PLUG AND ABANDOMENT PROCEDURE

Sekich A 13-17

Step Description of Work

Note: Production Casing = 3 1/2'' OD, 7.7#/ft, KS-70; Production Hole Drilled @ 7 7/8'';

1 Provide 48 hr notice to COGCC prior to rig up per request on approved Form 6 (e.g. call field coordinator, submit Form 42, etc.). 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 and tag bottom. RDMO slickline services.

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

4 Prepare location for base beam equipped rig. MI ~15 additional 2 1/16'' prod tbg jts.

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 listed below:

6_1 Niobrara Plug: 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 (30bbls) (Inside 3 1/2'' Casing, no excess)

6_2 Sussex Open Hole Plug: 290 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 (59.3bbls) (10''+20% Caliper Log in file)

6_3 Open Hole Surface Plug: 250 sx Type III CaCl2 cement mixed at 14.0 ppg and 1.53 cf/sx (67bbls) (310' in 12 1/4'' OH +20% excess and 200' inside 8 5/8'' surface casing)

7 TOOH 2 1/16'' production tubing. Stand Back.

8 MIRU WL. RIH gauge ring for 3 1/2'' 7.7#/ft casing to 6981'.

9 RIH CIBP w/ WL. Set at 6920'. PT 3 1/2'' casing to 3000 psi.

10 RIH w/ 2 1/16'' tubing while hydrotesting to 3,000 psi.

11 RU Cementers. Pump Niobrara Plug: 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 (30bbls) (Inside 3 1/2'' Casing, no excess) to place balanced plug.

12 Place 9.0 ppg mud containing biocide from 6350' to 4480' (~18bbls). WOC 4 hrs.

13 TOOH & Stand Back 2 1/16'' production tubing.

14 RUWL. PU jet cutter & cut casing at 4480'.RDWL. Circulate hole using water containing biocide to remove any gas. If 3 1/2'' pressure tested to 3000 psi, use as work string to pump cement

plug. If not, then TOOH, LD 3 1/2'', PU 2 1/16'' tubing and RIH to pump cement plug over casing stub. Hydrotest 2 1/16 '' while RIH.

15 NDBOP, NDTH

16 Install BOP on casing head with pipe rams that fit work string (3 1/2'' or 2 1/16'').

17 RU cement services. Pump 5 bbls water, 20 bbl Sodium Metasilicate, followed by another 5 bbls water spacer immediately preceding cement.

18 Pump Sussex Open Hole Plug: 290 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 (59.3bbls) (10''+20% Caliper Log in file) to place balanced open hole plug.

19 PUH 13 stands. Circulate 355 bbls water containing biocide to clear tubing.

20 Place 9.0 ppg mud containing biocide from 3870' to 1020' (~416bbls). TOOH & WOC 4 hrs. Tag cement. Cement needs to be above 3872'. If cement is above 3872', proced; otherwise, call production engineer.

21 TIH to 1020'. RU Cementers. Pump Open Hole Surface Plug: 250 sx Type III CaCl2 cement mixed at 14.0 ppg and 1.53 cf/sx (67bbls) (310' in 12 1/4'' OH +20% excess and 200' inside 8 5/8'' surface casing) to place balanced open hole plug.

22 PUH & circulate 20 bbls water containing biocide to clear tubing. WOC 4 hrs. Tag Cement. Cement needs to be above at least 510'. If cement is not above 510', call production engineer.Proceed otherwise.

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

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

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

26 Excavate hole around surface casing enough to allow welder to cut 8 5/8” casing minimum 5’ below ground level.

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

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

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

30 Properly abandon flowlines per Rule 1103.

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

32 Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed. File electronic Form 42 once abandonment complete.