

CASE STUDY ANALYSIS

PERMIAN BASIN



Lea County, NM

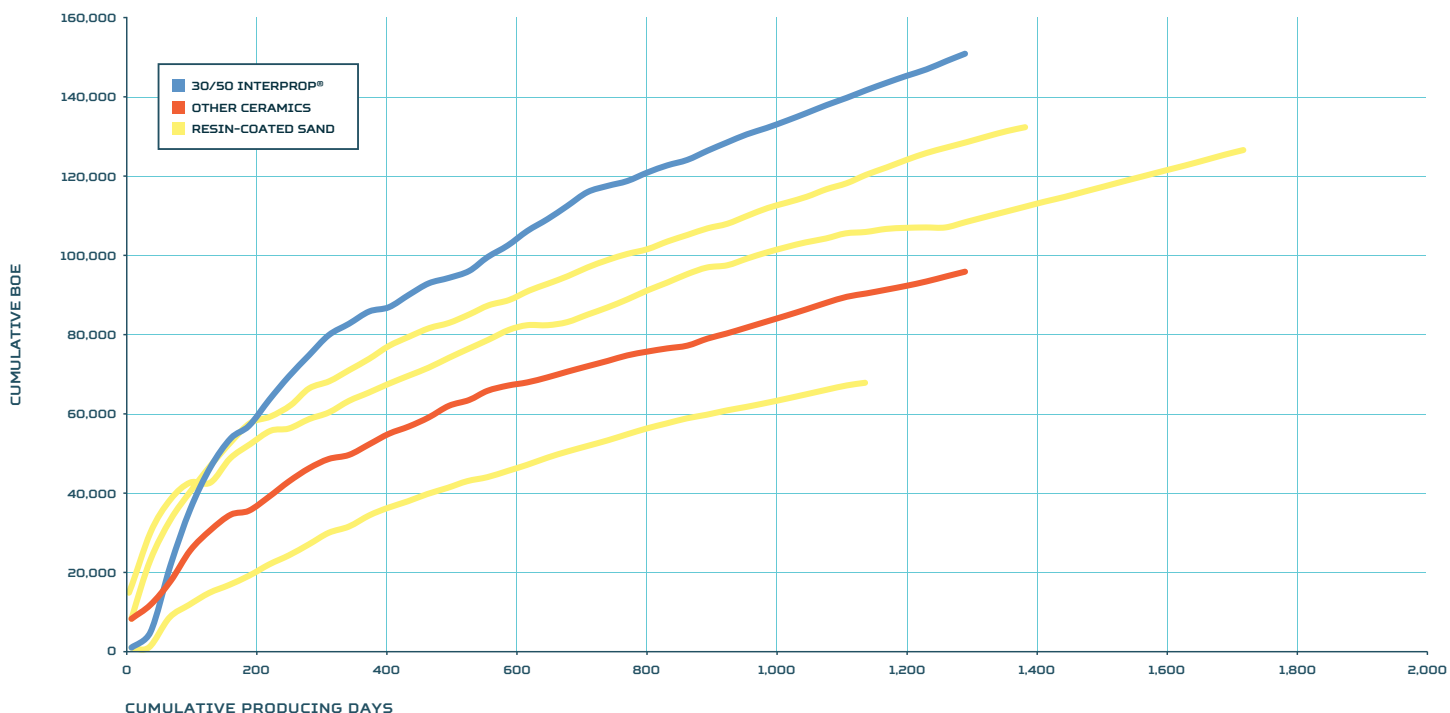
CASE SUMMARY

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, 30/50 INTERPROP® VS NEIGHBORING WELLS



30/50 INTERPROP® DIFFERENTIATION

OVER OTHER CERAMIC SOLUTIONS

↑ 57% ↑
INCREASE

1,640-Day
Cumulative BOE

\$1.3^M
HIGHER

3-Year Cash Flow

OVER RESIN-COATED SAND SOLUTIONS

↑ 45% ↑
INCREASE

1,155-Day
Cumulative BOE

\$1.2^M
HIGHER

3-Year Cash Flow

Proppant Type	1,155-Day Cumulative BOE	3-Year Cash Flow (\$ MIL)
30/50 InterProp®	139,836	3.28
Resin-Coated Sand	104,398	2.39
Resin-Coated Sand	66,602	1.38
Resin-Coated Sand	118,623	2.56
Other Ceramics	88,941	2.02

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

Well Number *	10071619	10072685	10071396	10071364	10071253
Basin	Permian	Permian	Permian	Permian	Permian
State, County	NM, Lea	NM, Lea	NM, Lea	NM, Lea	NM, Lea
Well Name	Belfast BSL State Com 001Y	Lightning P-38 State 003H	Lightning P-38 State 006H	Lightning P-38 State 005H	Boston BSN State Com 001H
API #	30-025-41121-00-00	30-025-40375-00-00	42-025-40795-00-00	42-025-40732-00-00	30-025-40573-00-00
Latitude	32.508113	32.50599	32.50927	32.51233	32.507921
Longitude	-103.515267	-103.518497	-103.519187	-103.518583	-103.515268
Service Provider	Available Upon Request	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	Available Upon Request
Trajectory	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Fracture Date	8/11/13	5/13/12	1/27/14	5/12/13	7/26/13
True Vertical Depth (ft)	10801	11600	11468	11457	11689
Lateral Length (ft)	4333	4350	3921	4227	4401
Bottom Hole Temp (°F)	141	141	149	149	152
Total Water Volume (gal)	3,199,232	2,766,518	2,004,492	2,458,886	3,126,613
Frac Fluid Type	CrossLink	-	-	-	-
Saint-Gobain Ceramic Proppant (Y/N)	Y	N	N	N	N
Proppant Type	Ceramic Only	Resin Only	Resin Only	Resin Only	Ceramic Only
Total Proppant Mass (short tons)	2069	1642	1511	1654	1956
Total SG Proppant Mass (short tons)	2069	0	0	0	0
SG Proppant Name	30/50 InterProp®	-	-	-	-
Total Sand Proppant Mass (short tons)	0	1642	1511	1654	0
Sand Proppant Name	-	RCS	RCS	RCS	-
Total Other Proppant Mass (short tons)	0	0	0	0	1956
Other Proppant Name	-	-	-	-	Other Ceramics

* Well numbers as generated by NavPort



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