



Monfort E30-09

WORKOVER PROCEDURE

WELL NAME:	Monfort E30-09	DATE:	2/3/2017												
LOCATION:	<table border="0" style="width: 100%; font-size: small;"> <tr> <td style="width: 25%;">Qtr/Qtr: <u>NE/SE</u></td> <td style="width: 25%;">Section: <u>30</u></td> <td style="width: 25%;">Township: <u>6N</u></td> <td style="width: 25%;">Range: <u>65W</u></td> </tr> <tr> <td>Footages: <u>1975'</u></td> <td>FSL & <u>720'</u></td> <td><u>FEL</u></td> <td></td> </tr> </table>			Qtr/Qtr: <u>NE/SE</u>	Section: <u>30</u>	Township: <u>6N</u>	Range: <u>65W</u>	Footages: <u>1975'</u>	FSL & <u>720'</u>	<u>FEL</u>					
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COUNTY:	WELD	STATE:	CO												
API #:	05-123-23542														
ENGINEER:	John Hatch (Noble) 720.587.2377	7 Day Notice Sent:													
	(Please notify Engineer of any major changes prior to work)	Do not start operations until:													
		Notice Expires:													
OBJECTIVE:	Well Abandonment														
WELL DATA:	<table border="0" style="width: 100%; font-size: small;"> <tr> <td style="width: 60%;">Surface Csg: <u>8-5/8"; 24 ppf, J-55; set at 451'</u></td> <td style="width: 40%;">KB Elevation: <u>4724'</u></td> </tr> <tr> <td>Surface Cmt: <u>320 sx</u></td> <td>GL Elevation: <u>4708'</u></td> </tr> <tr> <td>Long St Csg: <u>4-1/2"; 11.6 ppf, M-80; set at 7286.6'</u></td> <td>TD: <u>7302'</u></td> </tr> <tr> <td>Long St Cmt: <u>890 sx</u></td> <td>PBTD: <u>7243'</u></td> </tr> <tr> <td>Long St Date: _____</td> <td></td> </tr> </table>			Surface Csg: <u>8-5/8"; 24 ppf, J-55; set at 451'</u>	KB Elevation: <u>4724'</u>	Surface Cmt: <u>320 sx</u>	GL Elevation: <u>4708'</u>	Long St Csg: <u>4-1/2"; 11.6 ppf, M-80; set at 7286.6'</u>	TD: <u>7302'</u>	Long St Cmt: <u>890 sx</u>	PBTD: <u>7243'</u>	Long St Date: _____			
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PRODUCTION STATUS:	Well is currently S/I for regulatory compliance														
COMMENTS:	No producing Sussex within 1 mile.														

Procedure:

- 1) MIRU workover rig, pump, and tank.
- 2) Blow down well and roll hole with fresh water, if possible.
- 3) ND WH, NU BOP.
- 4) POOH and LD tbg.
- 5) RIH w/ CIBP and set @ 7069' (50' above Nio or Codell top perf)
 - If setting above Nio, set CIBP on wireline.
 - If setting above Codell, set hydromechanical CIBP on workstring.
- 6) Set hydromechanical CIBP, pump 35 sx of Class G Neat cement on top of CIBP.
 - Needs to be 200' above Niobrara top.
 - Cement calculation: $461 \text{ ft} \times 0.0872 \text{ ft}^3/\text{ft} = 40 \text{ ft}^3 \times 1.15 \text{ ft}^3/\text{sx} = 35 \text{ sx}$

- 7) Load hole with fluid and pressure test CIBP to 1000 psi with rig pumps. Hold for 15 minutes. Test will be considered successful if lose less than 100 psi. If test is unsuccessful, contact engineer.
 - Omit step if known hole in casing. If needed, run packer on tubing and pressure test CIBP this way.
- 8) RIH w/ 1' perforating gun and shoot 4-6 spf @ 2350'.
 - Will need adjusted if TOC is above 2500'.
- 9) RIH w/ CICR and set @ 2250' (100' above perforations).
 - If 4-1/2" casing or larger, RIH with CICR on workstring.
 - If smaller than 4-1/2" casing, RIH with CICR on WL.
- 10) Load annulus between production casing and workstring. Test to 500 psi for 15 minutes. Test is considered successful if lose less than 50 psi. If pressure test fails, contact engineer.
- 11) Establish injection rate.
- 12) Pump 10 bbls Mud Flush (or similar spacer) followed by 189 sx of cement.
 - Annulus capacity (10" open hole & 4 1/2" csg) = .0775 ft³/ft, 0.4349 ft³/ft
 - Cement calculation: 500 ft x 0.4349 = 217 ft/1.15 ft³/sx = 189 sx
 - TOC should be ~500' in annulus above perforations. Ensure that cement does not come up past where the shoe plug is planned.
 - If well has known BH issues, pump 15.8 ppg PlugCem from HES.
- 13) Displace cement with 7 bbls fresh water. (using 2 3/8" WS)
 - Flush volume calculation: 2250 ft x 0.00387 bbl/ft = 9 bbls - 2 = 7 bbls
 - Number should be 2 bbls short of volume of workstring down to CICR.
- 14) Unsting from CICR.
- 15) Place remaining 2 bbls of cement on top of CICR. Allow to fall on CICR as pulling out.
- 16) POOH w/ workstring.
- 17) RIH w/ WL and cut production casing at 651'. (200' below surface shoe or deepest water well)
- 18) Circulate a MINIMUM of 2 bottoms up volumes (5 bbls) or until well is free of oil, gas, or any large cuttings.
 - Flush volume calculation: 651 ft x 0.00387 bbls/ft = 2.5 x 2 = 5 bbls
- 19) Perform flow check for 5 minutes to ensure well is static and record current fluid weight in WellView.
- 20) Unland production casing.
- 21) POOH and LD production casing filling pipe every 6 joints.
- 22) RIH w/ workstring to 651' (top of casing).

23) Establish circulation.

24) Pump 10 bbls Mud Flush (or similar spacer) followed by 235 sx of cement as a balanced plug.

TOC should be at surface.

- Cement calculation:
 - 10" Open hole: $200 \text{ ft} \times 0.5455 \text{ ft}^3/\text{ft} = 655 \text{ ft}^3/1.15\text{ft}^3/\text{sx} = 95 \text{ sx}$
 - 8 5/8" Surface casing: $451 \text{ ft} \times 0.3575 \text{ ft}^3/\text{ft} = 161 \text{ ft}^3/1.15\text{ft}^3/\text{sx} = 140 \text{ sx}$
 - Total sx to surface = 235 sx
- Can pump in one plug if well has no known BH issues
- If well has known BH issues, pump 15.8 ppg PlugCem from HES and a minimum of a 300' plug placing cement at least 50' into surface casing. SDFN and ensure that well has no pressure prior to pumping second plug to surface. If pressure is present, contact engineer. Second plug can be Class G Neat cement.
 - IE – if cut casing 200' below shoe, plug length with be 300' placing cement 100' into casing. If casing had to be cut 400' below shoe in order to cover deepest water well, pump 450' so that plug is at least 50' into shoe.
- If well has an exposed Fox Hills, limit the amount of cement pumped to 200 sx over calculated volumes.

25) POOH w/ workstring. Top off cement if needed. Cement needs to be ~10' from surface.

26) ND BOP. Top off cement as needed.

27) RDMO.

NOBLE ENERGY INC.

Monfort E30-09
NESE 30-6N-65W
1975' FSL & 720' FEL
WELD COUNTY, CO
Wattenberg
CURRENT WELLBORE SCHEMATIC
with PROPOSED P&A
2/3/2017

API: 05-123-23542
COGCC #

GL Elev: 4708'
KB Elev: 4724'

Spud Date: 12/13/1994

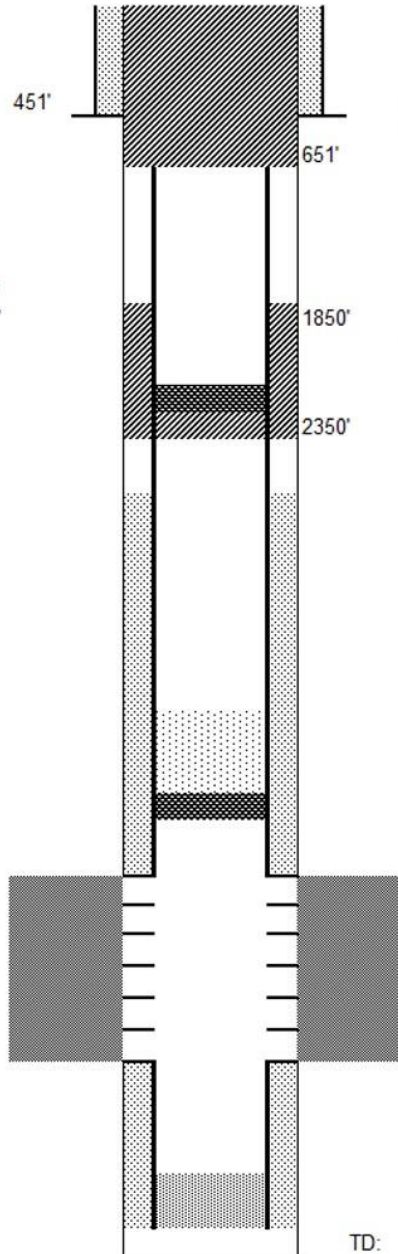
Surface Casing :
8-5/8"; 24 ppf, J-55; set at 451'
Cement: 320 sx
TOC: Surface

Deepest water well = 331' + 200' = 531'
Surface casing shoe = 451' + 200' = 651'
Fox Hills = 333' + 200' = 533'

TOC @ 2400'

Nio Top 6808'

Production Casing :
4-1/2"; 11.6 ppf, M-80; set at 7286.6'
Cement: 890 sx
TD: 1/0/1900



Cut surface casing off 6'-8' below surface.

Pump 235 sx shoe plug @ 651'
Will bring cement to surface.

Perforate @ 2350'
Set CICR @ 2250'
Pump 189 sx courtesy plug, leaving 500'
of cement in annulus

No producing Sussex within 1 mile.

CIBP @ 7069' w/ 35 sx cement on top
to 6608' inside casing.

Codell Perforations 7119' - 7135'

TD: 7302'