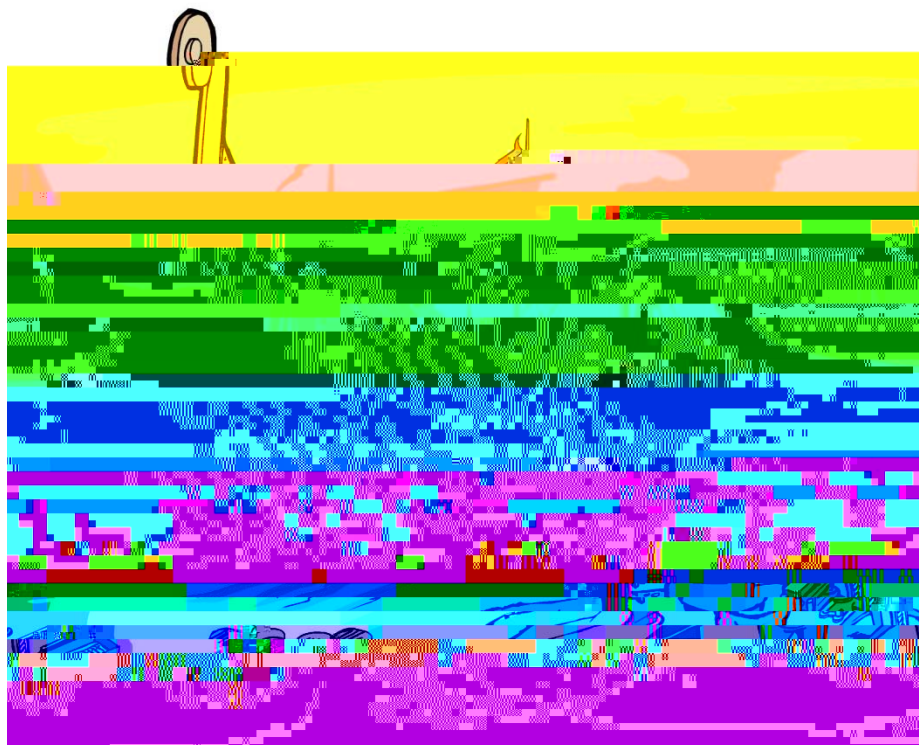
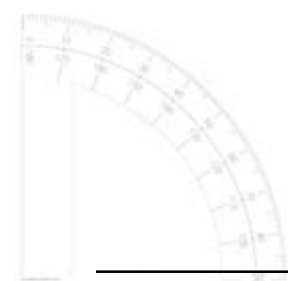


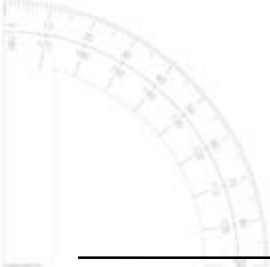


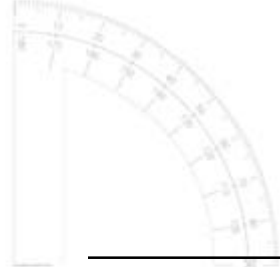
SMU Geothermal Conference 2009

C. Michael Ming
Southern Methodist
University
November 3, 2009

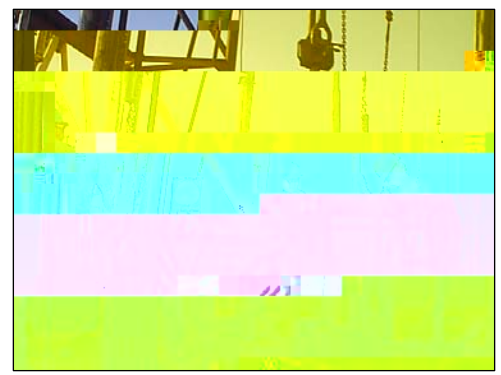
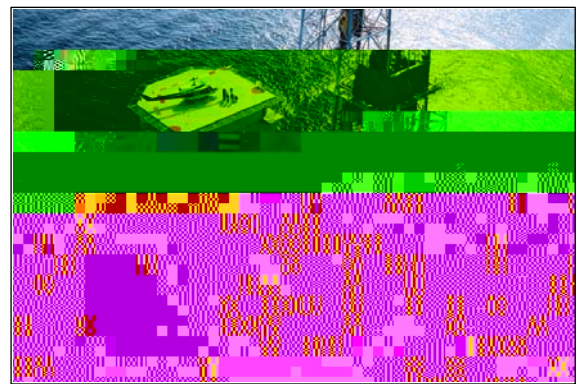


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The Program has four program elements:



Alaska
Louisiana State University
Apache Corporation
SiteLark, LLC
Massachusetts Institute of Technology
AeroVironment, Inc.
Woods Hole Oceanographic Institution
Baker Hughes Incorporated
California
Statolithero
Unifess En...
Campbell Applied Physics
Michigan
D I Car...
Services
Curtiss-Wright
Technin...
Chawco Corporation
University of Michigan
Cameron
Technology International
Mississippi
Mississippi State University
Clayco Sugar Land
Texas Energy Center
CSITechnologies

UDW Program Approach

Four base-case field development scenarios



The Challenges

Walker Ridge/Keathley Canyon

-
-
-

Alaminos Canyon

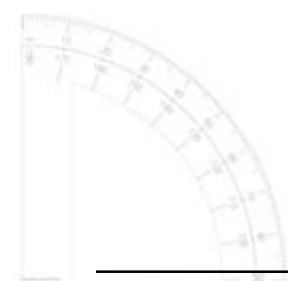
-
-

Eastern Gulf – Gas Independence Hub

-
-

Overall

-
-



	CBM 10%		Gas Shales 45%		Tight Sands 45%	
Integrated Basin Analysis						
Drilling						
Stimulation and Completion						
Water Management						
Environmental						
Reservoir Description & Management						
Reservoir Engineering						
Resource Assessment						
Exploration Technologies						

H
M
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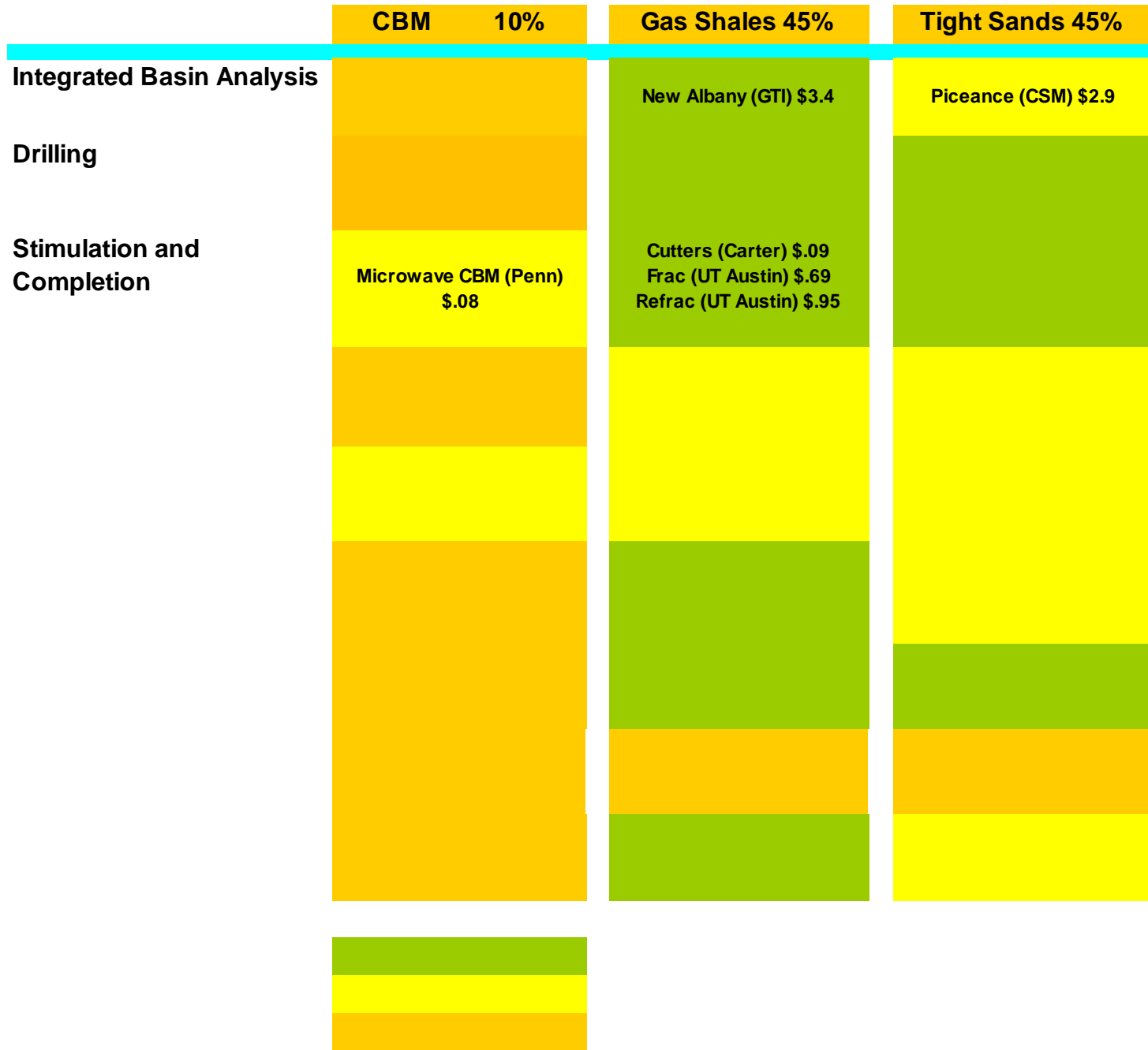
High Priority

Medium Priority

Low Priority

Total Cost to RPSEA





RPSEA Unconventional



Small Producer Program 2007 Projects & 2008 Selections

- **Thirteen projects addressing concerns of small producers operating mature assets**
 - Produced water treatment
 - Reservoir Characterization (3)
 - Enhanced oil and gas recovery (5)
 - Environmental impact & increased efficiency (3)
 -

2007 & 2008 Portfolio Overview

2007 Program Selections				
	Small Producer	Unconventional Resources	Ultra-Deepwater	Total
Universities	10	18	9	37
For Profits	0	2	15	17
Non-Profits	2	3	5	10
National Labs	1	3	0	4
State Agencies	0	2	0	2
Total Selected	13	28	29	70

