KELLY GAS UNIT 2

PLUG AND ABANDOMENT PROCEDURE

1 Call foreman or lead operator at least 24 hr prior to rig move. Request they catch and remove the plunger, isolate production equipment and remove any automation prior to rig showing up. Install perimeter fence as needed.

2 MIRU slickline services. Pull bumper spring, tag bottom. Gyro survey completed 10/19/11. RDMO slickline services.

3 Notify IOC when rig mobilizes to location to generate workorder for flowline removal and one call for line locates.

4 Prepare location for base beam equipped rig.

5 MIRU, kill as necessary using clean fresh water with biocide and circulate. ND WH. NU BOP. Unseat landing jt, LD.

6 Notify cementers to be on call. Provide volumes (30 sx class G w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 mixed at 15.8 ppg and 1.38 cuft/sk (inside 4.5" casing, no excess); 540 sx class "G", w/0.25 pps cello flake, 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cf/sx (12.0"+20% Caliper Log in file); 500 sx Type III CaCl2 cement mixed at 14.0 ppg and 1.53 cf/sx (100' inside 4.5" casing (no excess), 606' in 12.25" open hole (20% excess), & 414' inside 8-5/8" casing (no excess))).

7 TOOH 2-3/8” production tubing. Stand back.

8 MIRU WL. RIH gauge ring for 4.5" 11.6#/ft csg to 7760'.

9 RIH CIBP, set at 7760’. No PT - Sqz holes at 7015'. PU dump bailer, dump bail 2 sx class "G" cement on CIBP.

10 RIH CIBP, set at 7010’. PT to 1000 psi. Note: Squeeze holes at 7015'. Depth from Brandex CBL dated 3/23/05.

11 RUN CBL from 7010' to surface with no pressure on casing. Re-run CBL from 7010' to 6000' with 1000 psig to verify bonding. Contact production engineer if cement is found shallower than 6300' and/or if up hole cement differs from that identified. RDMO WL.

12 RIH with 2-3/8" tubing to 7010'. Hydrotest tubing to 3000 psi.

13 RU cement services. Pump 30 sx class G w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 mixed at 15.8 ppg and 1.38 cuft/sk (inside 4.5" casing) to place balanced plug from 7010' to 6650'.

14 PUH 9 stands. Circulate 95 BBL water containing biocide to clear tubing.

15 Place 9.0 ppg mud containing biocide from 6650' to 4650' (~32 bbl).

16 TOOH & Stand Back 4100' tubing; LD remainder.

17 RU WL. PU 2 - 1' 3-1/8" perf guns with 3 spf, 0.5" dia 120° phasing. Shoot 1' of squeeze holes at 4650' and 3980'. RD WL.

18 PU CICR on production tubing. RIH & set at 4010'. Initiate circulation through CICR using water containing biocide. Note rate and pressure.

19 RU cement services. Pump 20 bbl Sodium Metasilicate immediately preceding cement.

20 Pump 540 sx class "G", w/0.25 pps cello flake, 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cf/sx to place suicide squeeze between perfs at 4650' and 3890' (inside 4.5" casing and between casing and 12"+20% excess - Caliper Log in file). Underdisplace by 3 bbls, unsting from retainer and dump remaining 3 bbls on top of CICR.

21 PUH 4 stands. Circulate 55 BBL water containing biocide to clear tubing.

22 Place 9.0 ppg mud containing biocide from 3980' to 1320' (~42BBL). TOOH. P&SB 1320' tbg. LD Remainder.

23 RU WL. Crack coupling or shoot off casing at or below 1220'. RDMO WL. Circulate hole using 20 BBL water containing biocide to remove any gas.

24 NDBOP, NDTH.

25 Install BOP on casing head with 4-1/2" pipe rams.

26 TOOH with 4-1/2" casing, LD.

27 TIH with 2-3/8" tubing to 1320'.

28 RU cementers. Spot 500 sx Type III CaCl2 cement mixed at 14.0 ppg and 1.53 cuft/sx to fill ~100' production casing, 606' 12.25"+20% excess open hole, and ~414' surface casing .

29 Circulate 10 bbls water containing biocide to clear tubing.

30 TOOH. WOC 4 hrs. Tag cement. Top needs to be above 500'; Assuming TOC above 500' → proceed.

31 MIRU WL. RIH 8-5/8" CIBP to 100'. Set, PT to 1000 psi for 15 min. If tests, RDMO WL and WO rig.

32 Supervisor submit paper copies of all invoices, logs, and reports to Joleen Kramer.

33 Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.

34 Excavate hole around surface casing enough to allow welder to cut 8 5/8" casing minimum 5' below ground level.

35 Welder cut 8 5/8" casing minimum 5' below ground level.

36 MIRU ready cement mixer. Use 4500psi compressive strength cement, (NO gravel) fill stubout.

37 Weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number

38 Properly abandon flowlines per Rule 1103.

39 Back fill hole with fill. Clean location, level.

40 Submit Form 6 to COGCC ensuring to provide “As performed” WBD identifying operations completed.

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