



13-3/8" 48# H-40 STC @ 433'; cmt'd  
w/315 sx 1 stage to surface

8-5/8" 32# J-55 STC @ 4,000'; cmt'd  
w/1,370 sx 1 stage to surface

TOC @ Unknown. Est @ 4,200'

Howco PHL Hydraulic Pkr @ 13,095'

Junk Wireline and TCP gun in hole

5-1/2" 17# L-80 to 10826', M-95 from  
10826' - 13650' (TD) LTC; cmt'd w/900 sx  
1 stage; TOC @ Unknown. Est @ 4,200'

PBTD @ 13,310' (CIBP)  
TD @ 13,650'

Plunger Well  
Bumper Spring/Collar Stop @ 13051'

Morrow Perfs: 13,153'-169' & 13,171'-179' w/4 JSPF  
7/30/2002

Morrow Perfs: 13,266'-13,276' w/4 JSPF  
5/11/1999

EZ Drill CIBP @ 13,310'  
Morrow Perfs: 13,319'-13,334'  
12/14/1998 w/6 JSPF; 12/16/1998 w/4 JSPF  
Morrow Perfs: 13,468'-13,500'  
w/4 JSPF 11/14/1998

Cimarex Energy Co. of Colorado  
Zafiro State 32 Com 1

API: 30-025-34508 Property: 309717-014.01  
2,310' FNL & 1,980' FEL

Sec. 32, T-18-S, R-34-E, Lea Co., NM  
GL: 3,901' KB: 3,921' (20') Field: Quail Ridge  
S.Hanford 7/13/16

**CURRENT**

**CIMAREX**

13-3/8" 48# H-40 STC @ 433'; cmt'd  
w/315 sx 1 stage to surface

8-5/8" 32# J-55 STC @ 4,000'; cmt'd  
w/1,370 sx 1 stage to surface

TOC @ Unknown. Est @ 4,200'

35 Sxs Class H, TOC @ 10,183'

50 Sxs Class H, TOC @ 11,557'

50 Sxs Class H, TOC @ 12,499'  
CIBP @ 13,145'

Junk Wireline and TCP gun in hole

5-1/2" 17# L-80 to 10826', M-95 from  
10826' - 13650' (TD) LTC; cmt'd w/900 sx  
1 stage; TOC @ Unknown. Est @ 4,200'

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TD @ 13,650'

Cimarex Energy Co. of Colorado

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2,310' FNL & 1,980' FEL

Sec. 32, T-18-S, R-34-E, Lea Co., NM

GL: 3,901' KB: 3,921' (20') Field: Quail Ridge

# PROPOSED

Fish bumper spring/collar stop

2nd BSPG Perfs 9589' - 9894'

Top of Wolfcamp @ 10635'

Top of Strawn @ 12203'

Top of Morrow @ 12990'

Morrow Perfs: 13,153'-169' & 13,171'-179' w/4 JSPF  
7/30/2002

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AFE No:

**Procedure Sheet – Hobbs District**

PLEASE COMMENCE WITH WORK PER PROCEDURE

**Zafiro State 32 Com 1**Recomplete Well in 2<sup>nd</sup> Bone Spring**Current Well Data:**

KB 20' above GL  
TVD/PBTD 13,650'/13,310'  
KOP N/A Vertical Well  
Perfs Morrow (13,153' - 13,276')

**Casing**

Size	Weight	Grade	Thread	Set at	Cmt	Remarks
13-3/8"	48#	H-40	STC	433'	315 sx	CIRC CMT
8-5/8"	32#	J-55	STC	4,000'	1,370 sx	CIRC CMT
5-1/2"	17#	L-80	LTC	0'-10,840'	900 sx	TOC - 4200'
5-1/2"	17#	M-95	LTC	10,840'-13,577'		TOC - 4200'

**Tubing**

Quantity	Description	Length	Setting Depth
1	KB	20.00	20.00
1	2-7/8" L-80 EUE 6.5# 8rd Tubing	30.57	50.57
1	2-7/8" L-80 EUE 6.5# 8rd Tubing Sub	8.02	58.59
420	2-7/8" L-80 EUE 6.5# 8rd Tubing	13030.55	13089.14
1	XL On/Off Tool w/2.313 X profile	1.29	13090.43
1	Howco PHL Hydraulic Set Pkr (36400 shear)	5.20	13095.63
1	4) 2-7/8" L-80 EUE 6.5# 8rd Tubing Sub	122.28	13217.91
1	XL On/Off Tool (no lugs) w/2.313 X profile	1.25	13219.16
1	Howco WPL packer 50 pt shear (WL set)	7.07	13226.23
1	2-7/8" L-80 EUE 6.5# 8rd Tubing Sub	8.08	13234.31
1	2.313 XN (2.205 No Go)	1.28	13235.59
1	WLREG	0.41	13236.00

Packer Howco PHL Hydraulic Packer @ 13,226'  
Plunger Lift Bumper Spring & Collar Stop @ 13,051'

**Procedure:****Notify BLM 24 hours prior to starting operations****Max Treating Pressure = 6,500 psi****Have # Frac Tanks rented and set before frac****Have 9600' of 3-1/2" 12.95# P110 rental string for frac**

1. Hold operational safety meeting on location; discuss all risk and potential dangers.





AFE No:

2. MIRU Pulling unit.
3. Release Howco PHL Hydraulic set packer and TOH.
4. LD Packer. PU 4-3/4" bit and 5-1/2" casing scraper. RIH to 13,150'.
5. LD bit and scraper. PU 5-1/2" CIBP.
6. TIH to 13,145' and set CIBP.
7. Release from the CIBP and PU 1 joint and circulate the well w/ 400 bbls of 2% KCL.
8. RIH to 13,144' and spot balanced plug w/ 50 sxs of class H cement on top of CIBP and across the top of the Morrow formation.
9. PU tbg to  $\pm 12,450'$ . Reverse circulate 7 bbls of mud laden fluids. Flush with 180 bbls of 2% KCL.
10. Allow proper time for cement to set up.
11. TIH and tag cement plug @  $\pm 12,499'$ .
12. PU tbg to 12,203' and spot balanced plug w/ 50 sxs of class H cement across the top of the Strawn formation.
13. PU tbg to  $\pm 11,500'$ . Reverse circulate 21 bbls of mud laden fluids. Flush with 152 bbls of 2% KCL.
14. Allow proper time for cement to set up.
15. TIH and tag cement plug @  $\pm 11,557'$ .
16. PU tbg to 10,635' and spot balanced plug w/ 35 sxs of class H cement across the top of the Wolfcamp formation.
17. PU tbg to  $\pm 10,125'$ . Reverse circulate 91 bbls of 2% KCL.
18. TOOH w/ 2-7/8" tbg and LD.
19. PU 3-1/2" 9.3# L-80 EUE Frac string. RU hydrotesters.
20. TIH to  $\pm 9,950'$  and set 5-1/2" 10K RBP.
  - a. Hydrotest tbg to **MTP: 6,500 psi** while RIH.
21. PU tbg to 9,894' and spot 295 gals of 15% HCL. Flush w/ 89 bbls of 2% KCL to the end of the tbg.
22. TOOH and stand back 3-1/2" tbg.
23. RU WL. RIH w/ Select fire perforating guns and a gamma ray gun.
  - a. Correlate gamma ray back to Schlumberger "Cement Bond Log" dated 12-NOV-1998.



AFE No:

24. Perforate the 2<sup>nd</sup> Bone Spring, 9,592' – 9,893' w/ 0.41" EH, 120-degree phasing, and 40 total shots.
25. RD WL. PU 2-7/8" x 5-1/2" Treating Packer w/ 2-7/8" x 3-1/2" XO.
26. Set Packer in 20 pts compression @  $\pm$  9,525' and pressure up casing to 500 psi.
27. Move in 13 Frac tanks and fill w/ fresh water.
28. RU Halliburton Frac crew. Pressure test lines to **max treating pressure: 6,500 psi.**
29. Frac the perforated interval w/ 400,000 lbs of proppant and 227,682 gals of slickwater with 17# linear gel and 17# XL borate.
30. RU flowback equipment in a way in which production can be turned to the battery once an oil cut is detected.
31. Flow back well until it dies.
32. Release packer and TOOH laying down the 3-1/2" tbg.
33. RIH w/ Tubing and Rods.
34. Return to Production.