

# CASE STUDY ANALYSIS

## PERMIAN BASIN



### Ward County, TX

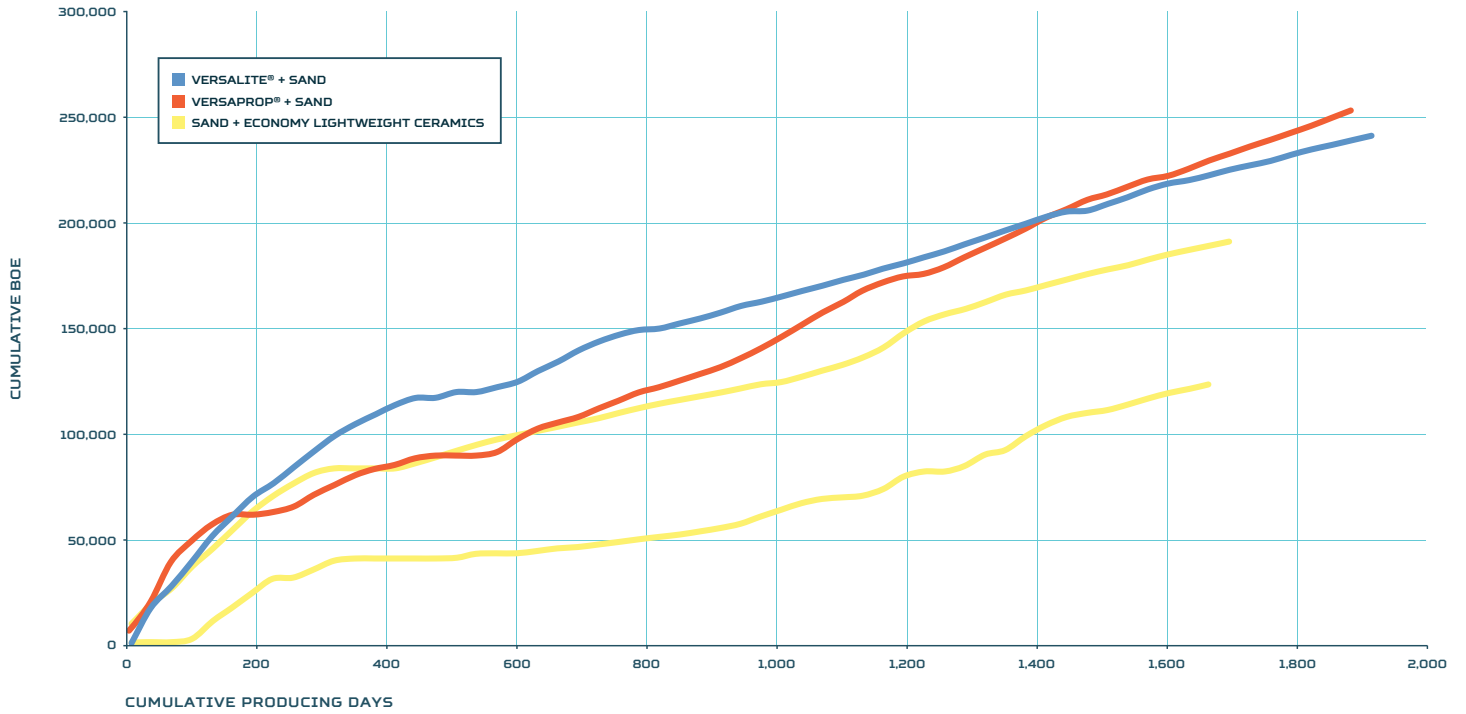
### CASE SUMMARY

Proppants have a tough job. They must retain fracture geometry and provide sustainable conductivity to the wellbore at application conditions. How well they do their job depends on the application environment. Unconventional wells, with their thin fractures, minimize proppant pack height and increase the pressure on the proppant bead. In thin layer/monolayer conditions, only the highest strength and highest quality proppants have the strength to maximize well production.

Only some proppants are Well Worth It!



# CUMULATIVE PRODUCTION, VERSALITE<sup>®</sup> AND VERSAPROP<sup>®</sup> VS NEIGHBORING WELLS



## VERSALITE<sup>®</sup> AND VERSAPROP<sup>®</sup> DIFFERENTIATION

OVER ECONOMY LIGHTWEIGHT CERAMICS TAIL-IN COMPLETION

**↑ 44% ↑**  
**INCREASE**

1,640-Day  
Cumulative BOE

**\$1.4<sup>M</sup>**  
**HIGHER**

3-Year Cash Flow

Proppant Type	1,640-Day Cumulative BOE	3-Year Cash Flow (\$ MIL)
VersaLite <sup>®</sup> + Sand	228,900	4.80
VersaProp <sup>®</sup> + Sand	222,112	4.54
Sand + Economy Lightweight Ceramics	123,703	2.56
Sand + Economy Lightweight Ceramics	188,939	3.92

PARAMETERS USED IN ANALYSIS:  
WTI @ \$55/BBL  
GAS @ \$4.00, 20% ROYALTY

Well Number *	17140	18105	34805	34836
Basin	Permian	Permian	Permian	Permian
State, County	TX, Ward	TX, Ward	TX, Ward	TX, Ward
Well Name	BP 34-211 2H	Monroe 34-221 Unit 2 Well 1H	Monroe 34-220/211 Unit 1H	Monroe 34-221/212 Unit 1H
API #	42-475-35873-00-00	42-475-35881-00-00	42-475-36144-00-00	42-475-36143-00-00
Latitude	31.570432	31.581313	31.575702	31.576288
Longitude	-103.349657	-103.361146	-103.356901	-103.354052
Service Provider	Available Upon Request	Available Upon Request	Available Upon Request	Available Upon Request
Operator	Available Upon Request	Available Upon Request	Available Upon Request	Available Upon Request
Trajectory	Horizontal	Horizontal	Horizontal	Horizontal
Fracture Date	2/18/12	1/13/12	9/13/12	8/6/12
True Vertical Depth (ft)	10863	11786	10878	11169
Lateral Length (ft)	4448	3717	3370	3191
Bottom Hole Temp (°F)	142	146	142	146
Total Water Volume (gal)	1,246,088	873,105	1,081,481	1,240,023
Frac Fluid Type	CrossLink	CrossLink	Unknown	Unknown
Saint-Gobain Ceramic Proppant (Y/N)	Y	Y	N	N
Proppant Type	Sand + Ceramic	Sand + Ceramic	Sand + Ceramic	Sand + Ceramic
Total Proppant Mass (short tons)	800	427	754	708
Proppant Per Lateral Foot (lbs/ft)	360	230	447	443
Total SG Proppant Mass (short tons)	268	162	0	0
SG Proppant Name	VersaProp®	VersaLite®	-	-
Total Sand Proppant Mass (short tons)	532	265	471	462
Sand Proppant Name	White Sand	White Sand	White Sand	White Sand
Total Other Proppant Mass (short tons)	0	0	283	245
Other Proppant Name	-	-	Other Ceramics	Other Ceramics

\* Well numbers as generated by NavPort



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