



WSI INTERNATIONAL

COMPANY OVERVIEW

INTRODUCTION TO WSI

Core Technologies and Equipment

- Multi-Stage Dissolved Air Flotation Systems
- Thickening & Dewatering Presses
- Moving Bed Biofilm Reactor (MBBR)
- Modular Oil & Gas Treatment Centers
- Containerized Produced Water Treatment System
- Package Wastewater Treatment Plants

Presenters



Poe Tyler
President of WSI



Sean Fields
Vice President of Sales



Ben Garcia
Vice President of Engineering

WSI SERVICES

Systems

Design & Build Equipment, integrated systems and complete plants for Water and Wastewater Treatment, Water Recycling and solids recovery and disposal

Engineering

Provide Engineering Design Services for new installations and renovation of existing systems

Service

Provide ongoing service and support for WSI Installations

24/7 Support Services

CORE MARKETS

Industrial Wastewater

- FOG Removal & Screening (Pre-Treatment)
- Biological Nutrient Removal
- Water Recycling
- Dewatering

Oil & Gas

- Frac Flowback & Produced Water Recycling
- Brine Fluid Manufacture from Produced Water
- Closed-loop Drilling
- Tank Bottom Dewatering

Municipal

- Package Wastewater & Water Recycling
- Design-Build Wastewater & Water Recycling
- Biosolids Dewatering





PACKAGED WWTP PLANTS

PROJECT REFERENCE

Shores of Kohanaiki – Kailua-Kona, HI

70,000 GPD Wastewater Treatment System & Reuse Water

The Shores of Kohanaiki WWTP is the first of three phases to serve this resort development on the Big Island of Hawaii. It was designed and manufactured entirely by WSI. The plant is situated on the edge of the golf course making odor and noise impact of the utmost importance. The plant treats to R-I water quality standards (the highest standard in Hawaii) and is permitted for spray irrigation on the golf course and landscaping within the development. The system is a WSI BCR design and includes a denitrification package to meet stringent nitrate and nitrite effluent limitations.



PROJECT REFERENCE

Caviness Beef – Hereford, Tx

20,000 GPD Wastewater Treatment System & Reuse

The treatment system at Caviness Beef Packers treats the domestic wastewater stream from the personnel at the packing facility. The system was supplied with integrated controls and was installed and ready for operation within one week. The effluent is used for irrigation of adjacent agricultural land.



PROJECT REFERENCE

Avanti Kitsault Mine – Terrace, Canada

10,000 GPD Wastewater Treatment System

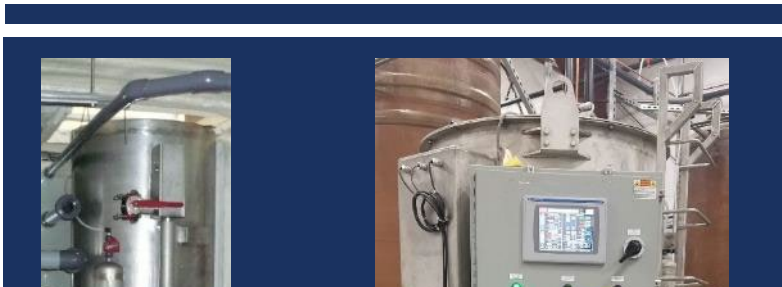
This containerized package wastewater treatment plant services the remote Kitsault molybdenum mining operation and associated mancamp. The plant is fully winterized to operate in temperatures to -40°C . The system treats to meet effluent limitations of 10mg/l BOD and 10mg/l TSS, includes primary and secondary DAF systems, tertiary filtration and UV disinfection. Delivery to the site required the package to be skidded the final 10 miles.



A photograph of a large industrial Dissolved Air Flotation (DAF) system. The system features a complex network of stainless steel pipes, valves, and two large vertical cylindrical tanks. A blue metal frame with yellow safety grates surrounds the equipment. A large blue electric motor is connected to a pump assembly. In the background, an American flag is visible. A dark blue banner with white text is overlaid at the bottom.

DISSOLVED AIR FLOTATION

Quincy
COMPRESSOR



C-7



C-12



R-25



R-50



R-75



R-75-OG



R-325

WSI DISSOLVED AIR FLOTATION

- Proprietary in-tank whitewater diffusers
- Utilizes Nikuni DAF Pump Technology
 - Eliminates separate air compressor requirement
 - 90% Saturation efficiency
 - Superior bubble size distribution (90% of bubbles are less than 10 μm in diameter)
- Independent zone control
- Gas ionizing system
- Based on 15 years of R&D



PROJECT REFERENCE

Prairie Farms – Fort Wayne, IN

200,000 GPD DAF and Treatment System

The Shores of Kohanaiki WWTP is the first of three phases to serve this resort development on the Big Island of Hawaii. It was designed and manufactured entirely by VWSI. The plant is situated on the edge of the golf course making odor and noise impact of the utmost importance. The plant treats to R-I water quality standards (the highest standard in Hawaii) and is permitted for spray irrigation on the golf course and landscaping within the development. The system is a VWSI BCR design and includes a denitrification package to meet stringent nitrate and nitrite effluent limitations.



PROJECT REFERENCE

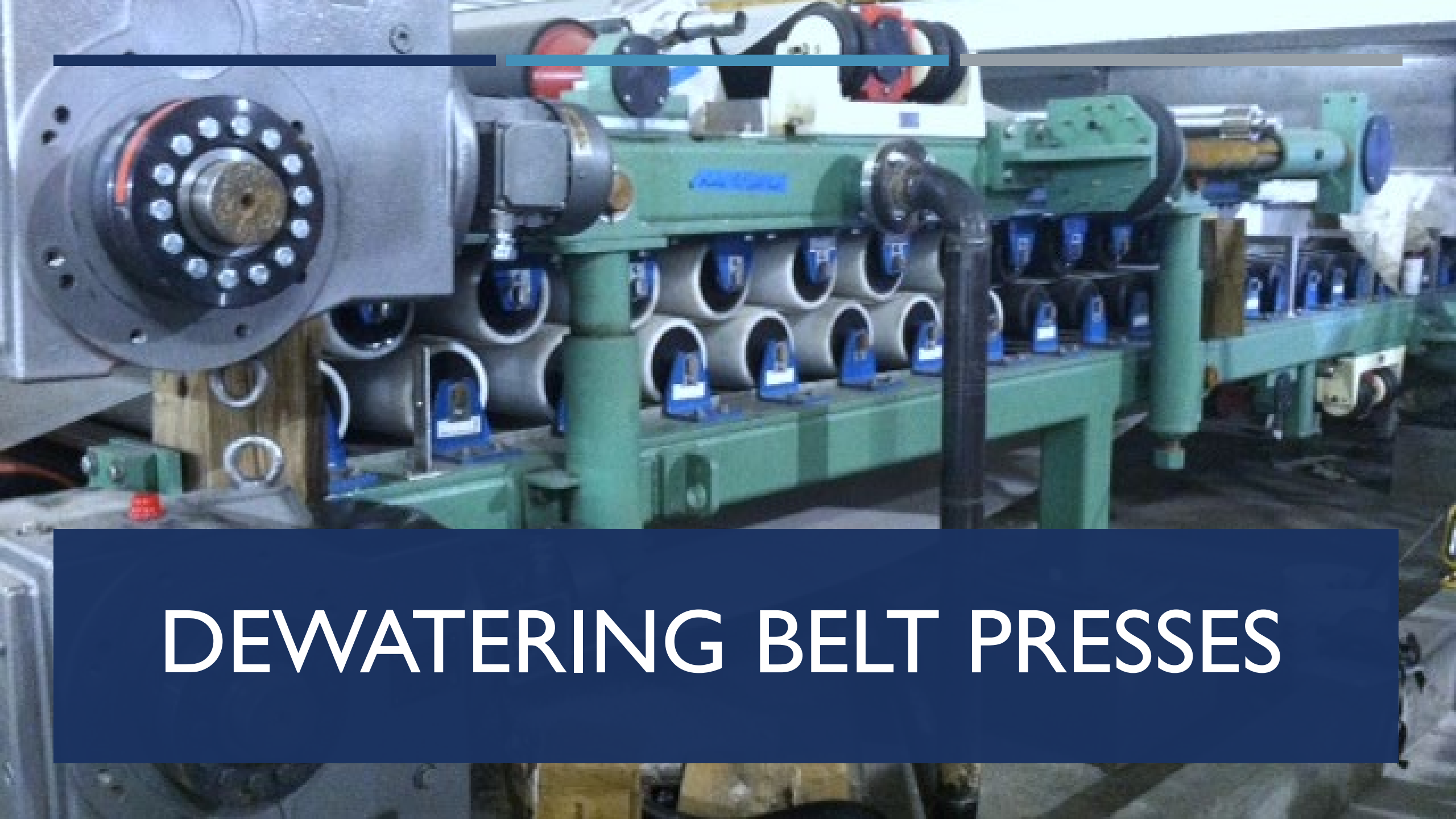
EOG Resources Brine Facility – New Town, ND

Equipment: R-75-OG

The facility treats heavy produced water (9.8 – 9.9 lb/gal) from the surrounding wells to remove suspended solids and precipitate scalants. The treated water is then weighted as necessary to service their surrounding brine demand.

EOG added a VSI R-75-OG DGF unit to their brine manufacturing plant to replace existing gravity clarifiers. The DGF unit allowed the facility to transition from batch to continuous operations and increased the throughput capacity to 5,000 barrels per day (a nearly 3 fold increase)





DEWATERING BELT PRESSES

THICKENING & DEWATERING PRESSES

Innovative Machine Designs Tailored for:

- Oil & Gas - Tank Bottoms
- Oil & Gas – Frac Flowback/ Produced Water Sludge
- Mine Tailings/ Dry Stacking
- Industrial Mud Applications
- Municipal Biosolids
- Food & Beverage



WSI PRESS MODELS

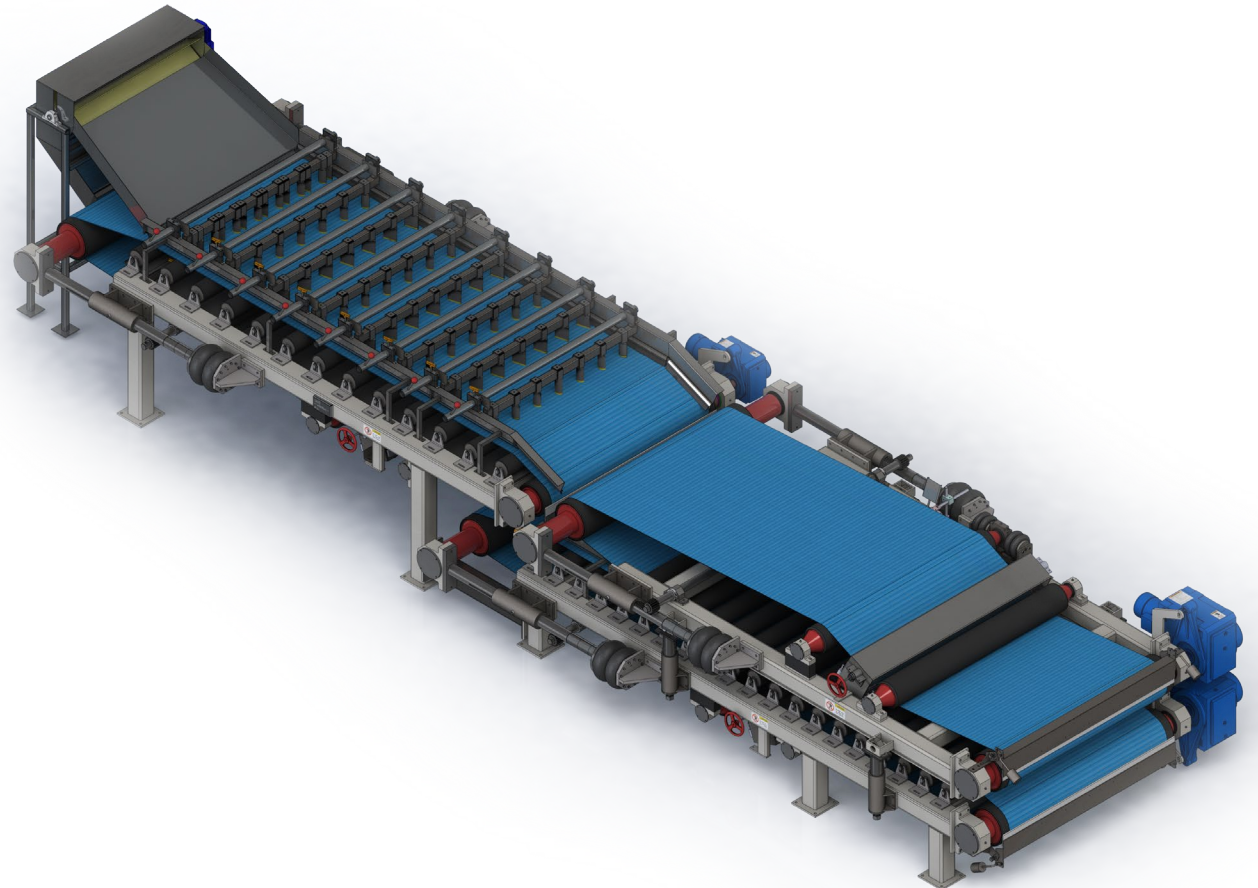
3-Wire Extended Gravity

Features:

- Independent Gravity Deck for Pre-Washing & Thickening
- Independent Drive Motors to prevent belt creasing
- Designed for heavy grit & binding sludge applications

Target Markets

- Oil & Gas - Tank Bottoms Dewatering
- Oil & Gas - Drilling Muds (Closed Loop Drilling)
- Mine Tailings – Dry Stacking
- Industrial Mud Applications
- Lime Sludge Applications (Softening)



WSI PRESS MODELS

Features:

- Low Profile
- Integrated Gravity Deck (Reduces Cost)
- Independent Drive Motors to prevent belt creasing
- Designed for heavy grit & binding sludge applications

Target Markets

- Oil & Gas - Tank Bottoms
- Oil & Gas - Drilling Muds (Closed Loop Drilling)
- Mine Tailings – Dry Stacking
- Industrial Mud Applications



2-Wire Extended Gravity Wedge



2-Wire Extended Gravity S-Roll

WSI PRESS MODELS

2-Wire Perforated Drum S-Roll Press

Features:

- Perforated Drum Dewatering Roll entry to S-Roll Section
- Integrated Gravity Deck (Reduces Cost)
- Compact sludge distribution box
- Independent Drive Motors to prevent belt creasing
- Stacking Design to reduce overall footprint

Target Markets

- Industrial Mud Applications
- Municipal Biosolids





THANK YOU!



Poe Tyler
ptyler@wsi-llc.com
(808) 265-2060



Sean Fields
sfields@wsi-llc.com
(720) 468-2783



Ben Garcia
bgarcia@wsi-llc.com
(480) 241-5035