Proposed P&A Procedure

Well Name: HOWARD 04-27

API	Original KB Elevation (ft)	Ground Elevation (ft)	Total Depth (ftKB)	Current PBTD (ftKB)
05-123-13630	4,710	4,700	7,218.0	ORIGINAL HOLE - 7,047.0
Section	**Township**	**Range**	**County/Parish**	**State/Province**
27	6	64		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	297.0	9/24/1987	No		No		8 5/8	8.10		287.00
Production	7,079.0	9/28/1987	No	5/9/1994	No	5,780.0	4 1/2	4.00	P-110	1,299.00

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)
NIOBRARA, ORIGINAL HOLE	Perforated	10/20/1987	No	6,625.00	6,638.00
NIOBRARA, ORIGINAL HOLE	Perforated	10/20/1987	No	6,727.00	6,745.00
CODELL, ORIGINAL HOLE	Perforated	10/20/1987	No	6,912.00	6,921.00

Other In Hole

Des	Run Date	Prop Run?	Prop Pull?	Top (ftKB)	Btm (ftKB)
Cast Iron Bridge Plug	4/6/1994	No	No	5,980.0	5,981.0

Cement Stages

Des	Type	Prop?	End Date	Top (ftKB)	Btm (ftKB)
Surface Casing Cement	Casing	No	9/24/1987	10.0	297.0
Production Casing Cement	Casing	No	9/28/1987	5,828.0	7,079.0
Cement Plug	Plug	No	4/8/1994	5,975.0	5,980.0
Cement Plug	Plug	No	4/8/1994	5,780.0	5,828.0
Balance Plug	Plug	No	4/8/1994	277.0	380.0
Cement Plug	Plug	No	4/8/1994	10.0	42.0
Cement Plug	Plug	Yes		10.0	600.0
Balance Plug	Plug	Yes		2,500.0	2,750.0

P&A PROCESS

Type	Sub Type	Start Date	Engineer	Cell Phone
Abandon	WBI		Hunter Dunham	281-253-6272

PROCESS STEPS

Type	Comment
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 6 1/8" cone bit, PU 2 7/8" drill collars, 2 7/8" 6.5# tubing, and TIW valve
9)	Drill out first cement plug inside surface casing (TOC @ surface) tag second plug at 267', 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 267' to 327'
12)	Assume pressure under surface casing shoe, roll hole with kill fluid until well dead, or blow down.
13)	Continue RIH, cleaning out with drilling mud or water to 3000'.
14)	Circulate 2X hole volume Interval Start: 3000 / Interval End: 0 / Length (ft): 3000 / Vol. Factor (ft^3/ft): 0.4418 / 1325 / Volume (ft^3): 236 / Volume (bbl): 470bbl (20,000gal) / Roll volume (2X hole volume)
15)	TOOH with cone bit, drill collars, and 2 7/8" tubing.
16)	PU and RIH with mule shoe and 2 7/8" tubing to 2750'.
17)	Pump 100sx of 15.8ppg Class G neat cement from 2750' to 2500' Interval Start: 2750 / Interval End: 2500 / Length (ft): 250 / Vol. Factor (ft^3/ft): 0.4418 / 110 / Volume (ft^3): 1.15 / Yield (ft^3/sk): 96 / Cement (sxs)
18)	Pull up to 600ft and pump 210 sxs of 15.8ppg Class G "neat" plug from 600' to surface. Interval Start: 600 / Interval End: 297 / Length (ft): 303 / Vol. Factor (ft^3/ft): 0.4418 / Volume (ft^3): 134 / Yield (ft^3/sk): 1.15 / Cement (sxs): 116 Interval Start: 297 / Interval End: 0 / Length (ft): 297 / Vol. Factor (ft^3/ft): 0.3576 / Volume (ft^3): 106 / Yield (ft^3/sk): 1.15 / Cement (sxs): 92 209
19)	POOH with 2 7/8" tubing. 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

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