

UPRR 42 PAN AM 1

- 1 Provide 48 hour notice of MIRU to COGCC as required in approved Form 6
- 2 Prepare location for base beam rig to move onto.
- 3 Call Foreman and/or Field Coordinator before rig up to remove all production equipment off wellhead, catch and remove plunger, remove any automation equipment. Install fence if needed
- 4 No Gyro needed (Gyro ran 10/14/2011)
- 5 MIRU WO rig, pump, & tank. Kill w/ fresh water with biocide as needed. ND wellhead. NU BOP's. Unseat landing joint and lay down.
- 6 Place cementers on "will call" when rig moves onto location. Baker Hughes cementing services (Sheldon Kelley: (303) 659-5853).
- 7 TOO H with 2-3/8" tbg, standing back
- 8 MIRU Hydrotester to hydrotest tbg while TIH
- 9 PU scraper for 4-1/2" csg (most likely combination of 10.5# and 11.6#) and 2-3/8" tbg. TIH w/ scraper and tbg to below 7,800' KB. Hydrotest tbg while TIH, replace any failed jnts
- 10 RDMO Hydrotester
- 11 TOO H with 2-3/8" tbg, standing back, TOO H w/ scraper and LD
- 12 MIRU E-Line service company
- 13 RIH with CIBP for 4-1/2" csg. (unable to verify weight at depth) and set at 7,775' (71' above top JSAND perf) (needs to be between 60' and 100' above perms per COGCC)
- 14 RIH and run CBL log from CIBP to 4,950' (or after top of cement clearly identified).
- 15 If TOC is not within 100' of 5,000' KB, contact engineering for change in plugging procedure (NB top @ 7,095 and must have minimum 400' coverage above; Shannon bottom @ 5,050' and needs minimum 50' coverage below)
- 16 Pressure test CIBP to 1,000 psi after CBL run, for 15 min
- 17 POOH, RDMO E-Line service company
- 18 TIH w/ 2-3/8" tbg to just above CIBP set at 7,775'
- 19 MIRU cementing services.
- 20 Pump cement job to cover Niobrara inside 4-1/2" casing (7,775' to 6,695'). Pump job as follows: establish circulation, followed by 17.5 bbl (65 sks) Class G 15.8 lbs cement w/ 35% Silica Flour, 0.2% R-3, displace to 6,695 (0.00387 bbl / ln ft for 2-3/8" 4.7# tbg. 26 bbl)
- 21 POOH so EOT is just above cement plug. Reverse Circulate down casing and up tubing with minimum 9# mud w/ biocide for 2 times tubing capacity and have clean returns (52 bbl if EOT is at 6,695' KB)
- 22 TOO H 2-3/8" tbg, standing back, about 4,920'
- 23 MIRU E-Line Service Company
- 24 RIH with perforating tools and perf 4-1/2" csg twice. First at 50' above TOC (4,950' based on cement top at 5,000' KB), but no deeper than 5,150' (Shannon bottom at 5,050'). Second at 4,100' to perform suicide squeeze across Sussex
- 25 POOH. RDMO E-Line service company.

- 26 TIH with cement retainer and 2 3/8" tbg to 30' below top perf holes (4,130' based on perms being at 4,100')
- 27 Pump cement plug from 4,950' KB to 4,100' KB to cover Sussex (Sussex formation is at 4,321' – 5,050') + volume in 4-1/2" csg to cement retainer + 125' above retainer. Pump job as follows: after establishing circulation with mud, pump 20 bbl sodium metasilicate pre-flush, followed by 51.5 bbl (250 sks) class G 15.8# cmt w/ 0.25 pps Cello Flake, (calculated using 820' inside 4-1/2" casing + 850' between 8-1/2" hole and 4-1/2" csg based on caliper log + 20% excess for portion in annulus + 125' on top of retainer). Displace to 4,005' (2 bbl, 125' above cement retainer)
- 28 Sting out of Cement retainer and dump remaining cement on top of retainer
- 29 TOO H to have EOT above cement plug (approximately 5 jnts). Reverse circulate down csg an up tbg with mud 2 times tubing capacity (32 bbl if EOT is at 4,000') and have clean returns.
- 30 WOC minimum 4 hours; TOO H with tbg, standing back about 830'.
- 31 MIRU E-Line Service company
- 32 RIH with jet cutter (For 4-1/2", 11.6 lbs casing) to cut csg at 730 ft KB (150' below bottom of surface casing). If unable to pull casing after first cut, cut again with jet cutter 50' above first cut. If still unable to pull casing following second cut, call engineering for plugging modifications.
- 33 POOH. RDMO E-Line service company.
- 34 TOO H 4-1/2" casing and LD. If unable to pull casing contact engineering for plugging modifications.
- 35 PU and TIH 2-3/8" tbg to 50' inside 4-1/2" csg
- 36 Pump cement plug from 780' to inside Surface casing to have 50' inside csg stub and cover Surface casing shoe with minimum 50' cement (Surface casing set at 567' KB). Pump job as follows: Establish circulation, followed by 30 bbl (147 sks) class G 15.8# cmt w/ 2% CaCl, displace to 366' (1.4 bbl)(Calculated using 50' inside 4-1/2" csg + 163' in 8-1/2" hole based on closest caliper log + 40% excess + 200' in 8-5/8" csg.)
- 37 TOO H to have EOT above cement plug, standing back jnts. Circulate with minimum 9# mud w/ biocide enough volume to bring mud to surface (Approximately 24 bbl)
- 38 WOC minimum 4 hours; IF SDFN, TOO H with workstring, standing back. (DO NOT LEAVE TUBING IN HOLE OVERNIGHT)
- 39 PU and TIH 2-3/8" tbg to tag top of cement (If cement is not at least 50' inside surface casing, notify engineering), TOO H w/ 2-3/8" tbg, standing back
- 40 MIRU E-line Service Company
- 41 RIH with CIBP for 8-5/8", 24# csg., and set just above TOC inside surface casing. Pressure Test CIBP to 1,000 psi for 15 min.
- 42 POOH, RDMO E-Line Service Company
- 43 TIH 2-3/8" N-80 tbg to just above CIBP
- 44 Pump cement plug from top of CIBP to Surface. Pump job as follows: Establish circulation, followed by 23.3 bbl (114 sks) class G 15.8# cmt w/ 2% CaCl, bring cement to surface (Calculated using 365' in 8-5/8", 24# csg.)
- 45 RDMO cementing service company. TOO H with tbg and LD.

- 46 RDMO WO rig
- 47 POST RIG ACTIVITIES
- 48 Wellsite supervisor turn all paper copies of cementing reports/invoices and logs in to Sabrina Frantz. (NOTE: During the job, wellsite supervisor should instruct the logging and cementing contractors to e-mail all logs, job reports/invoices to Sabrina Frantz.)
- 49 Have excavation contractor notify One-Call to clear for digging around wellhead and flowline removal.
- 50 Check top of cement inside 8-5/8" surface casing. If cement is not of sufficient height (less than 25' below ground level), place redi-mix cementer on will call.
- 51 Excavate hole around surface casing of sufficient size and depth to allow welder to cut off 8-5/8" surface casing at least 5' below ground level.
- 52 Have welder cut off 8-5/8" surface casing at least 5' below ground level.
- 53 If needed, MIRU ready cement mixer. Use 4,500 psi compressive strength redi-mix cement (sand and cement only, no gravel) to finish filling surface casing to top of cut off.
- 54 Have welder weld on steel marker plate. (Note: marker shall be labeled with well name and number, legal location (qtr, qtr description) and API number.
- 55 Properly abandon flowlines as per Rule 1103.
- 56 Have excavation contractor back fill hole with native material. Clean up location and have leveled to plant any vegetation required.
- 57 Submit Form 6 to COGCC. Provide "As Plugged" wellbore diagram identifying the specific plugging completed.