

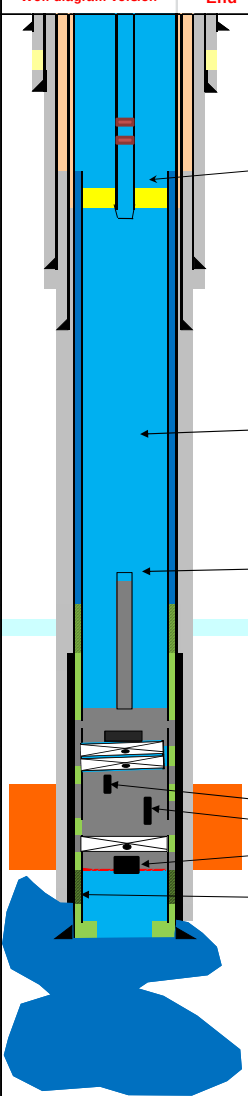
Abandonment BAS-3

Frisia Zout B.V.
4 December 2013

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BAS-3 Start

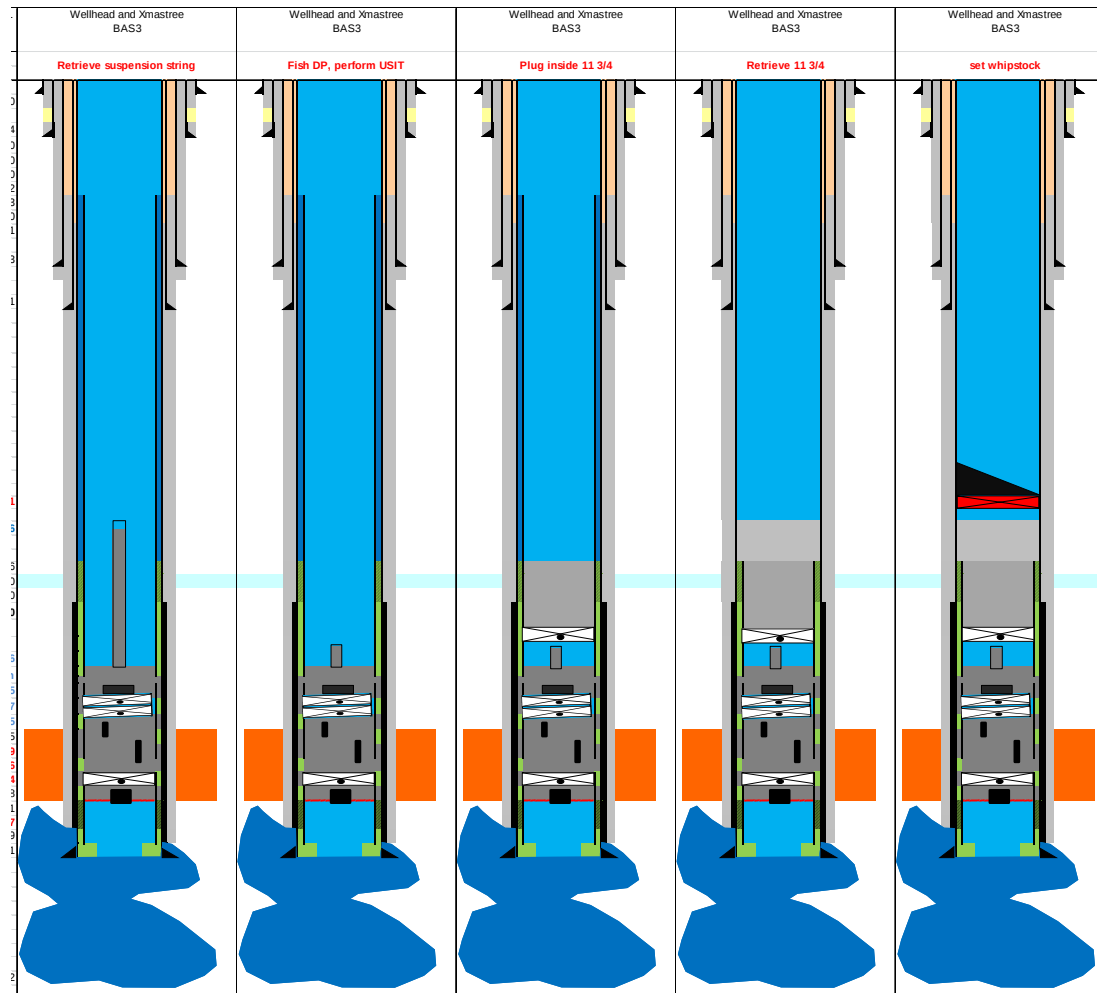
Item Description	Wellhead and Xmastree BAS3		Depth GL	Depth	Hole ID	Pipe OD	Collar OD	Pipe ID
	Well diagram version	End	m tvd	m ah	in	in	in	in
36" x 1/2" WT stove pipe, welded			30	30	driven	36.000	welded	35.000
24" x 1/2" WT 35 ksi conductor, welded				394	28	24.000	welded	23.000
2,814" Dart-sub			379	400	28	24.000	welded	22.500
2,562" Dart-sub				410				
Top of 11-3/4" at 432m bgl				420				volume 72liter
5" Suspension String at 433m bgl			400	432				
Pack-off / Circulation Sub			401	433	5.000	6.625	TJ 3.25	
Bit-sub, 10 3/8" Bullnose (Stabiliser)				430				
Top cement in 18 5/8 " x 13 3/8" annulus				431				
18 5/8" 87.5 ppf K55 Big Omega casing			1013	1753	22	18.625	20.000	17.688
16" 84,5 ppf C85 Hydrill			1153	1991	17 1/2	16.000	16.000	15.010
TOC 11 3/4" x 14" csq								
Top Zechstein			2062	3566				
13 3/8" 68 ppf P110 VAM-TOP casing			2103	3610				
TOC Sealing 11 3/4" x 14" csq			2130	3630	16	13.375	14.375	12.415
			2146	3660				
Bottom of 5" Cemented DP at				3816				
Top of Cement in 11-3/4"				Unknown				
Top of Stump/ 11-3/4 Mechanical cut at				3825				
Bridgeplug #3 (fitted w/ flapper valve)				3827				
Bridgeplug #2 (fitted w/ flapper valve)				3835				
Top Camalite			2335	3855				
11 3/4" Connection loose @3865m				3839				Fired 1x 48" split shot (13jun12)
Bridgeplug #1 (fitted w/ flapper valve)				3866				Fired 1+2x 48" split shot (20dec11, 22feb12)
Bottom Camalite, HUD @3904m			3894	3904				Fired 1x 48" split shot (19dec11)
Roof of cavern (Flodim EM 6 dec 2011)			2388	3908				workstring 17jul12
			2391	3911				
11 3/4" 65 ppf P110, VAM F3L 2x splitshot				3917				Fired 2x 48" split shot (24nov11)
14" heavy wall 106 ppf N80 hydrill MAC II			2409	3929	-	11.750	11.965	10.682
			2411	3931	16	14.000	14.354	12.500
Sump level (Flodim dummy 6 dec 2011)			2512	4032				

Status

➤ Observation

- Well is open.
- Outflow measured in cubic container
- Returns 4.8ltr/day

BAS-3 Plan



Planned (07-11-2013)

- Retrieve suspension string
- Remove fish
- Perform USIT (Assess annulus)
- Secure/abandon well
- Operations planned wk46
- End Q1 drilling rig
 - Retrieve 11 3/4"
 - Final abandonment cavern
 - Drill BAS-3 Original

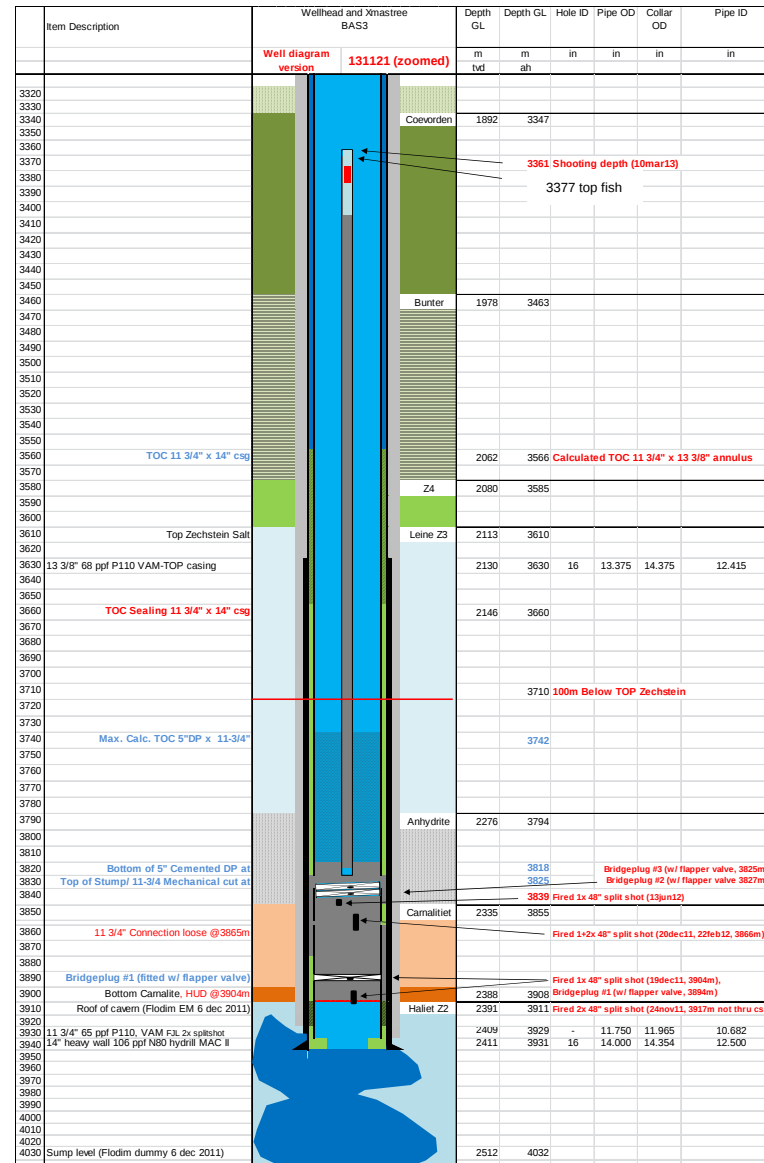
BAS-3 status

- CT internal clean-out failed
- CT Fish left inside 5" DP
- Well remained stable during all operations
- 0.5 ltr per 24 hrs returned from well (temperature?)

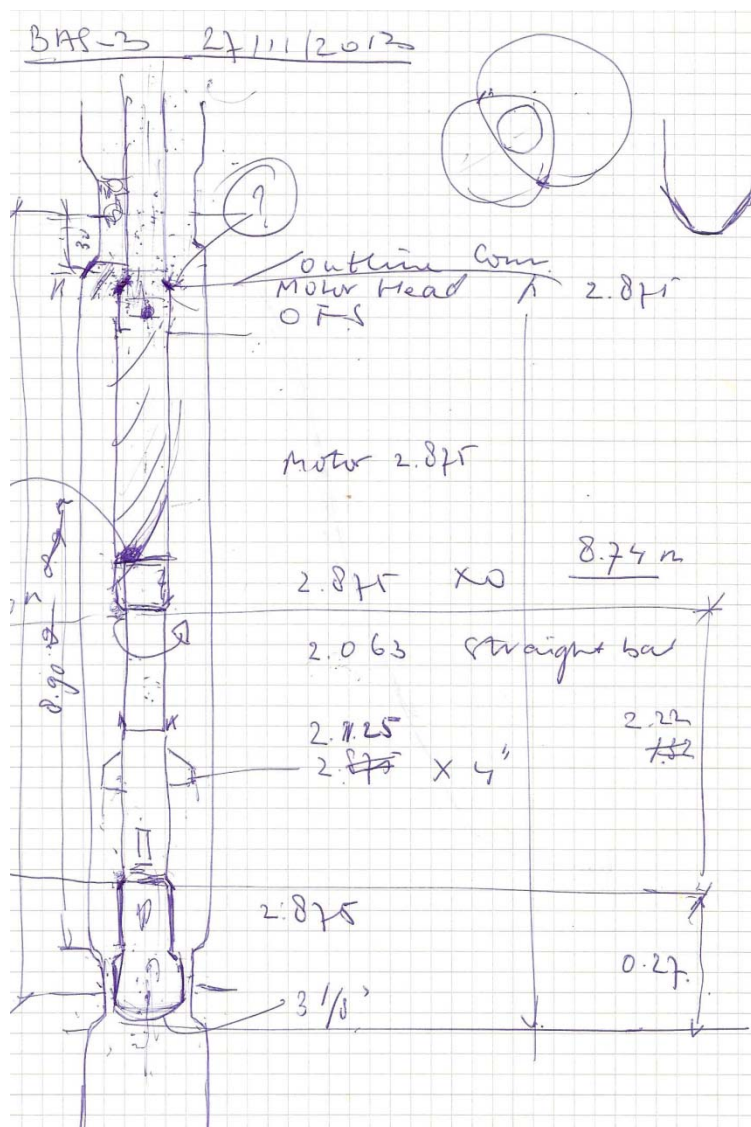
CT on HWU



BAS-3 Status

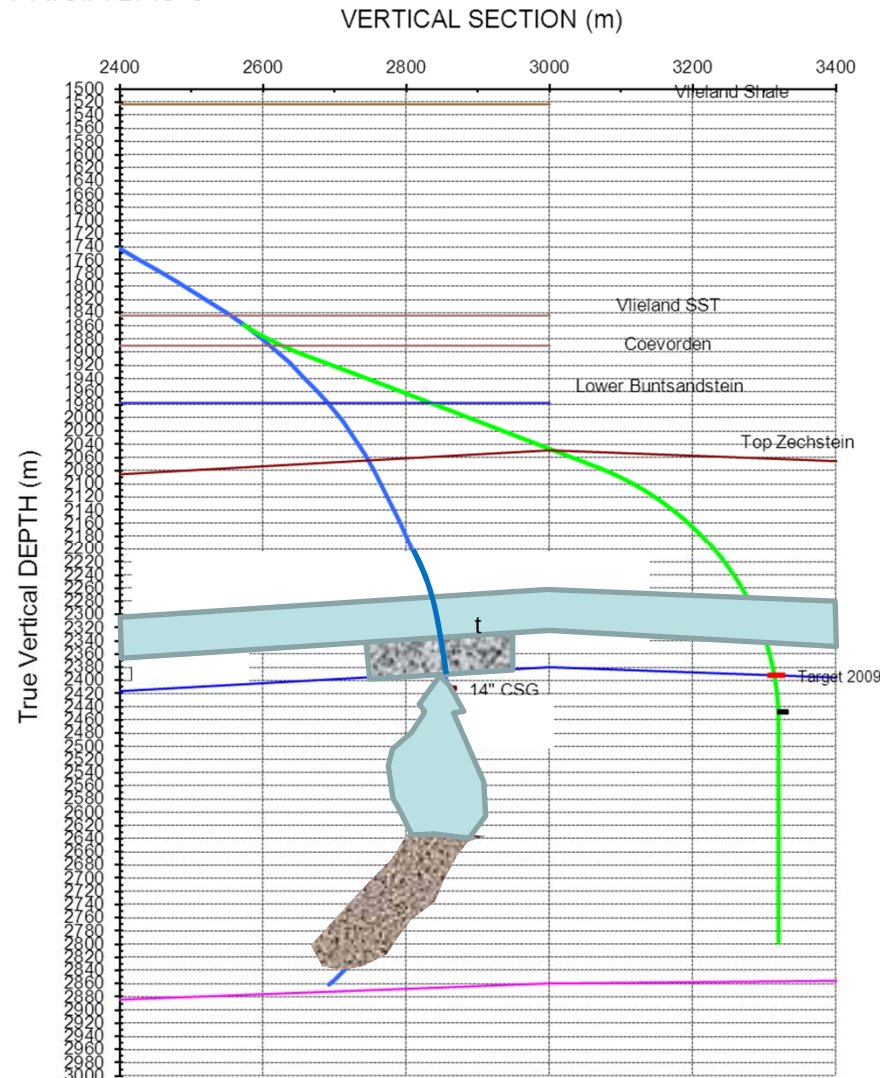


CT Fish



Schets 'op semi-schaal'

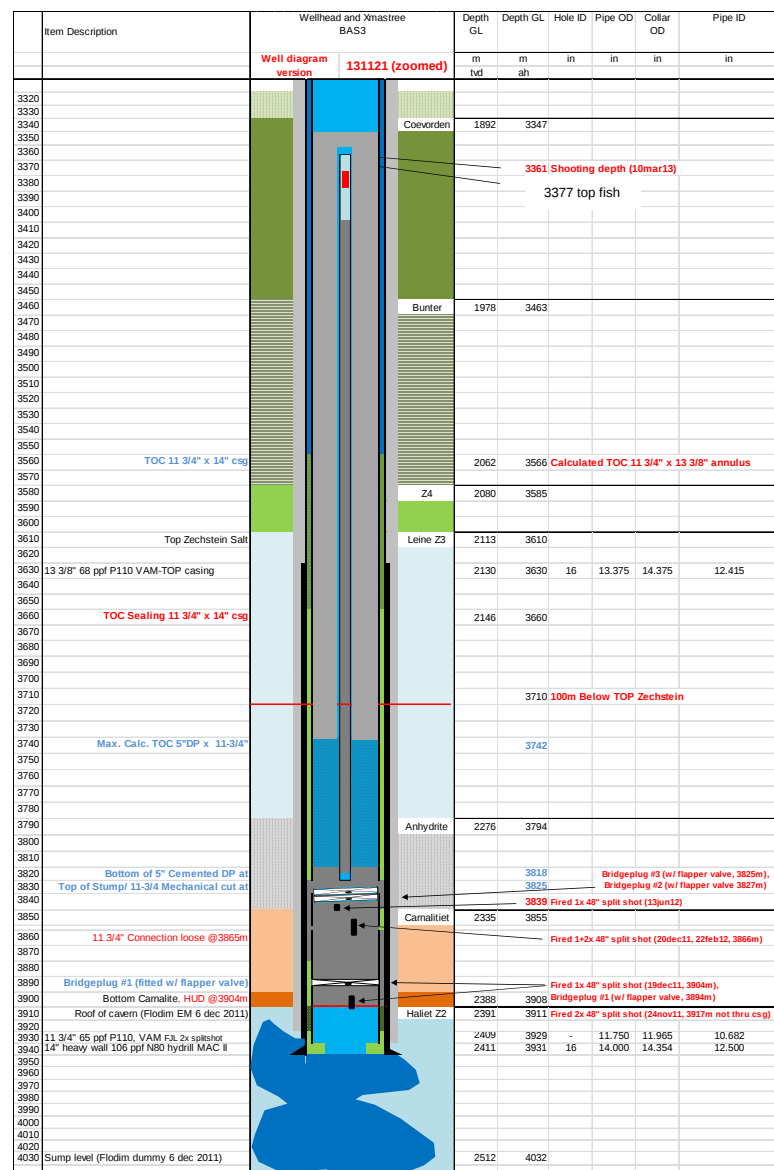
FRISIA BAS-3



- Geactualiseerd

Anhydriet
Carnaliet

Cement Fish



Cementation

- 23 m³ low vis 1.98 sg cement
- Ca 150 l/min
- Thickening time ca 10 hrs
- Gravitare in place
- Circulate out excess, check displacement efficiency
- WOC, check inflow.

BAS-3 Abandonment

Item Description	Wellhead and Xmastree BAS3	Depth GL	Depth GL	Hole ID	Pipe OD	Collar OD	Pipe ID
	Well diagram with CT & Overshot	131129 (6)	m tvd	m ah	in	in	in
36" x 1/2" WT stove pipe, welded		30	30	driven	36.000	welded	35.000
24" x 1/2" WT 35 ksi conductor, welded		379	400	28	24.000	welded	23.000
				28	24.000	welded	22.500
Top of 11-3/4" at 432m bgl		400	432				
Top cement in 18 5/8" x 13 3/8" annulus 18 5/8" 87.5 ppf K55 Big Omega casing		1013	1753	22	18.625	20.000	17.688
16" 84.5 ppf C85 Hydrill		1153	1991	17 1/2	16.000	16.000	15.010
						1.15sq NaCl brine 1.40sq K-formate brine	
5 1/2" 21.90# DP TOC 11 3/4"							
TOC 11 3/4" x 14" csg Top Zechstein							
13 3/8" 68 ppf P110 VAM-TOP casing TOC Sealing 11 3/4" x 14" csg							
Top of Cement in 11 3/4" Bottom of 9" Cemented DP at							
Top of Stump/ 11-3/4 Mechanical cut at Bridgeplug #3 (fitted w/ flapper valve) Bridgeplug #2 (fitted w/ flapper valve) Top Camalite							
11 3/4" Connection loose @ 3865m Bridgeplug #1 (fitted w/ flapper valve) Bottom Camalite. HUD @ 3904m Roof of cavern (Flodim EM 6 dec 2011)							
11 3/4" 65 ppf P110, VAM F.J.L. 2x splitshot 14" heavy wall 106 ppf N80 hydrill MAC II							
Sump level (Flodim dummy 6 dec 2011)		2512	4032				

Current Abandonment option

- ✓ Cement in 11 3/4" x 5" annulus to top Coevorden -> 30m below kick-off point
- ✓ Cement up to top Coevorden
- ✓ Retrieve 11 3/4" where free
- ✓ Set whipstock