Proposed P&A Procedure

Noble Energy

Well Name: E RANCHES 01

API 05-123-07184	Original KB Elevation (ft) 4,780	Ground Elevation (ft) 4,770	Total Depth (ftKB) 7,580.0	Current PBTD (mKB)
Section 20	Township 3	Range 64	County/Parish WELD	State/Province COLORADO

Casing Strings

Csg Des	MD (ftKB)	Run Date	Prop Run?	Cut/Pull Date	Proposed Cut/Pull?	Depth Cut/Pull (ftKB)	OD (in)	ID (in)	Grade	Len (ft)
Surface	163.0	8/2/1970	No		No		8 5/8	8.10		153.00

Tubing Strings

Des	Set Depth (ftKB)	Run Date	Prop Run?	String Location	Pull Date	Prop Pull?	Cut/Pull Date	Proposed Cut/Pull?	Depth Cut/Pull (ftKB)

Perforations

Zone	Type	Date	Prop?	Top (ftKB)	Btm (ftKB)

Other In Hole

Des	Run Date	Prop Run?	Prop Pull?	Top (ftKB)	Btm (ftKB)

Cement Stages

Des	Type	Prop?	End Date	Top (ftKB)	Btm (ftKB)
Balance Plug	Plug	Yes		2,750.0	3,000.0
Balance Plug	Plug	Yes		10.0	600.0
Surface Casing Cement	Casing	No	8/2/1970	10.0	163.0
Balance Plug	Plug - Balanced	No	8/21/1970	115.0	163.0
Balance Plug	Plug	No	8/21/1970	10.0	32.0

P&A PROCESS

Type Abandon	Sub Type WBI	Start Date	Engineer HUNTER DUNHAM	Cell Phone 281-253-6272

PROCESS STEPS

Type	Comment
1)	Survey and locate abandoned well, mark with stake and take location photos
2)	Excavate to expose top of surface casing
3)	Weld 2" collar to top of 8 5/8" surface casing cap. Make up to collar, pneumatic drill with non-sparking bit. Drill out cap venting possible trapped gas.
4)	Once verified that no gas exists beneath top of surface casing plate, cut off surface casing below plate with torch, dress up smooth.
5)	Butt weld 8 5/8" casing to dressed cut, bringing threaded end of casing to ground level.
6)	Make up to 8 5/8" casing, one 8 5/8" collar and 8 5/8" starter well head
7)	NU flange adaptor and 5K BOP, test BOP.
8)	NU and RIH with 7 7/8" cone bit, PU 6 1/4" drill collars, 4" workstring, and TIW valve
9)	Drill out first cement plug inside surface casing (TOC @ surface). Continue RIH to next plug (TOC @135'). Roll hole clean.
10)	Pressure test surface casing to 200 psi. If pressure bleeds off, set RBP and test again. **If test fails, contact office.**
11)	After pressure test of surface casing, drill out second cement plug from 135' to 163'
12)	Assume pressure under surface casing shoe, roll hole with kill fluid until well dead, or blow down.
13)	After pressure test of surface casing, continue RIH, cleaning out with drilling mud or water to 3000'
14)	Assume pressure under any plugs, roll hole with kill fluid until well dead, or blow down.
15)	TOOH with cone bit, drill collars, and workstring
16)	PU and RIH mule shoe, drill collars, and workstring to 3000'.
17)	Pressure test lines and pump 100sx of 15.8ppg Class G neat cement from 3000' to 2750'

Interval Start	Interval End	Length (ft)	Vol. Factor (ft^3/ft)	Volume (ft^3)	Yield (ft^3/sk)	Cement (sxs)
3000	2750	250	0.4418	110	1.15	96

Type	Comment
18)	Pull up to 600' and pump 205sx of 15.8ppg Class G neat cement to surface

Interval Start	Interval End	Length (ft)	Vol. Factor (ft^3/ft)	Volume (ft^3)	Yield (ft^3/sk)	Cement (sxs)
600	165	435	0.3382	147	1.15	154
165	0	165	0.3576	59	1.15	51
						205

Type	Comment
19)	POOH with workstring. Wait 4 hrs, and tag TOC. If cement has fallen, top off back to surface
20)	Let cement set over night, verify cement has not settled and is still at surface. RDMO
21)	Excavate around wellhead to 8' below grade, cut off 8 5/8" casing, weld on cap
22)	Backfill hole and reclaim surface to original conditions