



Product overview and recent projects

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[Desalters.com](http://Desalters.com)

# BUILDING DESALTERS WORLDWIDE

- Internals design and fabrication for revamp or retrofit
- Onsite Desalter & Precipitator Construction
- 99-point inspection
- Open air electrical testing
- Performance optimization with over 85 years combined experience
- Commissioning
- Consulting
- Start-up & Shutdown Procedures
- Operator Training



# SUPERIOR QUALITY HIGH VOLTAGE REPLACEMENT PARTS

- Transformer entrance bushings
- Vessel entrance bushings
- Bushing Housings
- Insulators
- Transactors
- Meter Panel and Marshaling Box



# Performance Optimization **Process Review**

The process review is used to pinpoint inlet feed and operational characteristics of concern based on over 85 years of experience in the petrochemical industry.

The benefits include risk mitigation, design optimization, maintaining predictable operating parameters, and lower CAPEX/OPEX.

Each review is unique with a similar outcome- No Surprises

**The review can include both onsite evaluation and offsite analytical testing including but not limited to:**

- Raw Feed Physical Properties
- Pilot Testing
- Treatability Including Blended Feeds
- Proposed vs. Optimum Design Variables





# Effects Of Process Parameters On Performance

The typical view of dependent variables related to electrostatic separation design and performance involves temperature (viscosity) of the oil, density, BS&W, salt content, wash water rate, and charge rate. When inefficient operation or upset occurs the electrostatic equipment is blamed.

The most effective and efficient equipment design is influenced by many more variables involved in the process. Common practices that negatively effect operation and performance are often overlooked :

- Blending crude oil can lead to compatibility issues
- Blended wash water compatibility issues
- Wash Water chemistries
- Injection of waste light oils carried from wash water source
- SSR system upset and solids content (iron)
- Slop Injection
- Improper demulsifier chemistries
- Improper Wash Water Temperatures



# BUSHING HOUSINGS





## New Meter Panel and Marshalling Box





# Insulators

- Highest quality virgin PTFE
- Superior design with solid CNC machined connection ends for maximum strength and durability.
- Not welded and prone to failure like competition.



# Entrance Bushings

- Highest quality virgin PTFE
- Proprietary design ensures maximum strength and durability
- Provide maximum safety when in combination with Desalters LLC housings and solid conduit connection to transactor.

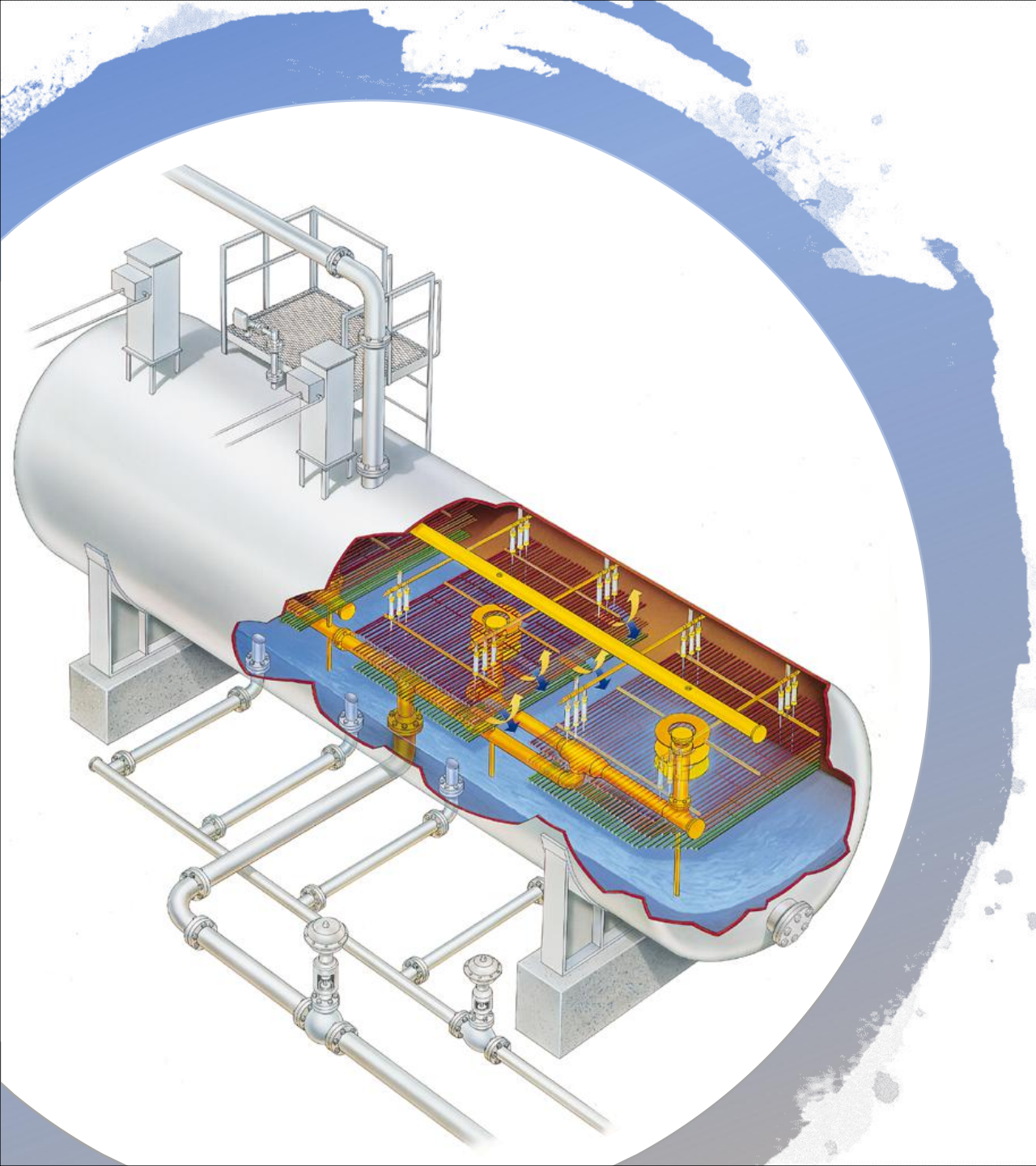


# Before and After- Transformer, Housing, Bushing Replacement



# Transactor

- **Combination transformer and current-limiting reactor**
- **Non-overloading type**
- **Full impedance (100%) reactor**
- **Units designed to NEC Class I, Div. 2, Groups C&D, hazardous locations**
- **Multiple secondary voltage levels can be provided (8-16 KV)**
- **Transactor rating typically 2-3 times the expected load**



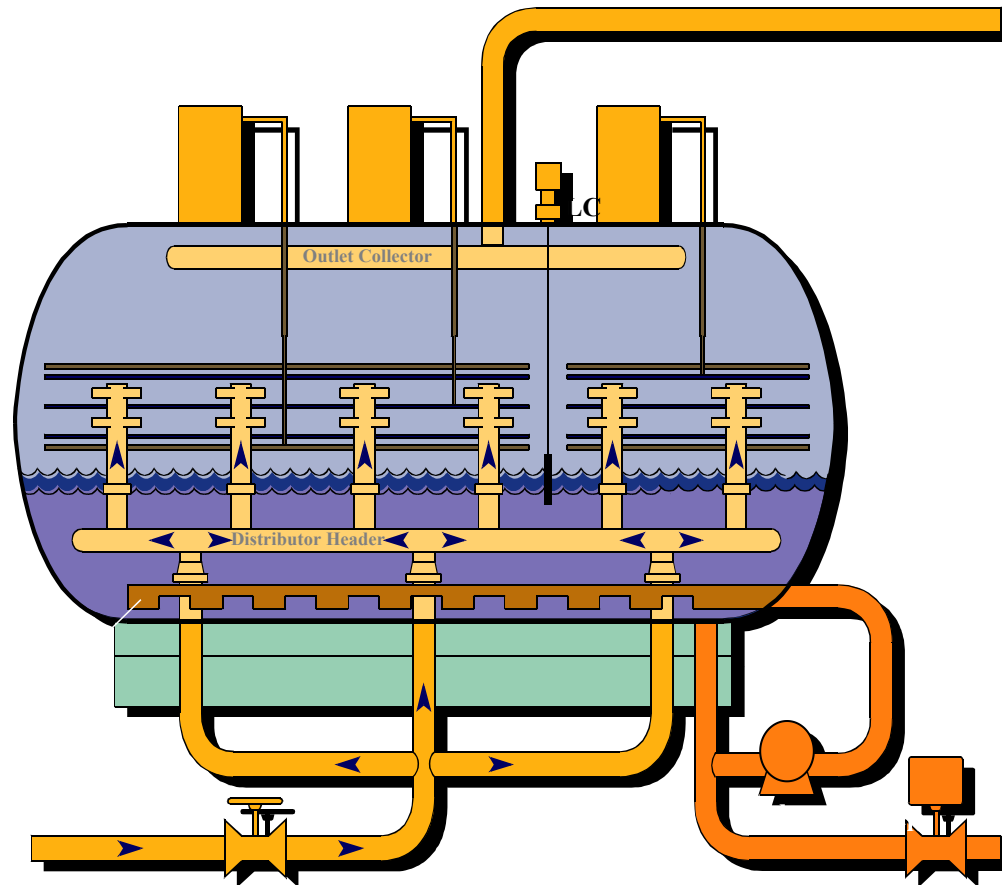
## THE TRIDENT

We can retrofit desalter internals to our Trident series for superior performance



# TRIDENT®

## Desalter Design Features



- Distribution system with horizontal emulsion entry between 3 energized electrodes
- Capacity increase 1.75 – 2.0 times earlier types
- **Quiet Zone, low turbulence water phase**
- Interface level 12"-18" below lower electrode
- Maximum water residence time = Low oil in effluent water

# TRIDENT Distributor



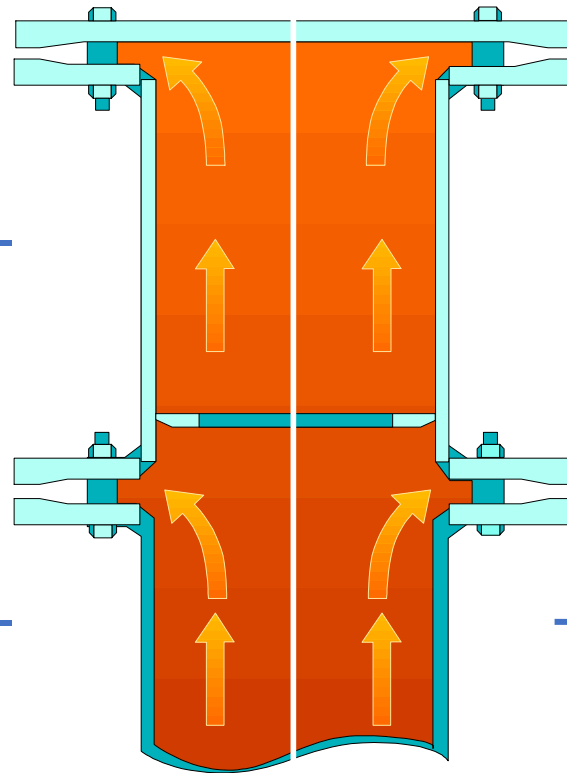
TOP  
ENERGIZED GRID

MIDDLE ENERGIZED GRID

MIDDLE ENERGIZED GRID

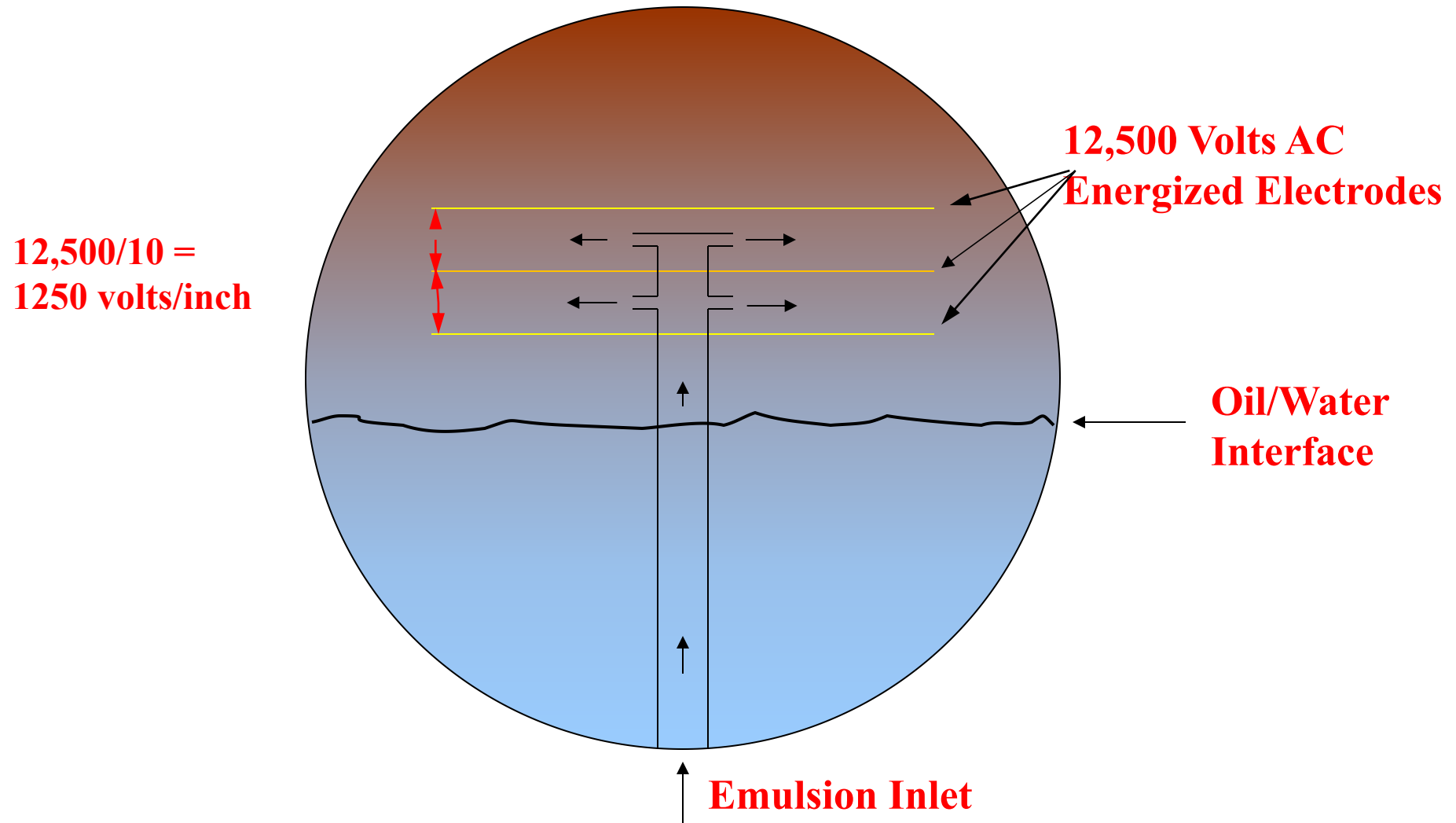
LOWER ENERGIZED GRID

LOWER ENERGIZED GRID





# DESALTERS LLC TRIDENT Voltage Gradient



# Emulsifying Valve

- Specially designed for mixing fluids (not a control valve)
- Use Only Double Ported, Quick Opening Trim
- Creates wash water droplets approximately same size as brines for highest salt removal efficiency
- Adjustable for different flow rates
- Static mixer not required nor recommended



# Limetree Bay Refinery- St. Croix (BEFORE)



- 2019 Project
- Five low velocity desalters
- Vessel size- 128' x 14'
- Idle for approx. 9 years
- Required complete revamp

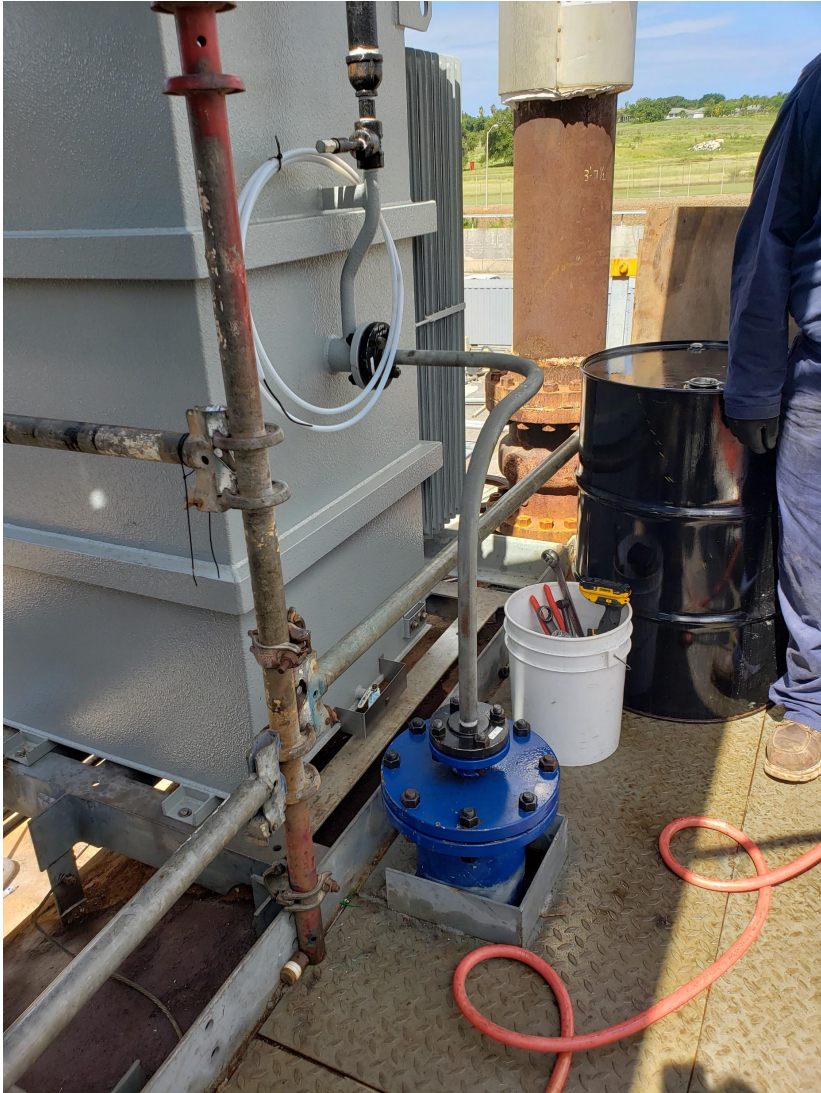


# Limetree Bay Refinery- St. Croix (AFTER)



- Total revamp of 3 out of 5 desalters have been completed to date
- 37,000 lbs. of material delivered to site without incident
- Revamp completed in 4 weeks.
- Completion time was 3 weeks ahead of schedule
- Final vessels scheduled for completion 2021.





## Limetree Bay Refinery- St. Croix

- 250 kvA Transactor, Housing, and Bushing Install



# Limetree Bay Refinery- St. Croix



Trident Grid and  
Bushing Installation



# S.I.R- Abidjan Oil Refinery



- 2019 Project
- PETRECO Chem-electric
- Required replacement of electrical grids and electrical components

# Valero Energy- 3 Rivers



- Completed early 2020
- Revamp of electrical components
  - 3 vessels
  - Compression and hanging type insulators
  - Transformer Entrance Bushings
  - Vessel Entrance Bushings

# Chevron- El Segundo



- Completed mid 2020
- Revamp of electrical components
  - 2 vessels
  - Total of 108 insulators
  - 6x Transformer Entrance Bushings
  - 6x Vessel Entrance Bushings

# All Jobs Completed 2019-2020



- AFRICA – CAMAROOON
- AFRICA IVORY COAST
- BELQUEST, GABON AFRICA
- BERGEN NJ – INDONESIA
- BP HUSKY SUPERIOR WI
- CHEVRON EL SEGUNDO CA
- CHEVRON PASCAGOULA MS
- CHEVRON RICHMOND CA
- CITGO CORPUS CHRISTI TX
- EXXON BATON ROUGE LA
- EXXON BEAUMONT TX
- EXXON BAYTOWN TX
- EXXON METARIE LA
- HOLLY FRONTIER TULSA OK
- HOLLY FRONTIER CHEYENNE WY
- LIMETREE BAY REFINERY ST. CROIX
- MARATHON WILMINGTON CA
- MARATHON MANDAN ND
- LIMETREE BAY REFINERY ST. CROIX
- PHILLIPS 66 BEL CHASE LA
- PHILLIPS 66 RODEO CA
- PHILLIPS 66 WILMINGTON CA
- PAR (OLD CHEVRON) KAPOLIA HJAWAII
- SHELL MARTINEZ CA
- SUPERIOR REFINING SUPERIOR WI
- VALERO MCKEE TX
- VALERO MERAUX LA
- VALERO MEMPHIS TN
- VALERO THREE RIVERS



# SAFETY RECORD

- Desalters LLC is a proud member of ISNetworld contractor certification safety program.

**SAFETY IS OUR TOP PRIORITY!**

- (0) Fatalities
- (0) Work related accidents
- (0) Days missed
- (0) OSHA recordable incidents
- (0) OSHA reportable incidents

