Bell L 12-21: Plug & Abandonment

1 Provide 48 hour notice to COGCC prior to rig up per request on approved Form 6 (e.g. call field coordinator, submit Form 42, etc.). Call IOC (970-506-5980) at least 24 hours prior to rig move. Request they catch and remove plunger, isolate production equipment, and remove any automation equipment prior to MIRU.

2 MIRU slickline. RIH to retrieve production equipment and tag for fill (last cleaned out to 7465' on 6/8/07). Note tagged depth in OpenWells. RDMO slickline.

3 Prepare location for base beam equipped rig. Install perimeter fence as needed.

4 Check and report surface casing pressure. If surface casing is not accessible at ground level, re-plumb so valve is at ground level.

5 MIRU WO rig. Kill well as necessary with water and biocide. ND wellhead. NU BOP.

6 Unland 1.66" tbg (222 total joints landed at 7377') and TOOH standing back 7300' of 1.66" tubing.

7 MIRU wireline. RIH with junk basket/gauge ring (2-7/8" 6.5#/7.9#) to 7350'. POOH. PU and RIH with CIBP (2-7/8", 6.5#/7.9#) to set at 7300' (collars at 7284' and 7316'). Dump bail 1 sx of Neat G cement on top of CIBP to abandon Codell perfs. POOH.

8 Run gyro survey inside 2-7/8" production casing from 7275' (~100' above top Codell perfs) to surface with stops every 100'. Forward gyro survey data and invoices to Sabrina Frantz. RDMO wireline.

9 PU & TIH with 1.66" tubing to tag cement capped CIBP set at 7300'. PUH just above CIBP and circulate all gas out of the hole. Pumping water with biocide, pressure test the CIBP and production casing to 2500psi for 15 minutes. **If pressure test passes, proceed to next step; otherwise contact engineering for revised procedure steps to hydrotest 2-7/8" casing back in hole to spot stub plug prior to step 20.**

10 MIRU wireline. RIH with 1-11/16" perf guns and shoot squeeze holes at 6885' using 6 SPF, 0.37" EHD, 1' net, 6 total shots. POOH with perf guns. RDMO wireline.

11 Connect to the 2-7/8" casing and establish an injection rate of at least 1 bbl/min with an injection pressure less than 3000psi. **If injection rate at least 1 bbl/min and injection pressure less than 3000 psi proceed to next step, otherwise contact engineering.**

12 MIRU cementing services on the 2-7/8" production casing. Establish injection rate with water and pump 110 sx Class "G" cement with 20% silica flour, 0.4% CD-32 and 0.4% ASA-301 mixed at 15.8ppg and 1.38 cuft/sx (cement volumes based on 10" hole with 20% excess from 6885' to 6650' and 2-7/8" 6.5# casing capacity from 6885' to 6650' with no excess). Drop wiper plug and displace cement to 6650' using approx. 38 bbls water. RDMO cementing services. WOC to set up per cementing company recommendation.

13 MIRU wireline. RIH with sinker bars to tag cement plug @ +/- 6650'. If cement is not above 6650' contact engineer, otherwise proceed to next step.

14 PU and RIH with 1-11/16" perf guns and shoot squeeze holes at 4500' using 6 SPF, 0.37" EHD, 1' net, 6 total shots. POOH with perf guns. RDMO wireline.

15 Establish circulation through squeeze holes to surface with water. **If circulation is established, proceed to next step; otherwise contact engineering for revised procedure steps.**

16 MIRU cementing services on the 2-7/8" production casing. Establish circulation with water and pump 20 bbls sodium metasilicate followed by 260 sx Class "G" cement with 0.25 pps cello flake, 0.4% CD-32 and 0.4% ASA-301 mixed at 15.8ppg and 1.15 cuft/sx (cement volumes based on 10" caliper plus 40% excess from 4500' to 4100' and 2-7/8" 6.5# casing capacity from 4500' to 4100'). Drop wiper plug and displace to 4100' using 23 bbls water. RDMO cementing services. WOC to set up per cementing company recommendation.

17 MIRU wireline. RIH with sinker bars to tag cement plug @ +/- 4100'. If cement is not above 4100' contact engineer, otherwise proceed to next step.

18 RIH and jet cut 2-7/8" production casing at 1360'. RDMO wireline. Circulate bottoms up and continue circulating to remove any gas from wellbore.

Bell L 12-21: Plug & Abandonment

19 ND BOP. Install BOP on surface casing head with 2-7/8" pipe rams. Install 3000 psi ball valves on both casing head outlets. Install a choke or choke manifold on one outlet.
20 MIRU cementing services. Establish circulation through 2-7/8" casing with water and pump 10 bbls SAPP mud flush, 20 bbls fresh water spacer, then balanced stub plug using 480 sx Type III cement with cello flake and CaCl2 as necessary, mixed at 14.8 ppg and 1.33 cuft/sx (cement volumes based on 800' in 10" hole with 40% excess, and 200' in 8-5/8" surface casing). RDMO cementing services.
21 TOOH and LD 2-7/8" casing until end of casing is at +/- 200'. Circulate down 2-7/8" production casing and up surface casing/production casing annulus until returns are clean to ensure CIBP can be set in clean surface casing. Finish TOOH and LD 2-7/8" casing. WOC to set up per cementing company recommendation.
22 PU and TIH with 2-7/8" workstring to tag cement plug at +/- 360'. If cement is not above 360' contact engineer, otherwise proceed to next step.
23 MIRU wireline. PU and RIH with CIBP (8-5/8", 24#/ft). Set CIBP at 80' and pressure test the CIBP to 1000psi for 15mins. If pressure test fails contact engineering, otherwise proceed to next step.
24 RDMO wireline. RDMO WO rig.
25 Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries to rscDJVendors@anadarko.com within 24 hours of completion of job.
26 Supervisor submit paper copies of all invoices, logs, and reports to Joleen Kramer.
27 Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
28 Excavate hole around surface casing enough to allow welder to cut casing minimum of 5' below ground level.
29 Welder cut casing minimum of 5' below ground level.
30 Fill casing to surface using 4500psi compressive strength cement (NO GRAVEL).
31 Spot weld on steel marker plate. Marker should contain well name, well number, legal location (1/4 1/4 descriptor), and API number.
32 Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com
33 Properly abandon flowline per Rule 1103. File electronic Form 42 once abandonment complete.
34 Back fill hole with fill. Clean and level location.
35 Submit Form 6 to COGCC ensuring to provide "As Performed" WBD identifying operations completed.

Casey Decker – Production Engineer II
970-506-5984 – Office – 406-490-2184
Casey.decker@anadarko.com