

Rothe 01-11
P&A Procedure
Ben Zapp, PE (303-241-1273)
3 March 2017



API:	<u>05-123-18428</u>	KB Elevation:	<u>4839'</u>
Qtr/Qtr:	<u>NENE</u>	GL Elevation:	<u>4829'</u>
Section:	<u>1</u>	TD:	<u>7252' KB</u>
Township:	<u>5N</u>	PBTD:	<u>7201' KB</u>
Range:	<u>67W</u>		
Footages:	<u>697 FNL & 604 FEL</u>	Water Well (ft):	<u>680</u>
County:	<u>Weld</u>	Fox Hills (ft):	<u>324</u>
State:	<u>CO</u>	Sfc Casing (ft):	<u>360</u>
		Shoe Plug (ft):	<u>880</u>

WELL DATA:

Surface Csg:	<u>8.625" 24# @ 360' KB</u>
Surface Cmt:	<u>250 sx</u>
Long St Csg:	<u>4.5" 15.1# N-80 @ 7237' KB</u>
Long St Cmt:	<u>145 sx</u>
Long St Date:	<u>10/15/1994</u>
PDTD (Sand or CIBP):	<u>FILL</u>
Perforation Interval (1):	<u>Codell Perforations: 7104-7119' KB</u>
Perforation Interval (2):	<u></u>
Perforation Interval (3):	<u></u>
Tubing:	<u>2.375" @ 7076' KB</u>
Rods:	<u></u>
Pump:	<u></u>
Misc.:	<u></u>

STATUS:
COMMENTS: Nio Top: 6773', Sussex: 4036' – 4362'

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 on wireline and set @ 7054'
- 6) RIH workstring, tag CIBP and pump 35 sx G Neat cement on top of CIBP, TOC @ 6573'

Length (ft)	OD (in)	ID (in)	ft ³ /ft	Volume (ft ³)	Yield (ft ³ /sk)	Cement (sk)	Nearest 5sk
481	3.826	0.000	0.080	38	1.150	33	35
TOTAL:						35	

- 7) Load hole with fluid and pressure test CIBP to 1000 psi with rig pumps. Hold for 15 minutes. Test considered successful if <100 psi drop observed. If test is unsuccessful, contact engineer.
- 8) RIH w/ 1' perforating gun and shoot 4-6 spf @ 4462'.

Rothe 01-11

P&A Procedure

Ben Zapp, PE (303-241-1273)

3 March 2017



- 9) RIH w/ CICR on workstring and set @ 4362' (100' above perforations).
- 10) Load annulus between production casing and workstring. Test to 500 psi for 15 minutes. Test considered successful if <50 psi drop observed. If pressure test fails, contact engineer.
- 11) Establish injection rate.
- 12) Pump 10 bbls Mud Flush (or similar spacer) followed by 210 sx of cement (15.8ppg Enhanced PlugCem)

Length (ft)	OD (in)	ID (in)	ft ³ /ft	Volume (ft ³)	Yield (ft ³ /sk)	Cement (sk)	Nearest 5sk
526	10.000	4.500	0.435	229	1.209	189	190
100	3.826	0.000	0.080	8	1.209	7	10
2 bbl on top of CICR				11	1.209	9	10
						TOTAL:	210

- 13) Displace cement with 15 bbls fresh water.

Tubing ID	Length (ft)	Disp. Factor (BBL/ft)	Disp (BBL)	Disp -2BBL
1.995	4362	0.00387	17	15

- 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/ 1' perforating gun and shoot 4-6 spf @ 2500'.
- 18) RIH w/ CICR on workstring and set @ 2400' (100' above perforations).
- 19) Load annulus between production casing and workstring. Test to 500 psi for 15 minutes. Test considered successful if <50 psi drop observed. If pressure test fails, contact engineer.
- 20) Establish injection rate.
- 21) Pump 10 bbls Mud Flush (or similar spacer) followed by 210 sx of cement (15.8ppg G Neat)

Length (ft)	OD (in)	ID (in)	ft ³ /ft	Volume (ft ³)	Yield (ft ³ /sk)	Cement (sk)	Nearest 5sk
500	10.000	4.500	0.435	217	1.150	189	190
100	3.826	0.000	0.080	8	1.150	7	10
2 bbl on top of CICR				11	1.150	10	10
						TOTAL:	210

- 22) Displace cement with 7 bbls fresh water.

Tubing ID	Length (ft)	Disp. Factor (BBL/ft)	Disp (BBL)	Disp -2BBL
1.995	2400	0.00387	9	7

- 23) Unsting from CICR.
- 24) Place remaining 2 bbls of cement on top of CICR. Allow to fall on CICR as pulling out.
- 25) POOH w/ workstring.

- 26) RIH w/ WL and cut production casing at 880’.
- 27) Circulate a MINIMUM of 2 bottoms up volumes from surface casing cut (113 bbls) or until well is free of oil, gas, or any large cuttings.

Length (ft)	OD (in)	ID (in)	BBL/ft	Disp (BBL)	2x Disp (BBL)
369	8.097	4.500	0.0440	16	32
9	12.250	4.500	0.1261	1	2
502	10.000	4.500	0.0775	39	78
TOTAL:				113	

- 28) Perform flow check for 5 min to ensure well is static. Record current fluid weight in WellView.
- 29) Un-land production casing.
- 30) POOH and LD production casing filling pipe every 6 joints.
- 31) RIH w/ workstring to 930’ (50’ inside top of cut casing)
- 32) Establish circulation.
- 33) Pump 10 bbls Mud Flush (or similar spacer) followed by 370 sx of 15.8 ppg G Neat cement as a balanced plug. TOC @ surface.

Length (ft)	OD (in)	ID (in)	ft ³ /ft	Volume (ft ³)	Yield (ft ³ /sk)	Cement (sk)	Nearest 5sk
369	8.097	0.000	0.358	132	1.150	115	115
9	12.250	0.000	0.818	7	1.150	6	10
502	10.000	0.000	0.545	274	1.150	238	240
50	3.862	0.000	0.081	4	1.150	4	5
TOTAL:						370	

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