Proposed P&A Procedure

noble energy

Well Name: STATE 01

API	Original KB Elevation (ft)	Ground Elevation (ft)	Total Depth (ftKB)	Current PBTD (mKB)
05-123-06149	4,857	4,846	6,765.0	ORIGINAL HOLE - 6,698.0

Section	Township	Range	County/Parish	State/Province
	5	66	WELD	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	143.0	11/23/1962	No		No		8 5/8	8.10	H-46	132.00
Production	6,741.0	11/30/1962	No	12/24/1962	No	5,506.0	4 1/2			6,730.00

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)
D SAND, ORIGINAL HOLE	Perforated	11/30/1962	No	6,651.00	6,660.00

Other In Hole

Des	Run Date	Prop Run?	Prop Pull?	Top (ftKB)	Btm (ftKB)
Cast Iron Bridge Plug w/ 2 SX Cement	12/24/1962	No	No	5,981.0	6,002.0
Rock Bridge	12/24/1962	No	No	135.0	145.0

Cement Stages

Des	Type	Prop?	End Date	Top (ftKB)	Btm (ftKB)
Cement Plug	Plug	Yes		2,750.0	3,000.0
Shoe Plug	Plug	Yes		11.0	1,200.0
Surface Casing Cement	Casing	No	11/23/1962	11.0	143.0
Production Casing Cement	Casing	No	11/30/1962	5,700.0	6,741.0
Cement Plug	Plug	No	12/24/1962	85.0	135.0
Cement Plug	Plug	No	12/24/1962	11.0	30.0

P&A PROCESS

Type	Sub Type	Start Date	Engineer	Cell Phone
Abandon	WBI	5/30/2018	Hunter Dunham	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 @ 85'). Roll hole clean.
10)	Continue RIH to next plug (TOC @ 85') and drillout to 100'. Roll hole clean.
11)	Pressure test surface casing to 200 psi. If pressure bleeds off, set RBP and test again. **If test fails, contact office.**
12)	After pressure test of surface casing, drill out second cement/rock plug from 100' to 145'
13)	Assume pressure under surface casing shoe, roll hole with kill fluid until well dead, or blow down.
14)	Continue RIH, cleaning out with drilling mud or water to 3000'
15)	TOOH with cone bit, drill collars, and workstring
16)	PU and RIH mule shoe, drill collars, and workstring to 3000' 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
17)	Pull up to 1200' and pump 420sx 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)
1200	143	1057	0.3382	357	1.15	373
143	0	143	0.3576	51	1.15	44
						417

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