.69	0.488	159.15
30 MGD Finished water	$1,948	$274	$170	$2,910	$4,408	$4,943	$14,653	30,000,000	92.07	0.488	159.15
50 MGD Finished water	$3,246	$457	$283	$4,850	$7,347	$8,238	$24,421	50,000,000	153.44	0.488	159.15

Please note: Above Data is provided with permission of City Manager at Water Plant

DESALINATOR SYSTEM
A ZERO LIQUID DISCHARGE TECHNOLOGY
WITH
ADVANCED FLASH DISTILLATION PROCESSES

In conjunction with

STW's R&D/Strategic Manufacturing Partner

STW Water Process & Technology

STW "Desalinator" Advantages over conventional methods

A Subsidiary of STW Resources Holding Corp

STW provides industry leading patented technology with Strategic Manufacturing Partner:

- **ZERO LIQUID DISCHARGE SYSTEM:** STW's "Desalinator" systems, an advanced flash distillation processes with Zero Liquid Discharge capable of recovering 95%+ of the fresh water from high brine concentrate.

- MSE-Multi stage evaporators
  - Produce distillate less than 500ppm depending on source
  - Max TDS 250-350.000ppm
  - Power source: Natural gas and Electricity
- MVR(Mechanical Vapor recompression)
  - Produce distillate less than 500ppm
  - Max TDS 250-350.000ppm
  - Power source: Electricity
  - Higher in CAPEX than MSE caused by compressor system
- FSD(Flash Spray drying)
  - Liquid to dry solids in one step.
  - Max TDS: 800.000ppm depending on feed. Must be able to be pumped
  - Power source: Natural gas and Electricity
  - Low risk of scaling caused by creating crystals in cloud.
  - CAPEX is less than MVR.

STW Water Process & Technology

STW "Desalinator" Advantages over conventional methods

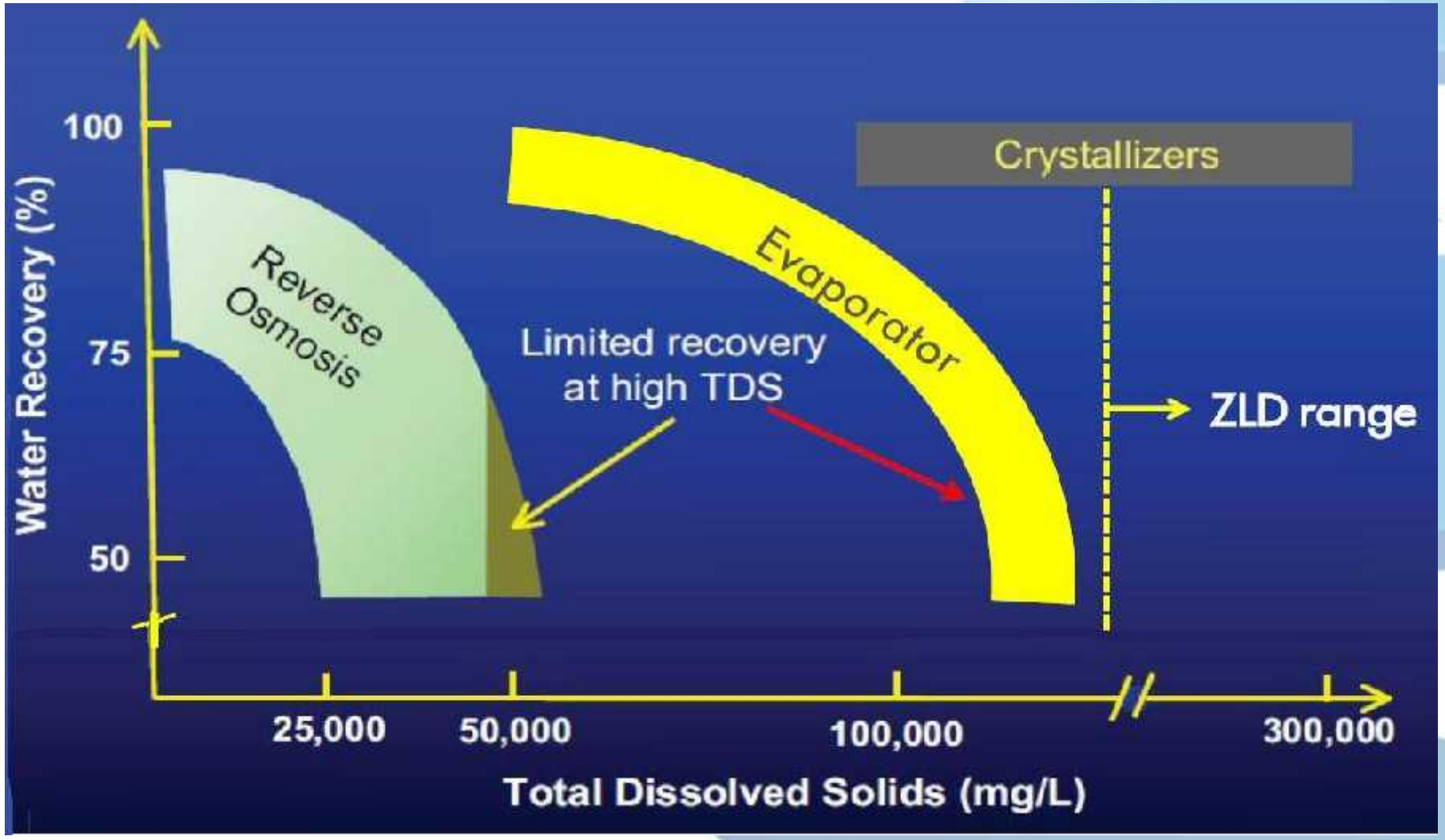
A Subsidiary of STW Resources Holding Corp

- STW Desalinator applicable for all kinds of highly concentrated fluids
  - Removes Total Dissolved Solids (TDS)
  - Removes Hardness
  - Removes TSS
  - Removes Volatiles
  - Disinfection technology

- STW Desalinator is a ***modular system***
- STW Desalinator uses ***no chemicals***,
- STW Desalinator uses ***no membranes***
- STW Desalinator requires ***no pretreatment*** depending on feed water quality
- STW Desalinator requires little operator attention
- STW Desalinator has very high energy efficiency
- STW Desalinator is ***insensitive to scaling or fouling***
- STW Desalinator is designed for continuous operation

"Desalinator"

*basics for this diagram are based on information from another project



Flash Spray Drying

Crystallizer

Evaporation process chambers

Pilot MVR

PLEASE NOTE THAT ABOVE EVAPORATION CHAMBER IS NOT PART OF STW'S SALES OR PURCHASE. IT IS SHOWN HERE FOR VISUAL REFERENCES ONLY. PICTURES ARE TAKEN FROM A WEST TEXAS MUNICIPAL APPLICATION OF SALTTECH'S DYVAR TECHNOLOGY PURCHASED DIRECLTY BY THE TOWN OF MENTONE IN CONJUNCTION WITH BURGESS & NIPLE, INC. STW'S "DESALINATOR" SYSTEM WILL BE A SIMILAR PROCESS BUT DIFFERENT WITH ADVANCED FLASH DISTILLATION PROCESSES DESIGNED TO BE A SOPHISCATED COST EFFECTIVE SOLUTION FOR OUR CUSTOMERS.

QUESTIONS?