

# FRACTURING RELIEF VALVE – A PRESSURE RELIEVING GUIDE

## 1. SCOPE

The Safoco Fracturing Relief Valve (FRV) is a safety device used to relieve pressure during emergency situations where the pressure exceeds a predetermined setting. The excess pressure is released through an aggregate 2" 1502 iron discharge line not exceeding 100 feet in length.

## 2. PURPOSE

This document should be used to illustrate the effects of varying lengths of aggregate piping on the volume flow rate of the discharge. The values given should be utilized as a baseline, and will vary depending on several factors such as size of the discharge line, length of the discharge line, etc. The final layout should be verified by a qualified engineer.

## 3. DEFINITION:

- 3.1 Working Pressure: a pre-determined pressure setting that indicates the maximum pressure a system should experience in service
- 3.2 Volume Flow Rate(Q): a variable that describes how much fluid is being moved past a section per unit of time; measured in barrels per min (bbl/min)
- 3.3 Δ Pressure: the difference in pressure between the point at which pressure is released and the pressure at the discharge end

## 4. METHODOLOGY

- 4.1 Basic Fluid Mechanics
- 4.2 Water at standard temperature and density
- 4.3 Discharge to atmosphere
- 4.4 Nominal diameter for 2" 1502 discharge:  $\varnothing 1.8125''$

## 5. RESULTS

