

Operation Schedule

Pressure Blanket Injection	4/7/2018	8/31/2018
Hydraulic Fracture Treatment	7/15/2018	8/31/2018

Injection Process

Production from a group of wells on the Orr pad will enter two 36 inch 1440 3 phase separators to remove the oil and water from the well stream and the remaining wellhead gas will be routed to a 16" x 60" 1440 WP Croft passive dehy to remove water vapor in the gas. The dry gas will be routed to a 525 BHP Certarus JGA/4 compressor with a Waukesha H24GL engine that will boost the pressure of the gas stream to 4500 psi. The gas leaving the compressor will enter high pressure injection lines to be injected down the 2-3/8" 4.7# L-80 8rd tubing of the proposed pressure blanket wells thru the existing 5000 psi wellheads. The maximum injection volume will be 6 mmcfpd to a single, or split among multiple, pressure blanket well(s).

Bacteria/Oxygen Prevention

This injection process is a closed loop system with gas going straight from the producing wells to pressure blanket wells. There are no sources for oxygen or bacteria to be introduced to the system

Withdrawal Process

The Flowback from the pressure blanket wells will flow to the existing production facilities down buried 3" flowlines to a Leed or worthington WP 3 phase separator with the oil and water being routed conventionally to the oil and water tanks and the gas routed to the sales meter.

Injection Specifications

Type and Source	Wellhead natural gas from the Orr State 40-36 Pad.
BTU	1,300
Planned Injection Volume	876 MMCF
Pre Injection Pressure	FTP: 1,500 ps Est SITP: 2,000 psi
Injection Pressure	4,500 PSI

Distance Between Hydrallycally Fractured Well(s) and Pressure Blanket Well(s)

Pressure Blanket Well			Hydraulic Fracture Treatment Wells			Distance (ft)
Well Name	API	Formation	Well Name	API	Formation	
Orr 14C-32-M	0512343990	CODELL	Boomerang 12C-6-M	0512345394	CODELL	1,600
Orr 14C-32-M	0512343990	CODELL	Boomerang 12N-6B-M	0512345399	NIOBRARA	1,300
Orr 14C-32-M	0512343990	CODELL	Boomerang 13C-6-M	0512345398	CODELL	2,350
Orr 14C-32-M	0512343990	CODELL	Boomerang 13N-6B-M	0512345391	NIOBRARA	2,150
Orr 14C-32-M	0512343990	CODELL	Boomerang 32C-6-M	0512345395	CODELL	850
Orr 14C-32-M	0512343990	CODELL	Boomerang 32N-6B-M	0512345396	NIOBRARA	625
Orr 14C-32-M	0512343990	CODELL	Boomerang 32N-6C-M	0512345392	NIOBRARA	1,050
Orr 14C-32-M	0512343990	CODELL	Boomerang 33C-6-M	0512345397	CODELL	2,000
Orr 14C-32-M	0512343990	CODELL	Boomerang 33N-6C-M	0512345393	NIOBRARA	1,800
Orr 14C-32-M	0512343990	CODELL	Boomerang 34C-6-M	0512345400	CODELL	2,900
Orr 14C-32-M	0512343990	CODELL	Boomerang 34N-6A-M	0512345389	NIOBRARA	2,700
Orr 14C-32-M	0512343990	CODELL	Boomerang 34N-6C-M	0512345390	NIOBRARA	3,250
Orr 36C-32-M	0512343988	CODELL	Boomerang 12C-6-M	0512345394	CODELL	1,150
Orr 36C-32-M	0512343988	CODELL	Boomerang 12N-6B-M	0512345399	NIOBRARA	850
Orr 36C-32-M	0512343988	CODELL	Boomerang 13C-6-M	0512345398	CODELL	1,900
Orr 36C-32-M	0512343988	CODELL	Boomerang 13N-6B-M	0512345391	NIOBRARA	1,700
Orr 36C-32-M	0512343988	CODELL	Boomerang 32C-6-M	0512345395	CODELL	425
Orr 36C-32-M	0512343988	CODELL	Boomerang 32N-6B-M	0512345396	NIOBRARA	200
Orr 36C-32-M	0512343988	CODELL	Boomerang 32N-6C-M	0512345392	NIOBRARA	625
Orr 36C-32-M	0512343988	CODELL	Boomerang 33C-6-M	0512345397	CODELL	1,575
Orr 36C-32-M	0512343988	CODELL	Boomerang 33N-6C-M	0512345393	NIOBRARA	1,350
Orr 36C-32-M	0512343988	CODELL	Boomerang 34C-6-M	0512345400	CODELL	2,450
Orr 36C-32-M	0512343988	CODELL	Boomerang 34N-6A-M	0512345389	NIOBRARA	2,250
Orr 36C-32-M	0512343988	CODELL	Boomerang 34N-6C-M	0512345390	NIOBRARA	2,825
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 12C-6-M	0512345394	CODELL	1,370
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 12N-6B-M	0512345399	NIOBRARA	1,070
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 13C-6-M	0512345398	CODELL	2,120
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 13N-6B-M	0512345391	NIOBRARA	1,920
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 32C-6-M	0512345395	CODELL	645
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 32N-6B-M	0512345396	NIOBRARA	420
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 32N-6C-M	0512345392	NIOBRARA	845
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 33C-6-M	0512345397	CODELL	1,795
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 33N-6C-M	0512345393	NIOBRARA	1,570
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 34C-6-M	0512345400	CODELL	2,670
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 34N-6A-M	0512345389	NIOBRARA	2,470
Orr 36N-32B-M	0512343989	NIOBRARA	Boomerang 34N-6C-M	0512345390	NIOBRARA	3,045

Wells Involved in Pressure Blanket Process

Pressure Blanket Wells		
Well Name	API	Formation
Orr 14C-32-M	0512343990	CODELL
Orr 36C-32-M	0512343988	CODELL
Orr 36N-32B-M	0512343989	NIOBRARA

Hydraulic Fracture Wells		
Well Name	API	Formation
Boomerang 12C-6-M	0512345394	CODELL
Boomerang 12N-6B-M	0512345399	NIOBRARA
Boomerang 13C-6-M	0512345398	CODELL
Boomerang 13N-6B-M	0512345391	NIOBRARA
Boomerang 32C-6-M	0512345395	CODELL
Boomerang 32N-6B-M	0512345396	NIOBRARA
Boomerang 32N-6C-M	0512345392	NIOBRARA
Boomerang 33C-6-M	0512345397	CODELL
Boomerang 33N-6C-M	0512345393	NIOBRARA
Boomerang 34C-6-M	0512345400	CODELL
Boomerang 34N-6A-M	0512345389	NIOBRARA
Boomerang 34N-6C-M	0512345390	NIOBRARA

Wellhead Gas Source Wells		
Well Name	API	Formation
Orr 11C-32-M	0512343981	CODELL
Orr 11N-32B-M	0512343984	NIOBRARA
Orr 11N-32C-M	0512343980	NIOBRARA
Orr 14N-32C-M	0512343986	NIOBRARA
Orr 23C-32-M	0512343983	CODELL
Orr 23N-32A-M	0512343987	NIOBRARA
Orr 23N-32B-M	0512343985	NIOBRARA
Orr 25C-32-M	0512343979	CODELL
Orr 25N-32B-M	0512343982	NIOBRARA
Orr State 10C-35-M	0512343971	CODELL
Orr State 10N-35A-M	0512343970	NIOBRARA
Orr State 10N-35C-M	0512343972	NIOBRARA
Orr State 15C-35-M	0512343975	CODELL
Orr State 15N-35B-M	0512343973	NIOBRARA
Orr State 23C-35-M	0512343974	CODELL
Orr State 23N-35C-M	0512343969	NIOBRARA
Orr State 25C-35-M	0512343968	CODELL
Orr State 25N-35B-M	0512343967	NIOBRARA
Orr State 36C-35-M	0512343977	CODELL
Orr State 36N-35B-M	0512343976	NIOBRARA
Orr State 36N-35C-M	0512343978	NIOBRARA