

**Shugart "21" Federal #1
1980' FSL & 1800' FEL
Sec. 21, T-18-S, R-31-E
Eddy Co., NM**

**July 24, 2001
Re-frac the Avalon**

**Current Production: Well TA'd
Proposed Perfs: 6412-33' Avalon
Anticipated IP: 50 bopd**

- 1) MIRU workover rig. Bleed pressure from well to oil storage tank on location. Kill well, if necessary, w/2% KCl water. ND tree and NU 5M BOP's. Release 5-1/2" tbg anchor at 6361' and POOH w/2-7/8" tbg.
- 2) RU WL. NU 5M lubricator and test to 3000 psi. RIH w/3-3/8" csg gun loaded 6 spf, 60 deg phase (0.49" entrance hole dia.) and reperforate the Avalon from 6412-33' (22 ft, 132 holes). POOH. ND lubricator and RD WL.
 - a) Depth Reference: Reeves CNL Run #1 dated 6/30/01.
- 3) Spot and fill frac tanks. RU flow back manifold and flare line to pit.
- 4) RU BJ Services. NU 5-1/2", 17# csg saver. Test all lines to 10,000 psi. Break down perfs w/2500 gals of 7-1/2% HCL. Perform a pump in test using pad fluid to confirm leakoff properties. Frac the Avalon down casing w/42,500 gals Spectrafrac 4000 carrying 51,000 lbs of 20/40 white sand and 17,500 lbs 20/40 Super LC as per the attached BJ recommendation (BJ proposal # 180652437A). Monitor intermediate csg pressure during treatment. Report rates and pressures during the job as well as ISIP, 5 min., 10 min., and 15 min. pressures. Do not exceed 6000 psi surface treating pressure during the frac job.
 - a) *Don't forget to pump the resin activator in the Super LC stage.*
- 5) ND csg saver and RD BJ. Begin flowing well back on an 8/64" choke. Open choke as necessary to optimize load recovery.
- 6) When the well dies, tag TD w/sand line or slickline to confirm perfs are not covered. When all load is recovered, PU BPMA, perf'd sub, SN and TAC on 2-7/8" production tbg and RIH as before. Set tbg anchor at 6361' with SN at 6427'.
 - a) If perfs are covered with sand, make a cleanout run with a bit to PBTD at 6480'. Circulate 2% KCl water to clean out sand.
- 7) Space out to land tbg in 12-15K lbs tension. ND BOP's and NU Larkin head. RU swab and recover load. If well will flow, allow it to clean-up to pit until oil cut is present. Then put well through test separator until all load is recovered. Report oil gravity when it is available.
 - a) If well does not flow, run rods and pump as per Houston's recommendations.
- 8) RD&R rig. PWOL and obtain state potential test.