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## Deep CV Bossier Completion Procedure

### **Primary Completion Intervals 19,470-570'; 19,064-210'; & 18,404-590'**

**AFE: XXXXXX**

#### **Well Data:**

20" conductor @ 120'  
13 3/8" 68# K-55 BTC @ 3150'  
9 5/8" 53.5# P-110 LTC @ 11,392'  
7 5/8" 39# P-110 FJL Liner @ 16,030' W/ Liner top at 11,059'  
5" 24.1# JFE-110SS KS Bear @ 5160' P-110 from 5160 – 19,649' drift ID 3.875"  
(Cap .0158 bbl/ft)

#### **Objectives:**

- I. Clean-out prod csg to TD and displace with 2% KCl wtr. Run cased-hole GR-CCI & HT Sector CBL
- II. Perf, pump inj test, and briefly flow test sand interval @ 19,470-570'. If flow test indicates zone is gas bearing, frac as designed.
- III. Perf, frac, and test sand @ 19,064-210'
- IV. Perf, frac and test sand @ 18,404-590'
- V. Drill out composite plugs, commingle all perforated intervals, and turn well to sales

#### **Procedure:**

- 1) "Dress-off" location and set large flow back tank and elevated flare. NU and test to 15K psi the 4 1/16" 15K frac stack and 15K hydraulic ck manifolds.
- 2) MIRU 2" CTU and pump. RIH to TD at 19,600' (float collar) and displace 13 ppg CaCl<sub>2</sub>/CaBr<sub>2</sub> with clean 2% KCl wtr, POH. Test csg to 14,500 psi.
- 3) MIRU SLU, RIH with 3.5" gauge ring and tag TD, POH.
- 4) MIRU Crane, ELU, HP pump, and HP Lubr. RIH with High Temp GR/CCI/Sector CBL tools and run cased-hole logs from TD back to 16,000'.
- 5) PU 3 3/8" TAG & CCI tools in lubr. and test to 10,000 psi. RIH, apply 7500 psi on csg, run CCI correlation log and perf Sand at 19,542-50' (Array Induction/Spectral Density/Dual Spaced Neutron log) 6 spf 60° ph, observe pressure response and POH.  
\*Use Titan EXP-3325-521T (HNS) charges and primer. RDMO ELU and equip.  
SWI.

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- 6) RU Hp pump equip with Pressure Monitoring ability. Break-dn perms and est 6 – 8 bpm injection rate, inject 75 bbls 2% KCl wtr after break-dn and SD for ISIP. Monitor leak-off 3 hrs. SWI and RDMO Hp pumps.
  - 7) Open well to 15k ck manifold and flow back to surface tanks to recover 150 bbls over hole capacity (459 bbls). Do not allow surface flowing test pressure to decrease below 6000 psi w/o Supv approval. If flow test indicate zone is gas bearing proceed to frac. If flow test indicate zone is wet, proceed to step 10.
  - 8) Frac well per recommendation. Force close frac and SWI for 2 ½ hrs for sand to cure and set. Flow back frac as directed.
  - 9) As soon as feasible turn well to sales through prod facilities or rental test unit. Finish frac clean-up and test well.
  - 10) RU Hp pump, load well with 315 bbls 2% KCl wtr.
  - 11) RU SLU. RIH to 19,350' with 3.875" gauge ring.
  - 12) MIRU Crane, ELU, HP pump, and HP Lubr. PU Baker setting tool with HPHT 10k Composite bridge plug and CCL, RIH and set plug at 19,350'. Test plug to 10,000 psi (Max 10K differential across plug).
  - 13) RU HPI cmt equipment. Load bailers with HT cement slurry and dump 20' cmt on bridge plug. RD HPI, SWI for 24 hrs WOC.
  - 14) Test bridge plug to 14,000 psi.
  - 15) PU 3 3/8" TAG & CCl tools in lubr. and test to 10,000 psi. RIH, apply 7500 psi on csg, run CCl correlation log and perf Sand at 19,085-90' & 19,173-78' (Array Induction/Spectral Density/Dual Spaced Neutron log) 6 spf 60° ph, observe pressure response and POH. \*Use Titan EXP-3325-521T (HNS) charges and primer. RDMO ELU and equip. SWI.
  - 16) Frac well per recommendation. Force close frac and SWI for 2 ½ hrs for sand to cure and set. Flow back frac as directed.
  - 17) As soon as feasible turn well to sales through prod facilities. Finish frac clean-up and test well.
  - 18) RU Hp pump, load well with 305 bbls 2% KCl wtr.
  - 19) RU SLU. RIH to 18,670' with 3.875" gauge ring.
  - 20) MIRU Crane, ELU, HP pump, and HP Lubr. PU Baker setting tool with HPHT 10k Composite bridge plug and CCL, RIH and set plug at 18,670'. Test plug to 10,000 psi (Max 10K differential across plug).
  - 21) RU HPI cmt equipment. Load bailers with HT cement slurry and dump 20' cmt on bridge plug. RD HPI, SWI for 24 hrs WOC.
  - 22) Test bridge plug to 14,000 psi.
  - 23) PU 3 3/8" TAG & CCl tools in lubr. and test to 10,000 psi. RIH, apply 7500 psi on csg, run CCl correlation log and perf Sand at 18,406-10' & 18,548-53' (Array Induction/Spectral Density/Dual Spaced Neutron log) 6 spf 60° ph, observe pressure

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- response and POH. \*Use Titan EXP-3325-521T (HNS) charges and primer. RDMO ELU and equip. SWI.
- 24) Frac well per recommendation. Force close frac and SWI for 2 ½ hrs for sand to cure and set. Flow back frac as directed.
  - 25) As soon as feasible turn well to sales through prod facilities. Finish frac clean-up and test well.
  - 26) MIRU 2" Hp CTU with Hp double pump. PU 2 7/8" HPHT Bi-Co motor and 3 5/8" mill assembly, test to 10,000 psi. RIH and mill-out composite bridge plug at 18,670' and at 19,350' (only mill out bridge plug at 19,350' if perfs at 19,542-50' were fraced), Circ well clean through bottom perfs and POH. RDMO CTU and equip.
  - 27) Flow well thru test unit and finish clean-up.
  - 28) Return well to sales.

RDR  
x/xx/xx