



Streamline

“Valkyrie™ – The Next Generation REDOX” H₂S Removal Technology

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Who is Streamline?

Streamline is a technology company focused on innovative and sustainable gas and water treatment solutions for natural gas, produced water, and wastewater. The company's patented, regenerative, environmentally forward gas treatment process represents a step change improvement in H₂S treatment.



San Antonio
Pleasanton
Midland



Founded in 2015



Experienced Team



Patented Products



Long-Term
Customer
Relationships

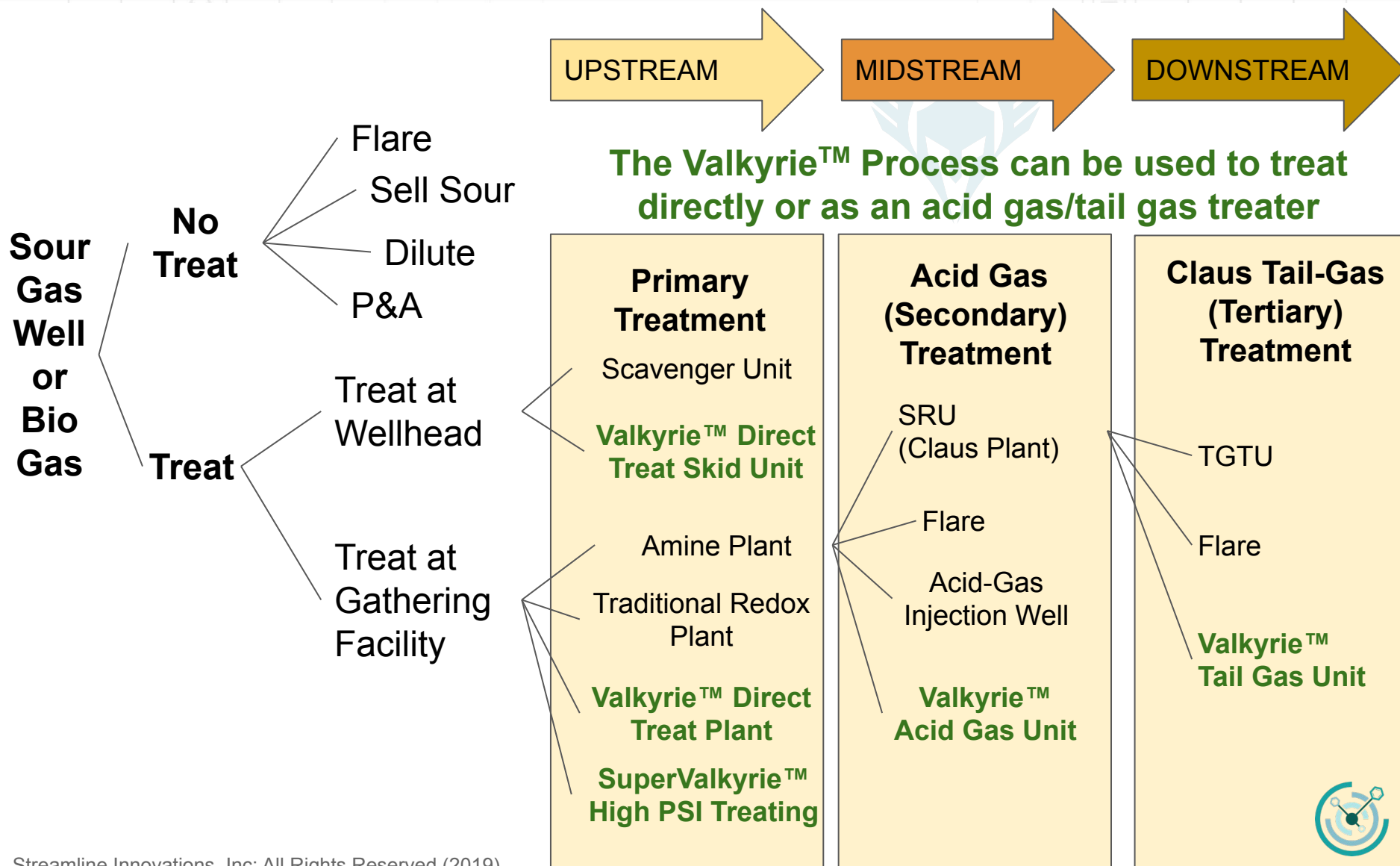


Technology solving
Complex
Challenges
Innovations

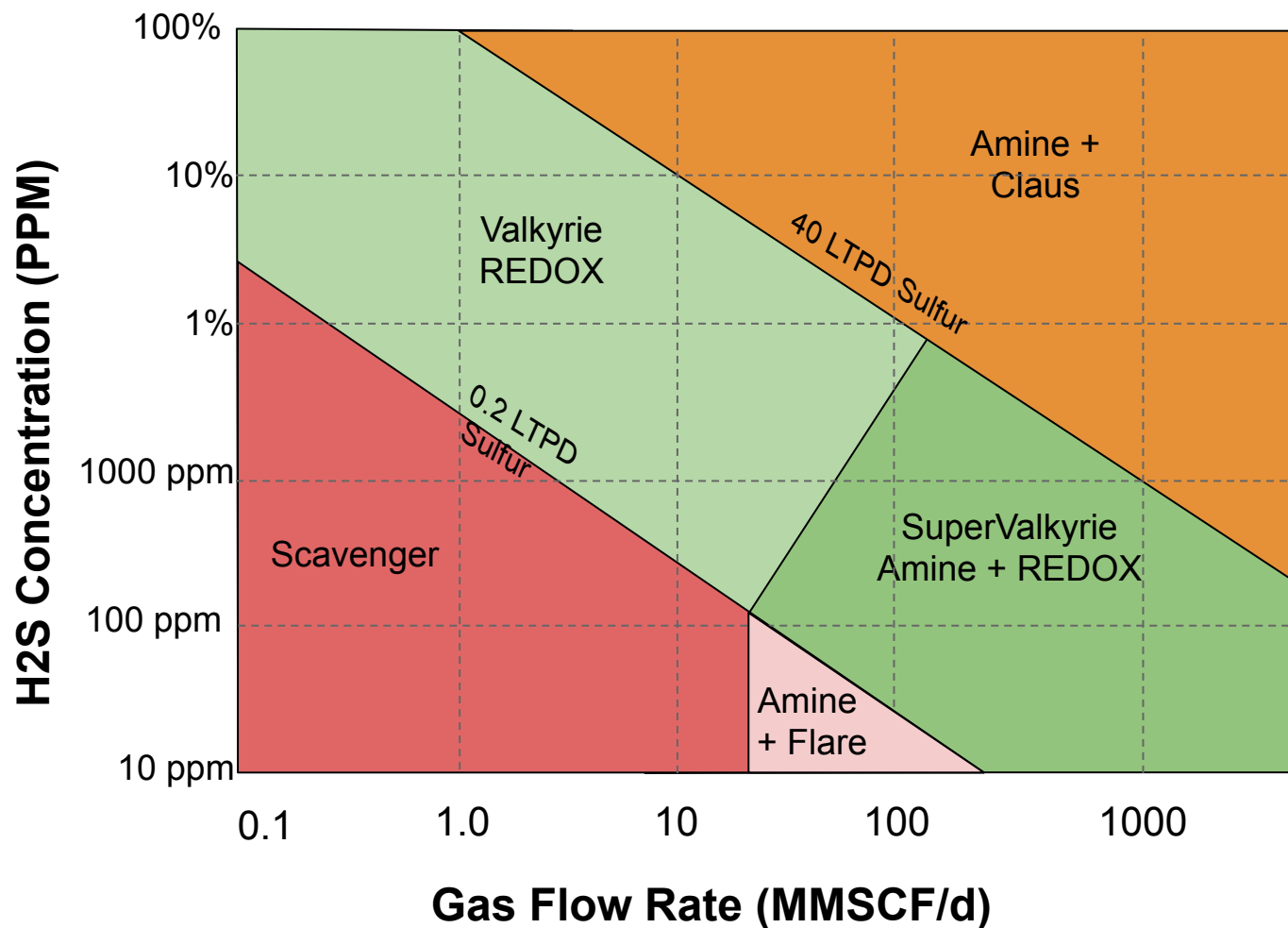
A Paradigm Shift In H₂S Treating Technology.



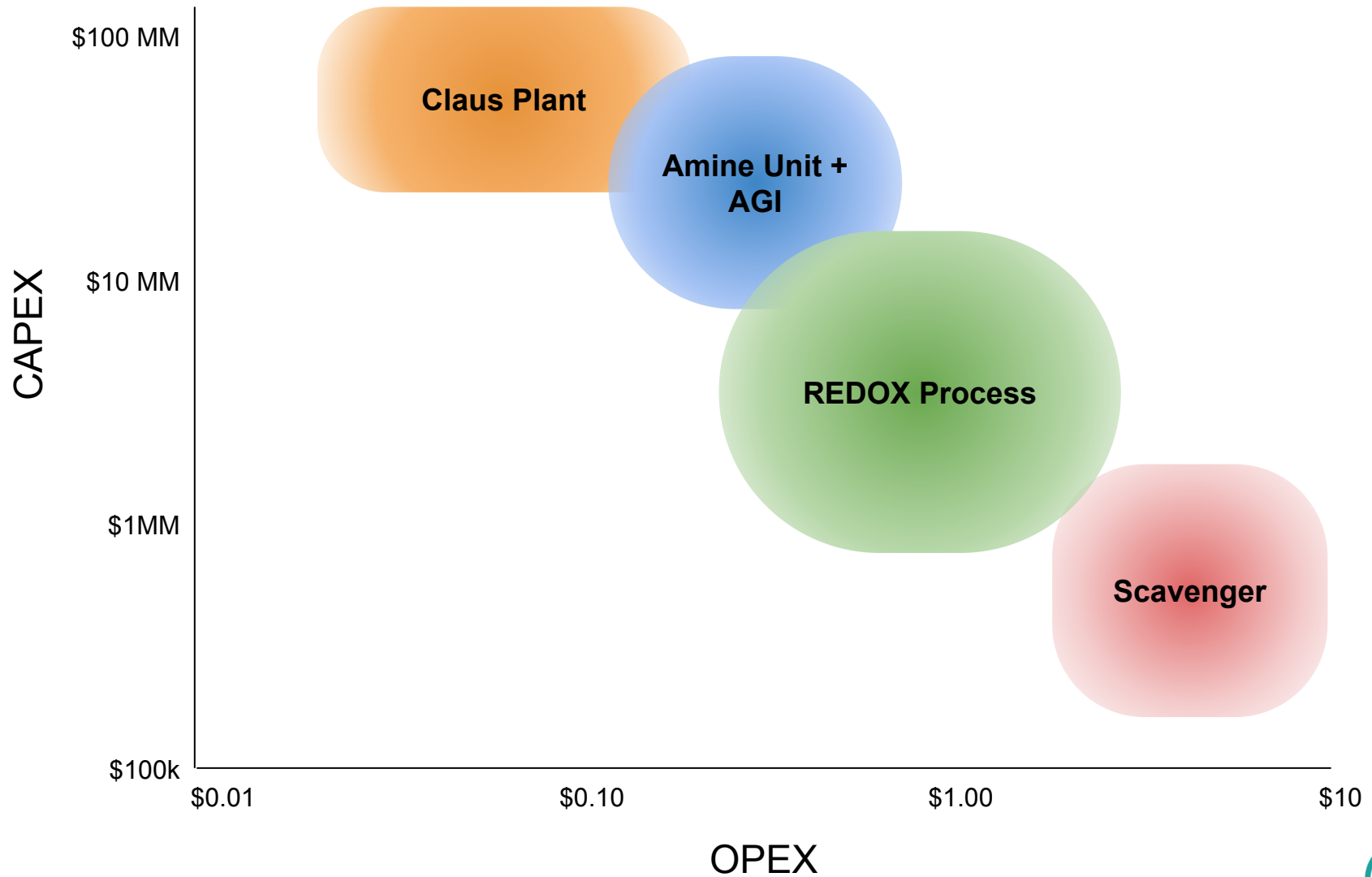
Treatment Options for Treating H₂S



H₂S Removal Technology Operating Range



Technologies - OPEX vs CAPEX



“Next Generation REDOX”

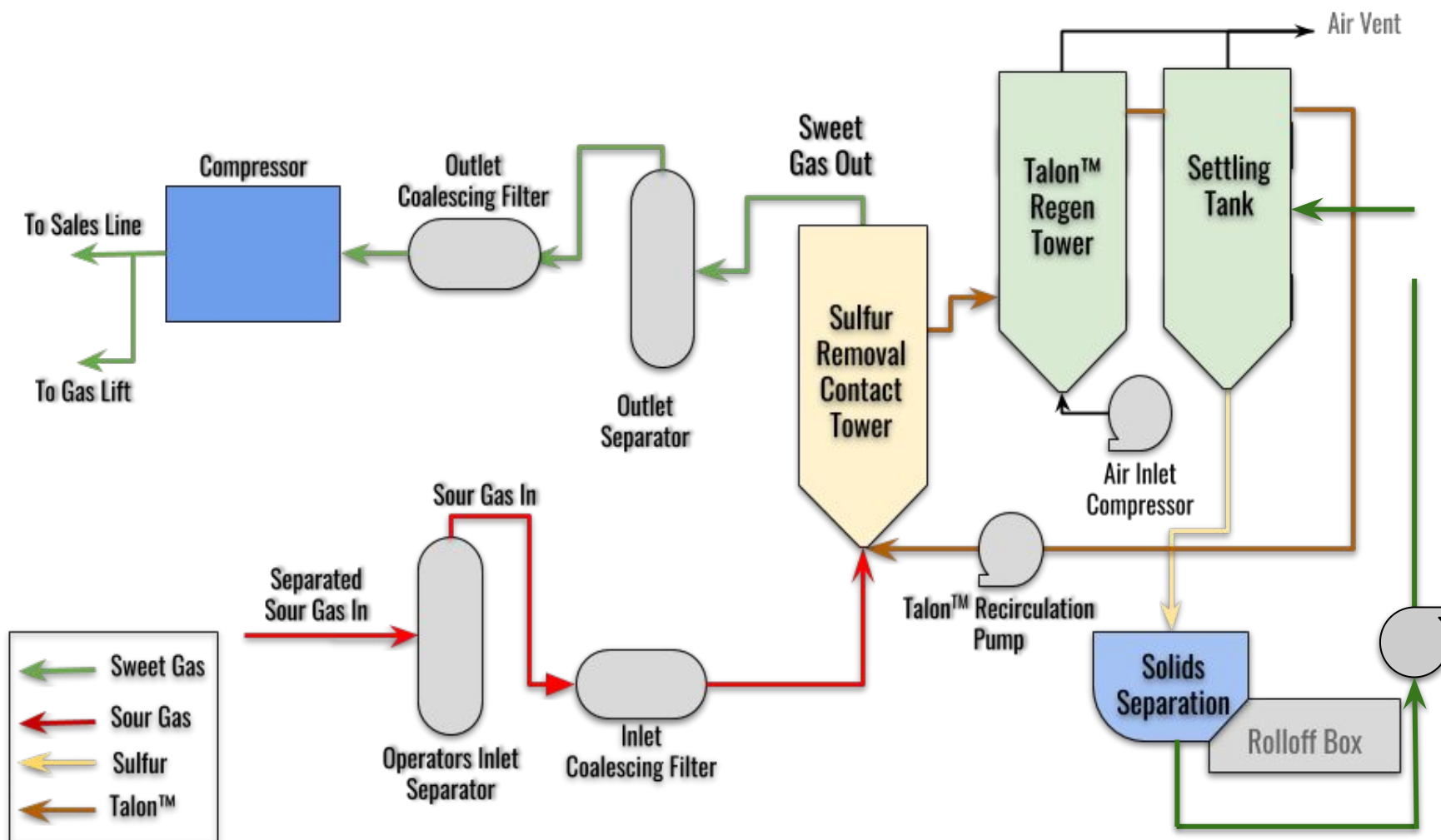
Streamline - How we are different?



- Robust Chelant Formulation
- Low Degradation Rate
- Custom Surfactant blend -
control foaming and sulfur
quality
- Advanced Control
Technology
- Fee for Service - Turnkey
Business Model



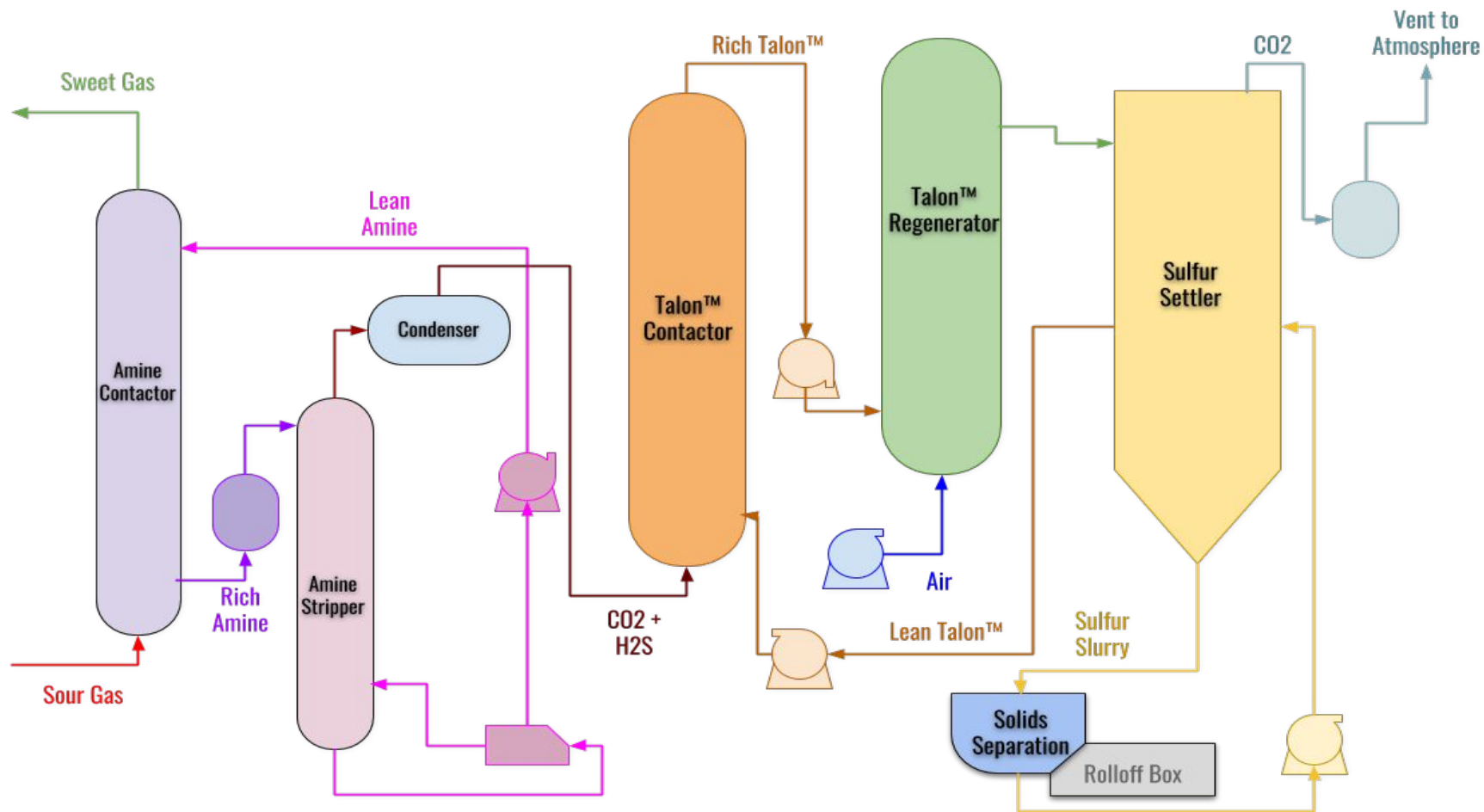
Valkyrie™ H₂S Treatment Process



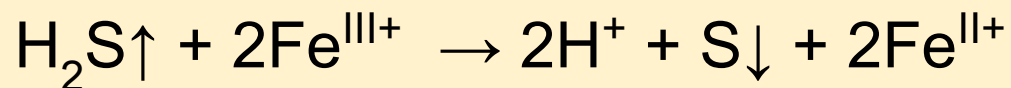
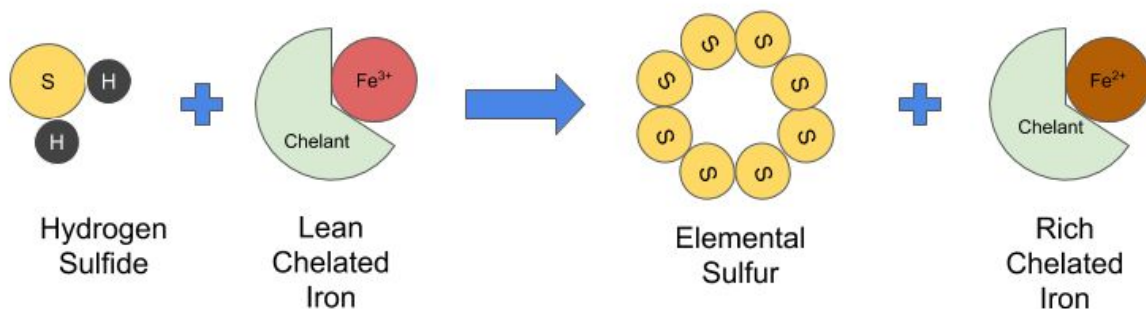
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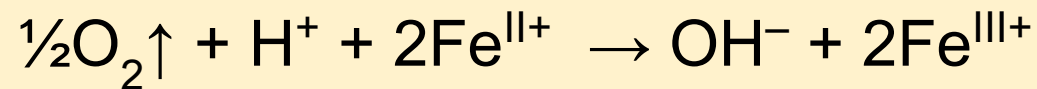
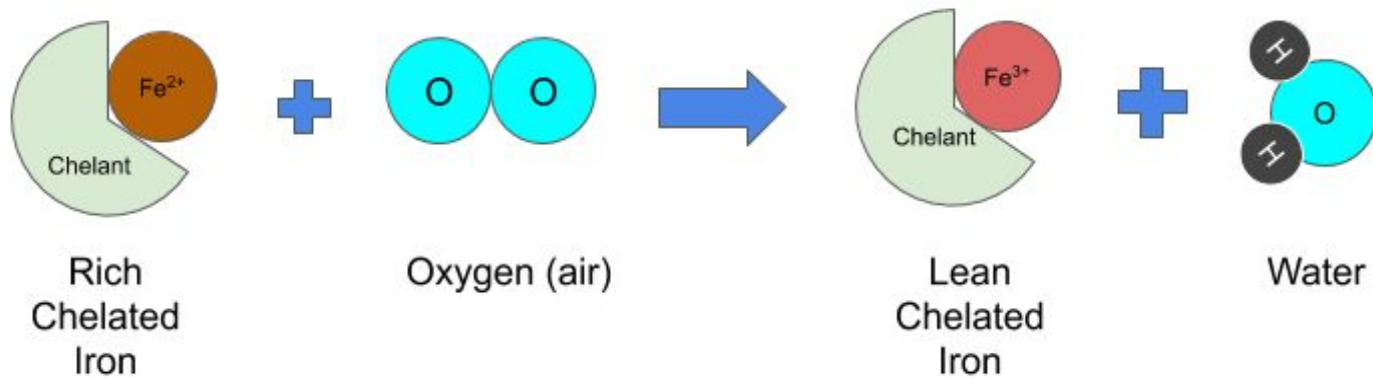
SuperValkyrie™ Process



Valkyrie™ Treatment Sequence - Step 1 REDuction

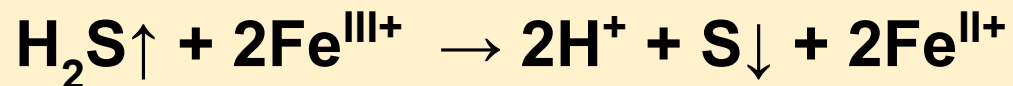


Valkyrie™ Treatment Sequence - Step 2 OXidation

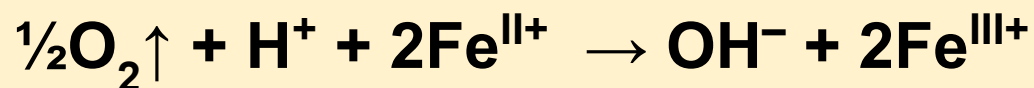


Valkyrie™ Treatment Sequence - Overall Reaction REDOX

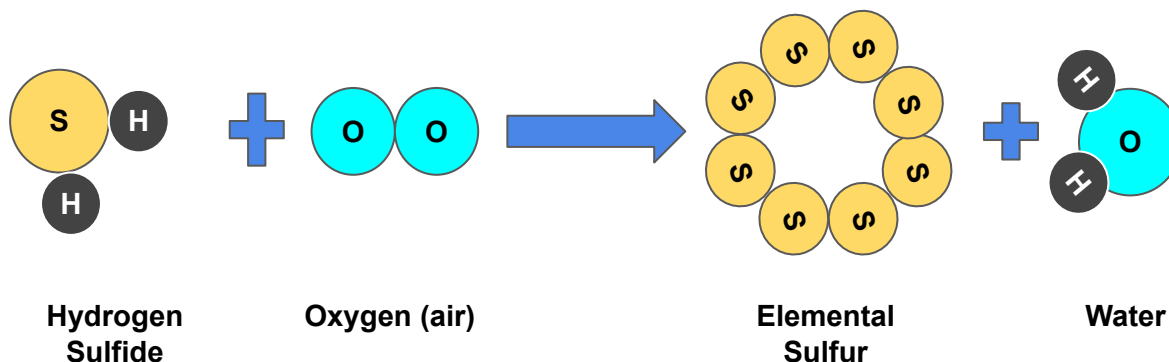
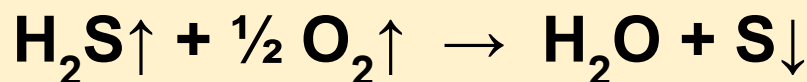
RED



OX



REDOX

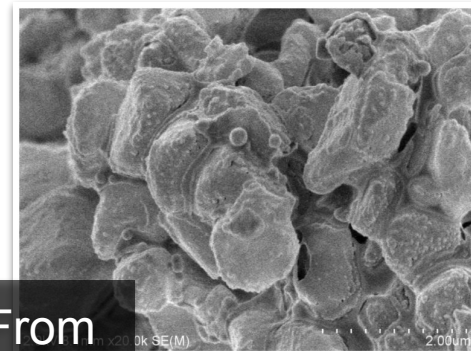


Valkyrie™ - High Quality Sulfur

Elemental Sulfur From a Claus Plant is crystalline



Elemental Sulfur From Valkyrie Process is amorphous



Valkyrie™ - Sulfur Management



Elemental Sulfur is filtered and water washed by an automated filter press and dumped in a roll-off box, hauled to landfill or reused for agricultural soil amendment.



Valkyrie™ Case Studies

CASE #1

Gen 2.0 - Well Pad Treating

0.75 LTPD

Design Basis:

- 3 sites
- Total of 13 MMSCF/d of sour gas
- Avg 1370 ppmv H₂S - 5,000 ppm Peak

Goal: Replace triazine units

Result:

- Reduction in LOE in treating costs from \$105,000 to \$60,000 per month (43%)
- 98% uptime with no lost time or HSE incidents



Valkyrie™ Case Studies

CASE #2

Central Production Facility Plant 15.0 LTPD

Design Basis:

- 25 MMSCF/d of sour gas
- 16,000 ppmv H₂S

Goal:

- Replace costly Triazine Units
- Prevent AGI from becoming necessary

Result:

- PFD to Startup in 29 Weeks!
- Operator found H₂S Levels rise to 30,000 ppm and higher
- Upgraded to 18.5 LTPD
- 98% uptime
- Saved \$4M / month opex



Valkyrie™ Case Studies

CASE #3

Central Production Facility Plant Expansion (Modular)

14.0 LTPD

Design Basis:

- 15 MMSCF/d of sour gas
- 25,000 ppmv H₂S

Goal: Prevent AGI from becoming necessary

Result:

- Unit was redeployed to a different client
- Original design was greenfield, relocated to crowded brownfield location
- Entire system set in 5 days (after groundwork)
- *Field Install to startup in 9 weeks!*



Valkyrie™ Case Studies

CASE #4

Gen 2.5 Well Pad Treating (Fully Modular Skid) .5 to 1.0 LTPD

Design Basis:

- 7 MMSCF/d of sour gas
- 5,000 ppmv H₂S

Goal:

- Replace Triazine and Fixed Iron Bed Scavenger
- Eliminate flaring/SO₂ Emissions

Result:

- 4 Units deployed to different clients
- Quick Install and Startup
- Highly Efficient Operations



Valkyrie™ Case Studies

CASE #5

SuperValkyrie™ - Amine + Acid Gas Treatment

1.1 LTPD (3 units)

Design Basis:

- 60 MMSCF/d of sour gas
- 500 ppmv H₂S
- Smart Amine Plant Integrated with Valkyrie Acid Gas Treater
- 170 ft x 70 ft Footprint

Goal:

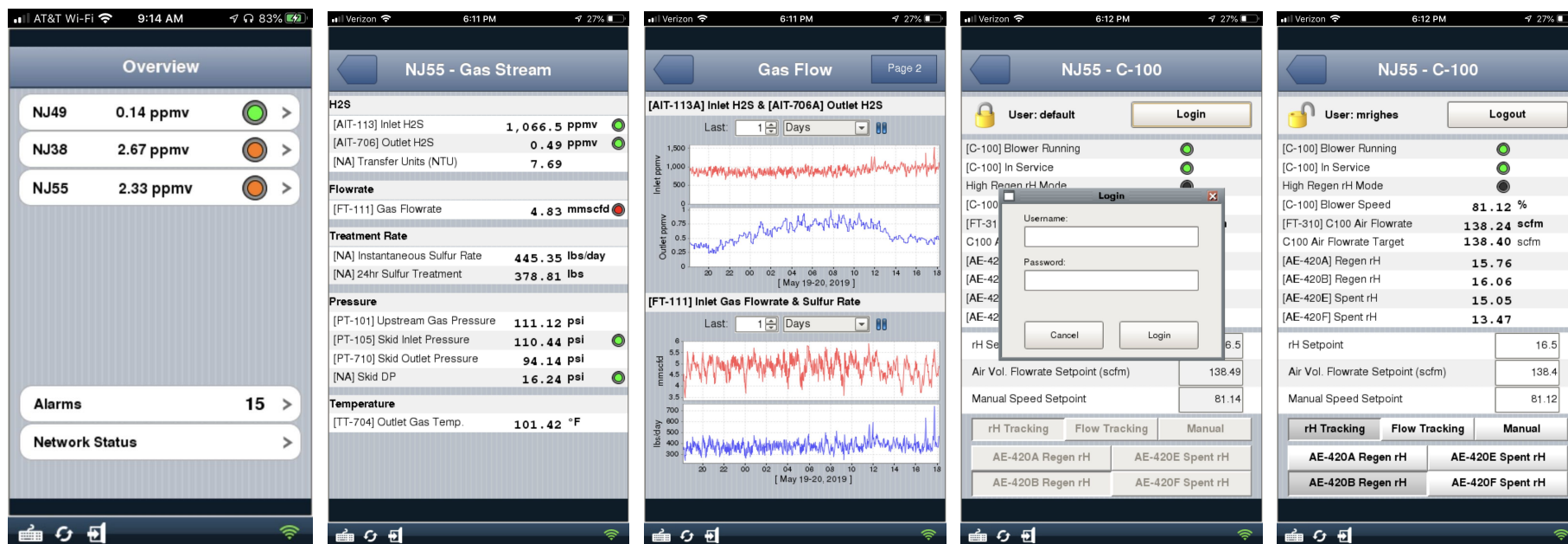
- Replace Triazine and Eliminate Flaring/SO₂ Emissions

Result:

- Integrated Smart Amine + Acid Gas Treater
- 3 Units Online in May, 2020



Valkyrie™ Mobile Control





Valkyrie™ Differentiators

“Next Generation REDOX”

Chemical Benefits

- Non-Hazardous, Patented, Biodegradable Regenerative Chemistry
- Highly Resistant to Degradation
- Rapid Reaction Speed (Minimal NTU's Required)
- Virtually No Thiosulfate Formation
- Removes Oxygen in Gas Stream

Operational Benefits

- Higher Quality Wettable, Marketable Sulfur
- No Melting Requirements, Sulfur Removed as Cake
- Minimal Operating Requirements (managed by PLC)
- Full Turnkey Operations by Streamline



Questions?

