

# TECHNOLOGY

Fewer Wells or Dry Holes

Smaller Footprint

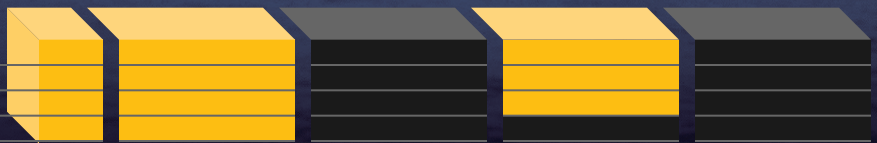
Protection of Habitats, Wildlife, and Cultural Resources

Better Wellbore Control



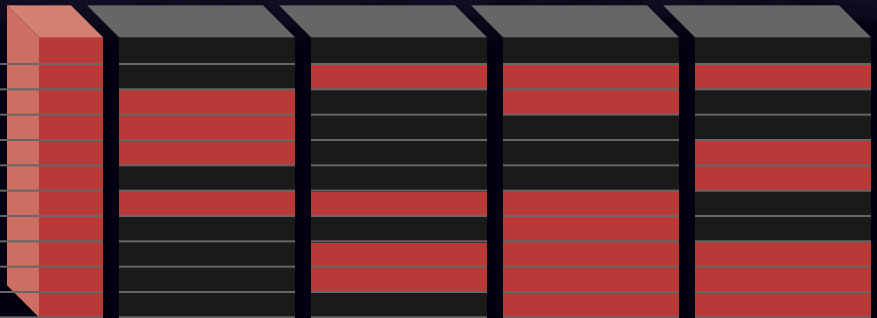
## EXPLORATION

- ① 3-D Seismic
- ② 4-D Visualization
- ③ Remote Sensing
- ④ Subsalt Imaging



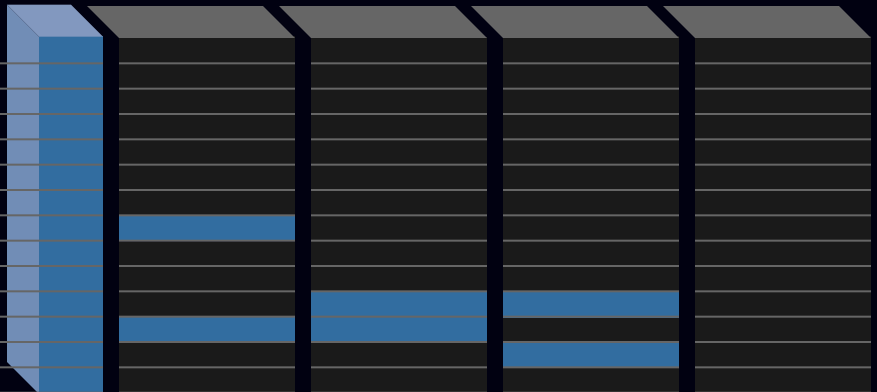
## DRILLING AND COMPLETION

- ⑤ CO<sub>2</sub>-Sand Fracturing
- ⑥ Coiled Tubing
- ⑦ Horizontal Drilling
- ⑧ Hydraulic Fracturing
- ⑨ Measurement-While-Drilling
- ⑩ Modern Drilling Bits
- ⑪ Multilateral Drilling
- ⑫ Offshore Drilling
- ⑬ Pneumatic Drilling
- ⑭ Slimhole Drilling
- ⑮ Synthetic Drilling Muds



## PRODUCTION

- ⑯ Acid Gas Removal and Recovery
- ⑰ Artificial Lift Optimization
- ⑱ Coalbed Methane Recovery
- ⑲ Freeze-Thaw/Evaporation
- ⑳ Gas-to-Liquids Conversion
- ㉑ Glycol Dehydration
- ㉒ Advanced Data Management
- ㉓ Improved Recovery Processes
- ㉔ Leak Detection and Measurement Systems
- ㉕ Low-Bleed Pneumatic Devices
- ㉖ Offshore Platforms
- ㉗ Downhole Oil/Water Separation
- ㉘ Safety & Environmental Management Programs
- ㉙ Vapor Recovery Units



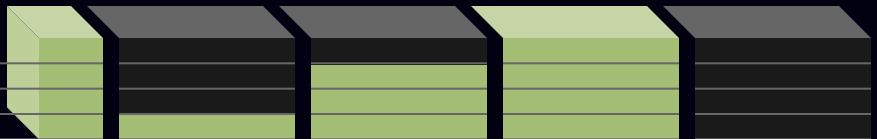
## SITE RESTORATION

- ⑳ Advanced Approaches to Site Restoration
- ㉑ Rigs to Reefs
- ㉒ Road Mix and Roadspreading



## SENSITIVE ENVIRONMENTS

- ㉓ DOE-BLM Partnership
- ㉔ Coastal and Nearshore Operations
- ㉕ Insulated Ice Pads
- ㉖ North Slope Operations



# FACT SHEETS

Reduced  
Waste  
Volumes

Protection  
of Water  
Resources

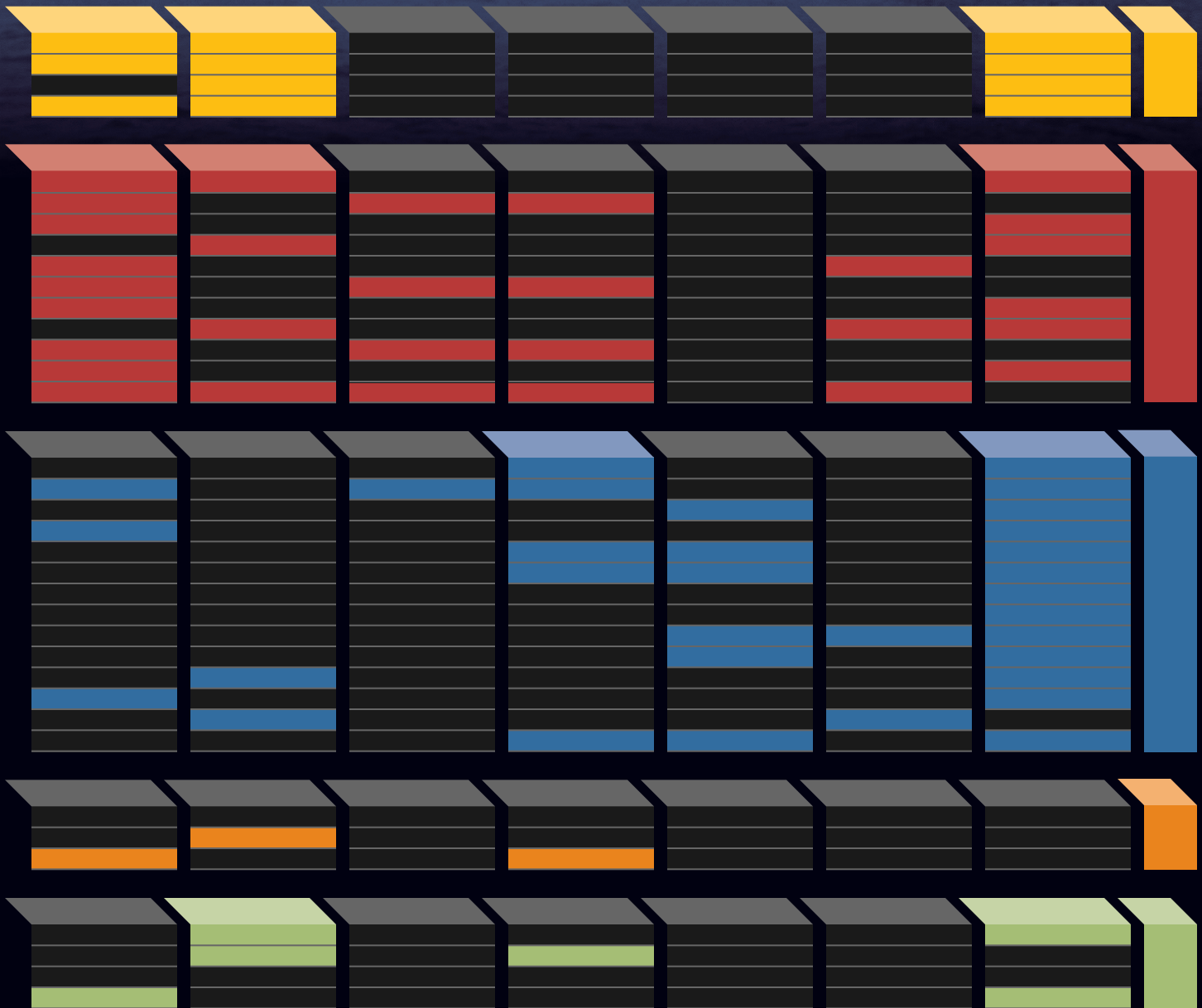
Reduced  
Power  
or Fuel  
Consumption

Reduced Air  
Emissions  
(e.g., HAPs,  
NO<sub>x</sub>, PM)

Reduced  
Greenhouse  
Gas Emissions  
(e.g., methane)

Enhanced  
Worker  
Safety

Optimized  
Recovery of  
Valuable Oil and  
Gas Resources



The technologies described in these Fact Sheets are merely representative of the numerous advances in exploration and production technology over the last three decades and, as such, are not intended as an exhaustive inventory of these advances.

# TECHNOLOGY FACT SHEETS

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### DRILLING AND COMPLETION

Fact Sheets ⑤ to ⑮



### PRODUCTION

Fact Sheets ⑰ to ⑲



### SITE RESTORATION

Fact Sheets ⑳ to ㉓



### SENSITIVE ENVIRONMENTS

Fact Sheets ㉔ to ㉖