

CASE STUDY

Objectives

A client had a five (5) well pad that required 10k rated wellhead equipment for a high velocity, 100 mesh proppant frac job and a solution to maximize pumping efficiency while maintaining the ability to run wireline on adjacent wells. Additionally, the client had experienced valve wash-outs from high mesh proppant which resulted in non-productive time (NPT) and extensive repair costs.

Solution

The Greene's frac support technical team evaluated the project and recommended the Guardian Wellhead Protection Stage Tool to isolate all wellhead equipment from frac pressure/proppant and the Guardian Zipper Manifold to increase frac pumping & rigging efficiency.

Result

- Combination of the Stage Tool and Zipper Manifold enabled the client to complete the frac job without incident or leaks:
 - 130 stages pumped over Five (5) wells
 - 30M LBS of 100 mesh proppant
 - Zero leaks or NPT from washed-out or sanded-off frac valves
 - Performed simultaneous pumping and wireline operations without additional rig up

Value to Client

- More stages completed per day, reduced overall well costs.
- Robust plug valves enabled faster, easier operation and less grease maintenance.
- Isolated frac valves reduced costs and increased safety.
 - Completely eliminated back end repair charges
 - Provided secondary mechanical barrier
- Zipper manifold enabled connection to all wells simultaneously, eliminating multiple rig ups
- Multiple product line offering reduced labor cost, and logistics on location.
- Better life of field performance.
 - The isolation tool fully isolated wellhead equipment and kept it in "like new" condition throughout the frac job, preventing sand build up behind lockdown pins and inside tubing head production gate valves

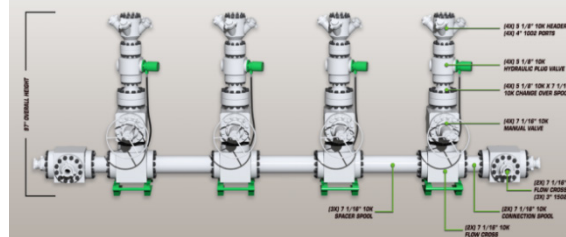
Date:	December 2015
Client:	Major Independent
Location:	Wattenberg, CO
Project:	Frac Support

PRODUCTS/SERVICES:

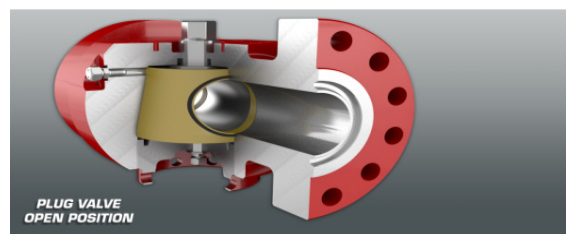
- Guardian 15K Stage Tool
- Guardian 10K Zipper Manifold
- Flowline Restraints



Five (5) well pad with combination of Guardian's Stage Isolation Tool and Zipper Manifold.



Zipper Manifold utilizes primary plug valves and enables efficient pumping access to all wells on the pad without re-rigging.



Quarter turn plug valves speed up operations, minimize sand intrusion and reduce time spent flushing and greasing traditional frac valves.