



NIGHTHAWK PRODUCTION LLC

Jolly Ranch 4-13
NW NW Sec 13, T12S, R56W
LINCOLN COUNTY, COLORADO
API No. 05-73-06324

ELEVATION
R.B. 17'
G.L. 5,317'
KB 5,334'
BHT 165 °
Spud date: 0/8/13/08
Comp date: 11/20/08

640' FNL 660' FWL
Lat: 39.00899
Long: 103.62530

Not to scale

Prepared By: Harold Mayland
Date: 07/10/2012

Geological tops:
Stone Corral 5356' Marmaton 6874'
Wolfcamp 5618' Cherokee 7140'
Virgil 6303' Atoka 7353'
Shawnee 6384' Morrow 7770'
LKC 6489' St. Louis 8049'

Production Tubing

TOC 2nd Stage @ 2,700'

Port collar @ 4,611'

Bottom of cmt @ 4,611'

TOC 6,105' 1st stage

Marmaton "B" reperf
7046-7048'
Marmaton "B"
7064-7066' No treatment
7070-7072' (Gas Gun)

Cherokee "A"
7145-7149'
No treatment (gas gun)

Cherokee "C"
7223-7232'

Tebo
7216-7234'
7240-7244'
7272-7282'
7310-7317'

U Atoka
7338-7345' 7434-7442'
7388-7396' 7468-7475'
7403-7413' 7492-7500'

L Atoka
7566-7572' 7638-7642'
7610-7613' 7648'-7650'
7623-7626' 7654-7656'
7629-7633' 7666-7670'

Open Atoka Perfs 10/17/08
7556-7559' 7608-7610'
7576-7579' 7620-7623'
7592-7593' 3 SPF

4 1/2" 11.6# N80
I.D. 4.000
Drift 3.875
Burst 7,780
Lin ft/bbl 64.34
BBL/linft 0.0155

17 1/2" hole
SURFACE CSG: 13 3/8" 54.5# H40 ST&C @ 365"
Cmt: 350 sks
Cmt to surface

7 7/8" hole
Production Casing: 4 1/2" 11.6# N80 LT&C @ 8,255'
1st stage: 300 sks, did not circ to surface
2nd stage 265 sks

2 3/8" J55 EU 8RD	2 3/8" X 4 1/2"
I.D. 1.995	
Drift 1.901	
Burst 7,700	
Lin ft/bbl 258.65	Lin ft/bbl 99.37
BBL/linft 0.0039	BBL/linft 0.0101

	Qty	Length	Depth in hole
Tubing			
KB		17.00	17.00
			17.00
2 3/8" EU 8RD J55 tbg			17.00
Anchor Catcher			17.00
2 3/8" EU 8RD J55 tbg			17.00
Seating Nipple			17.00
Mud anchor			17.00
			17.00
Total Joints			17.00
Rods			
Polish rod 1 1/2" x 22'			0.00
Pony rod 7/8" x 8'			0.00
7/8" rods			0.00
3/4" rods			0.00
Stabilizer pony rod			0.00
1 1/2 K bars			0.00
Stabilizer pony rod			0.00
2 1/2" x 1 1/2" x 20' pump			0.00

NOTE:
10/17/08 Lower Atoka, Acidize w/1000 gal 15% HCL
11/05/08 Frac Lower Atoka 52,000# 40/70 sand, 5,625# 20/40 resin coated sand, 6,512 bbls slick wtr.
05/12/09 Set Flow thru Composite BP @ 7540' (drilled out) Perf 7,338-7,500
05/13/09 Acidize w/1500 gal HCL
Frac w/29,410# 20/40 sand
06/09/09 Set Composite BP @ 7,330' (drilled out 2-27-10). Perf 7,216-7,317'
06/12/09 Acidize w/1000 gal 15% HCL
06/18/09 Frac 7216' - 7,317' w/67,500# sand
02/24/10 Cmt squeeze perfs 7216-7310' w/150 sks.
03/31/10 Perf 7566-7670' & 7610-26' & 7566-96'.
04/02/2010 Acidize 7566-7670' w/1000 gal 15% HCL
04/03/10 Communications between Lower Atoka and squeezed Upper Atoka.
04/12/10 Acidize perfs 7566-70' w/10,000 gal 15% HCL and 370 bbls wtr.
08/31/10 Set CIBP @ 7,330'
09/01/10 Squeeze w/150 sks cmt 7,216-7,317'
09/08/10 Set CIBP @ 7,270', Perf 7,223'-32', 8 SPF, stim w/gas gun.
09/13/10 Acidize 7,223-32' w/1500 gal 15% HCL.
09/15/10 Perf 7,145'-49', stim w/gas gun.
09/20/10 Set Composite BP @ 7130'. Marmanton "B" Perf 7070'-72' & 7,064'-66'
09/22/10 Set Composite BP @ 7,060', Perf Marmaton 7,046'-48'
09/25/10 Acidize 7,046'-48' w/500 gal 15% HCL
06/09/11 Try to drill plugs, lost circ, Pumped 1675# Magna fiber. Unable to circ, lost 400 bbls wtr.
05/17/12 Drilled out CBP @ 7,060', 7,130', 7,210'
05/29/12 Ran RST log

Composite BP @ 7,060'

Composite BP @ 7,130'

Composite BP @ 7,210'

CIBP @ 7,270'

CIBP @ 7,330'

PBTD 8,215'

Collar @ 8,215'

Shoa @ 8,254'

TD 8,343'