

**SAFETY is OUR HIGHEST PRIORITY**

**Hold well site safety meetings each morning prior to beginning work.  
Review critical parameters and daily objectives as well as emergency action plans.  
Verify that all personnel understand & are prepared for each day's work**

**Hold additional Safety Meetings as needed for Significant Operations**

**Plug and Abandon Procedure:**

1. Mobilize workover/PA rig to location.
  - Check tubing and casing pressures
  - Bleed off any observed pressure
  - Proceed only when well is dead with 0 psi on tubing and casing
2. Kill well as necessary. NDWH and NUBOP. Send wellhead for salvage.
3. RIH w/ 2-3/8" work string to bottom to circulate 9.6 ppg waterbase mud to load casing. POOH
4. RIH to set CIPB @ 6,790' to isolate Niobrara formation
5. RU cementers and spot 50' Class H cement plug from 6,790' – 6,740'
  - Bottom of plug at 6,790'
  - Plug height = 50' which places top of plug at 6,740'
  - Volume of plug:  
 $50' \text{ of } 5\text{-}1/2" \text{ 17\# csg} = 50' \times 0.1305 \text{ ft}^3/\text{ft} = 6.5 \text{ ft}^3$   
 $6.5 \text{ ft}^3 = 6 \text{ sx Class H @ } 16.4 \text{ ppg}$
6. MIRU casing jacks and wireline unit.
7. Find free point of 5-1/2" casing. RIH w/cutter and cut casing at freepoint. Allow hole to u-tube, filling with 9.5 ppg mud as necessary. CBL shows decent bond to appx 5,170'
8. POOH and lay down 5-1/2" 17# casing and RD wireline.
9. Send 5-1/2" casing for salvage credit.
10. RIH w/ 2-3/8" work string to 1,200' to spot 100' Class H cement plug from 1,200' – 1,100'
  - Bottom of plug at 1,200'
  - Plug height = 100'  
Volume of plug:  
 $100' \text{ of } 9\text{-}5/8" \text{ 40\# csg} = 100' \times 0.4257 \text{ ft}^3/\text{ft} = 43 \text{ ft}^3$   
 $43 \text{ ft}^3 = 41 \text{ sx Class H @ } 16.4 \text{ ppg}$

19. Cut off all wellheads and casings 3' below surface.

20. Place 50' of cement in top of surface casing.

➤ Volume of plug:

$$50' \text{ of } 9\text{-}5/8" \text{ 40\# csg} = 50' \times 0.4257 \text{ ft}^3/\text{ft} = 21 \text{ ft}^3$$

$$21 \text{ ft}^3 = 20 \text{ sx Class H @ } 16.4 \text{ ppg}$$

21. Remove all surface equipment. Weld on well cap, clean and remediate location per COGCC rules

**Eichheim 18-9-66 1H**

AFE 802427

Prop # 639424

**Directions:**

Surface Location: Lat: 40.740625 Long: -104.812051

Section 18, T9N, R66W 405 FSL & 660 FEL

Begin at the town of Nunn, Colorado and drive north on Highway 85 for 2 miles. Turn left onto County Road 104 and drive west for 1 mile to well site.

OD (in)	Weight (lbs/ft)	Grade/Conn	Depth From	Depth To	Drift (in)	ID (in)	Capacity (bbls/ft)	80% SF Collapse (psi)	80% SF Burst (psi)
9 5/8"	40	J-55	0	1,150'	8.679	8.835	0.0758		3,160
5 1/2"	17	P-110	0	6,800'	4.892	4.767	0.0232	5,968	8,512
4 1/2"	11.6	P-110	6,800'	11,505'	3.875	4.000	0.0155	6,048	8,552