



CASE HISTORY

Unconventional Resources

Inflatable Bridge Plug

CAVERN REPAIR USING AN INFLATABLE BRIDGE PLUG

Storage Well Requires Repair of Casing Shoe Leak or New Casing String

Location: South Texas



CHALLENGE: A salt dome dissolution cavern used for storage of natural gas developed a leak in the 16" casing set above the cavern. The cavern was emptied and taken out of service pending repair or plugging.

SOLUTION: An 11 in. OD inflatable bridge plug (IBP) was run through the 16 in. casing and set above the cavern inside 24 in. open hole. A sand and cement plug was placed above the IBP to prevent loss of cement into the cavern. Next, 13-3/8 in. casing was run to above the IBP and cemented to surface. The 13-3/8 in. float shoe and cement plug above the IBP were drilled out. The IBP retrieving tool was run to above the IBP, the sand plug washed off, and the IBP retrieved back through the new 13-3/8 in. casing.

RESULTS AND BENEFIT: The well was restored to service with an allowed increase in storage cavern pressure due to the increased depth of the new casing shoe. Restoring the well to service was achieved at a cost slightly greater than the estimated cost of plug and abandonment and eliminated the need to drill a new well typically costing in excess of \$2.5 million.



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