DOWNHOLE STEAM GENERATOR FOR HEAVY OIL EXTRACTION

NOVEL, DISRUPTIVE AND GAME-CHANGING

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PROBLEM - SURFACE STEAM GENERATOR

Once-Through Steam Generator (OTSG)

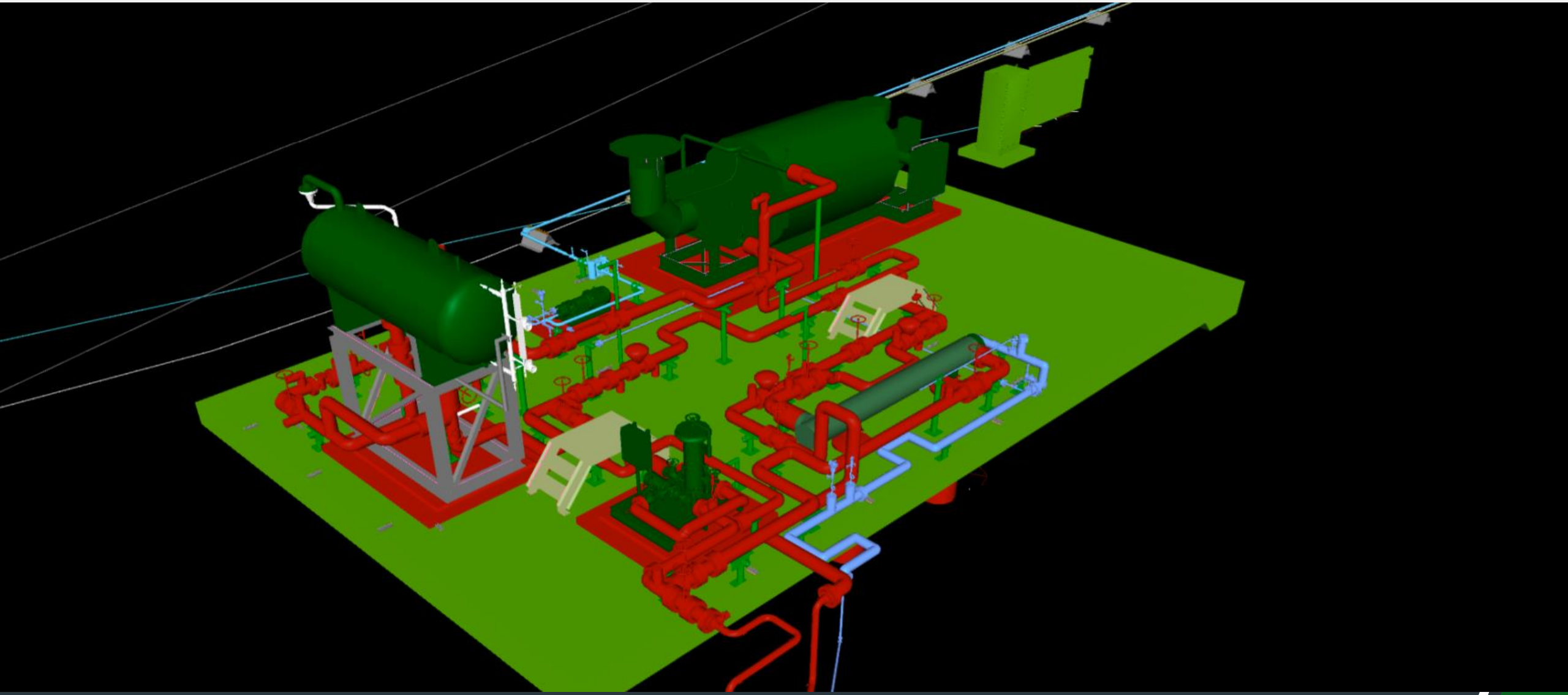
- Antiquated and Inefficient
- Same basic design since early 1960's
- Not economical in a low oil price environment
- Very high heat loss on the surface and wellbore
- Low quality steam in the reservoir above 2,000 ft.
- 50% of operating expenses is for fuel (natural gas)
- Poor economics due to high Steam-Oil Ratio
- High production cost per barrel of oil
- High water treatment cost for zero hardness fresh water
- Substantial Greenhouse Gas (GHG) emissions
- Continuous maintenance increases costly downtime

SOLUTION - DOWNHOLE STEAM GENERATOR

- Significant reduction of Greenhouse Gas (GHG) emissions
- World's first to accurately estimate steam quality at the reservoir
- Delivers superheated steam in the reservoir below 2,500 ft.
- Precise control of quantity and quality of steam injected
- Optimum steam injection maximizes the oil recovery
- No heat loss of steam flowing down the injection wellbore
- Less sensitive to water quality that reduces treatment cost
- Superior steam distribution enhances more oil production
- More heavy oil recovery at a faster rate increases profit
- Minimal maintenance helps reduce costly downtime
- Off-the-shelf end-to-end complete functional system
- Closed-loop system on the surface and in the wellbore
- No moving parts in the wellbore

eSteam™ SITE PLAN

Surface Equipment on the Pad Site



VALUE PROPOSITION

eSteam™ technology will be very attractive to its customer base

- Improved energy-efficient heat delivers energy cost savings.
- Achieves predictable and controlled steam quality in the reservoir.
- High-quality steam or superheated steam delivered to heavy oil reservoirs below 2,500 ft.
- Better economics by achieving a lower Steam-Oil Ratio (SOR).
- Reduces production cost per barrel of oil.
- Eliminates heat loss of the wellbore steam and maintains steam quality.
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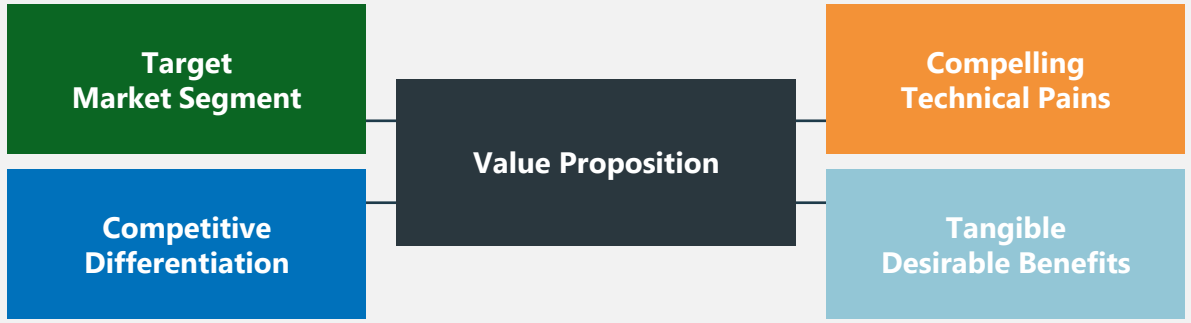
- Advantageous steam technology in a low oil price environment.
- World's first to estimate the steam quality at the reservoir.
- Increases proved oil reserves that are technically recoverable.
- Very simple, reliable and effective thermal EOR solution.
- Off-the-shelf proven end-to-end integrated turn-key system.
- Fully automated system remotely operated from an iPad or desktop computer.

More Oil Production + Lower Costs = Higher Profit Margins

- eSteam™ generates high-quality steam downhole that achieves less fuel per barrel of water to convert to steam, fewer greenhouse gas emissions, and lower operating expenses than an antiquated conventional surface steam generator - OTSG.
- eSteam™ is committed to deliver best-in-class heavy oil steam generation.
- **Mission Statement** -**To seamlessly integrate the eSteam™ technology to provide cost-effective, value-added solutions to the heavy oil industry.**
- **Future Energy's motto is: More Effective Delivery of Energy Efficient Steam to Economically Produce Heavy Oil and Oilsands.**



BENEFITS

eSteam™ has unmatched benefits compared to a Once-Through Steam Generator (OTSG)

- Zero-emission hydrogen heater
- ~$19.00/bbl. all-in production cost
- ~50% less fuel per barrel of steam
- ~25% lower operating expenses
- ~60% lower capital equipment cost
- ~45% less water per day to deliver rated heat output
- No moving parts in the wellbore
- Steam injection from 800 to 6,000+ ft.
- Lower Steam-Oil Ratio (SOR)
- Less water converted to steam to produce one barrel of oil
- No wellbore heat loss of steam
- Delivers steam to deep reservoirs
- Precise steam quality injected into reservoir
- Fully automated system from an iPad / laptop
- Nanofluid improves flow assurance near wellbore
- Nanofluid remediates asphaltene in well & perfs
- eSteam optimizes steam injection reducing steam cost
- Downhole steam created in existing SAGD and vertical wells
- Improves steam distribution in the reservoir
- Improves mobility ratio by enhancing areal sweep efficiency
- Tolerates high TDS water
- Minimal heater maintenance reduces downtime
- Closed-loop system on the surface and in the wellbore
- Increases technically recoverable proved oil reserves
- Reduces production cost per barrel of oil recovered
- In-situ oil upgrading for a higher-value oil
- Precise temperature control improves heat efficiency
- Zero emission hydrogen heater is scalable up to 120 MMBtu/hr.

CONTACT INFORMATION

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