



LORENZ 16-15

P&A Procedure

Engineer: Sarah McDonnell (832-247-2575)

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LOCATION:

Qtr/Qtr: SESE Section: 15 Township: 5N Range: 65W
Footages: 465 FSL & 465 FEL

COUNTY: WELD STATE: CO API #: 05-123-21313

WELL DATA: Surface Csg: 8-5/8", J-55, 24# @ 504' KB Elevation: 4,629
Surface Cmt: 370 sx GL Elevation: 4,617
Long St Csg: 4-1/2", I-80, 11.60# @ 7,097' TD: 7,125
Long St Cmt: 175 sx PBTD: 7,081
Long St Date: 2/17/2003

Plug Back (Sand or CIBP): Sand
Perforation Interval (1): Niobrara Perforations: 6,664' - 6,874'
Perforation Interval (2): Codell Perforations: 6,968' - 6,988'
Perforation Interval (3): _____
Tubing: 2-3/8", J-55, 4.70# @ 6,930' Rods: _____
Pump: _____
Misc.: _____

PRODUCTION STATUS: PR

COMMENTS: Uneconomic to do STEM and WBI work, Sussex within mile, use Bradenhead slurry w/ Gaschek

PROCEDURE:

- 1) Perform Form 17 if not done already. If any pressure remains or any liquids are present at the conclusion of the test, call COGCC engineer for sampling requirements. Submit form 17 within 10 days.
- 2) MIRU Workover rig, pump & tank.
- 3) Blow down well and roll hole with fresh water, if possible.
- 4) ND WH, NU BOP.
- 5) POOH and LD tbg.
- 6) RU WL. RIH w/ CIBP on WL and set @ 6,614'.
- 7) Dump bail 2 sx of Class G Neat cement on top of CIBP.
- 8) 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.
- 9) RIH w/ 1' perforating gun and shoot 4-6 spf @ 4,592' (TOC ~6200').
- 10) RIH w/ CICR on workstring and set @ 4,492' (100' above perforations).
- 11) 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.
- 12) Establish injection rate.
- 13) Pump 10 bbls Mud Flush (or similar spacer) followed by 190 sx of 15.8 PlugCEM from HES w/ Gaschek.

Length (ft)	Volume Factor (bbl/ft)	Volume (bbls)	Volume (ft ³)	Yield (ft ³ /sk)	Cement (sx)
100	0.0155	2	9	1.209	7
500	0.0775	39	217	1.209	180
				TOTAL	187

*Calculations assume 10" open hole.

- 14) Displace cement with 15 bbls fresh water (2 bbls short of workstring volume).

Length	Tubing ID	Disp. Factor (bbl/ft)	Displacement (bbl)	Displacement - 2 bbl
4492	1.995	0.003866	17	15

- 15) Unsting from CICR.

- 16) Place 6 bbls (30 sx) of 15.8 PlugCEM from HES w/ Gaschek on top of CICR. Allow to fall on CICR as pulling out.

Length (ft)	Volume Factor (bbl/ft)	Volume (bbls)	Volume (ft ³)	Yield (ft ³ /sk)	Cement (sx)
400	0.0155	6	35	1.209	29

- 17) POOH w/ workstring.

- 18) RIH w/ 1' perforating gun and shoot 4-6 spf @ 2,284' (TOC ~6175').

- 19) RIH w/ CICR on workstring and set @ 2,184' (100' above perforations).

- 20) 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.

- 21) Establish injection rate.

- 22) Pump 10 bbls Mud Flush (or similar spacer) followed by 190 sx of 15.8 PlugCEM from HES w/ Gaschek.

Length (ft)	Volume Factor (bbl/ft)	Volume (bbls)	Volume (ft ³)	Yield (ft ³ /sk)	Cement (sx)
100	0.0155	2	9	1.209	7
500	0.0775	39	217	1.209	180
				TOTAL	187

*Calculations assume 10" open hole.

- 23) Displace cement with 6 bbls fresh water (2 bbls short of workstring volume).

Length	Tubing ID	Disp. Factor (bbl/ft)	Displacement (bbl)	Displacement - 2 bbl
2184	1.995	0.003866	8	6

- 24) Unsting from CICR.

- 25) Place 2 bbls (9 sx) of 15.8 PlugCEM from HES w/ Gaschek on top of CICR. Allow to fall on CICR as pulling out.

Length (ft)	Volume Factor (bbl/ft)	Volume (bbls)	Volume (ft ³)	Yield (ft ³ /sk)	Cement (sx)
130	0.0155	2.0	11	1.209	9

- 26) POOH w/ workstring.

- 27) RIH w/ WL and cut production casing at 704' (200' below surface shoe or deepest water well).

- 28) Circulate a MINIMUM of 2 bottoms up volumes (77 bbls) or until well is free of oil, gas, or any large cuttings.

Length (ft)	Volume Factor (bbl/ft)	Volume (bbls)
504	0.0440	22
16	0.1261	2
184	0.0775	14
TOTAL X 2		77

- 29) Perform flow check for 5 minutes to ensure well is static and record current fluid weight in Wellview.
- 30) Unland production casing.
- 31) POOH and LD production casing filling pipe every 6 joints.
- 32) RIH w/ workstring to 704' (top of casing).
- 33) Establish circulation.
- 34) Pump 10 bbls Mud Flush (or similar spacer) followed by 125 sx of 15.8 ppg PlugCem from HES cement w/ Gaschek as a balanced plug. SDFN and ensure that well has no pressure prior to pumping second plug to surface. If pressure is present, contact engineer.

Length (ft)	Volume Factor (bbl/ft)	Volume (bbls)	Volume (ft ³)	Yield (ft ³ /sk)	Cement (sx)
184	0.0971	18	100	1.209	83
16	0.1458	2	13	1.209	11
100	0.0637	6	36	1.209	30
TOTAL					123

- 35) Pump 130 sx of Class G Neat cement, TOC should be at surface.

Length (ft)	Volume Factor (bbl/ft)	Volume (bbls)	Volume (ft ³)	Yield (ft ³ /sk)	Cement (sx)
404	0.0637	26	144	1.15	126

- 36) POOH w/ workstring. Top off cement if needed. Cement needs to be ~10' from surface.
- 37) ND BOP. Top off cement as needed.
- 38) RDMO.