



WL WATER - PLATINUM SPONSOR

Sept. 29 & 30, 2016 adisson Hotel & Suites, Downtown Austin, TX

Southmost Regional Water Authority Partners

Valley Municipal Utility District No.2 2.51%



Brownsville Public Utilities Board 92.91%





Brownsville Navigation District 2.10%



City of Los Fresnos 2.28%



Town of Indian Lake 0.20%



Background

- Conservation and Reclamation District formed in 1981 to address long-term regional water supply issues for southern Cameron County
- Dormant until 2000, then resurrected in response to the extended drought of the late 1990's
- Partners came together to consider using brackish groundwater as an alternate water supply







Time Line

2002

design

Engineering

2004

Brackish

Facility

Groundwater

Treatment

construction

completed

2015

Microfiltration pretreatment and expansion project complete

2001

Regional brackish water feasibility study & well field evaluation

1996

BPUB & TWDB: study on brackish groundwater



Brackish Groundwater Desalination



Treatment Facility

- Reverse Osmosis (RO) Membrane Technology
- 7.5 MGD Original Plant Capacity (2004)
- Expanded to 10 MGD (2015)
 - Added microfiltration pretreatment to reduce arsenic and iron levels
 - 11,200 acre-feet of water rights saved (equivalent \$22.4 Million)



Brackish Groundwater Wells



20 Brackish groundwater wells

- Well depth: approximately 250-300 feet
- Groundwater: 3,000 mg/L total dissolved solids (TDS)

USBR Well Monitoring Project (2017)







Concentrate Management



Surface Water Discharge

- Cameron County
 Drainage Ditch
- 13,000 mg/L TDS
- TCEQ Discharge Permit: TDS daily max—35,339 mg/L



Cost Summary

FY 2015 O&M Costs

- \$3.1 Million
- Electrical: 30% of operational costs
- Chemicals: 38% of operational costs

FY2015 Unit Costs

- \$1.42 per kgals (O&M)
- \$1.23 per kgals (Treatment)
- \$2.47 per kgals (Debt Service, Capital, and O&M)





SRWA Benefits and Challenges

Benefits

- Alternate water supply
- Independent of Rio Grande
- Water rights savings
- Produces high quality water
- Modular design

Challenges

- Arsenic levels in groundwater
- Higher operating costs
- Discharge permit
- Specialized training (SCMA)





THANK YOU



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