Docnr13

Work Program

VE-7 Workover

Operator:	Nedmag B.V.
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Contents

Glossary

AH:	Along Hole
BARMM:	Besluit Algemene Regels Milieu Mijnbouw
BGL:	Below Ground Level
BOP:	Blow Out Preventer
BPC:	Balance Point Control
CCL:	Casing Collar Locator
CT:	Coiled Tubing
FFRP:	Fire-fighting and Rescue Plan
GL:	Ground level
GR:	Gamma Ray
HUD:	Hold Up Depth
ID:	Inner Diameter
lpm:	Liter per minute
LSA:	Low Specific Activity
MgCl2:	Magnesium Chloride
MD:	Measured Depth
MEWHP:	Maximum Expected Wellhead Pressure
NAP:	Normaal Amsterdams Peil
OD:	Outer Diameter
PCE:	Pressure Control Equipment
PJSM:	Prejob Safety Meeting
POOH:	Pull Out Of Hole
R/D:	Rig Down
R/U:	Rig Up
RD:	Rijksdriehoekscoördinaten
RIH:	Run In Hole
sg:	Specific Gravity
SodM:	Staatstoezicht op de Mijnen
SSV:	Supervisor
TBC:	To Be Confirmed
TVD:	True Vertical Depth
WL:	Wireline
WEG:	Wireline Entry Guide
WEP:	Well Engineering Partners
WHC:	Wellhead centre
WHP:	Wellhead pressure

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1. Revision Change Notice

Version	*Date*	*Brief description of Change*
0.1	20/02/2024	Initial draft

2. Authorized Signatures

Title	Name	Date	Signature
NEDMAG Project Manager	5.1.2.e		
WEP Project Manager	5.1.2.e		
WEP Operations Manager	5.1.2.e		

3. Summary

3.1. Abstract

VE-7 was drilled in 2022, while expanding the cavern a blockage was encountered in the 3 ½" tubing, similar to the one in VE-5. The exact thickness and depth of the blockage is unknown.

The goal of this workover is to dissolve the blockage in the 3 ½" tubing.

The scope of work of this workover is:

- Remove blockage in 3 ½" tubing using jetting on mini coil.
- Circulate to clear the 3 ½" tubing. Jet on mini coil again if needed.
- No accidents, no incidents, no harm to people. Minimal damage to the environment.
- To perform operations within budget/time.

Item Description Production / Injector well Depth ref BGL	Wellhead and Xmastree **VE-7** **Concentric completion**	Approx. Depth m tvd	Approx. Depth m ah
26" 136,4#		0	51
20" 106,5# K55 BTC		0	430
TOC 16" x 9-5/8"			
2,875" 6,4# L80 VAMTOP			1190
		0	1267
16" 84# L80 BTC		0	1356
16" 75# L80 BTC			
9,625" 47# L80 VAM TOP w/ X-O t/			2190
9,625" 53,5# L80 VAM TOP			
9,625" 53,5# w/ X-O t/			2287
10.75" 109# L80 VAM MUST			
2,875" 6,4# L80 VAGT + WEG			2358
7" 29# L80 VAM TOP w/ X-O t/			2374
7" 46,4# L80 VAM SLIJ-II			
5" 15# L80 VAM TOP w/ X-O t/			2372
3.5" 10,2# L80 VAM FJL			
10,75" 109# L80 VAM MUST		1820	2405
7" 46,4# L80 VAM SLIJ-II		1856	2441
3,5" 10.2# L80 VAM FJL	Block.	1870	2455

Figure 1. VE-7 current situation well schematic

3.2. VE-7 well data

Well name	VE-7 (VDM-07)	
Well location	WHC-1, Borgercompagnie, Municipality Veendam	
Surface coordinates	RD: X 250 783.434 Y 570 437.988	ETRS89: E 06° 49' 3.7" N 53° 06' 43.8"
Type of well	Solution mining producer and injector	
Originally drilled in	July – September 2022	
Final TD	2566 m BGL	
Depth Reference for this report	**Depth measured from ground level (+2m NAP) along hole, unless otherwise specified**	
Current Completion	7" injection string, 5" x 3 ½" production string and 2 7/8" dilution string	
Max deviation	Kicked off @ 71 m, EOB @ 895 m AH / 618 m TVD, max 56 degrees between 895 m AH / 618 m TVD and 1611 m AH / 1117 m TVD	
Start of operations	February 2024	
WL/mini coil Contractor	Inwatec	
Duration of operations	2 days	
Wellhead pressures		
7" x 9 5/8" annulus	24-250 bar (surdyne)	
5" x 7" annulus	0-200 bar (water)	
2 7/8"	0-200 bar (water)	
MEWHP during workover	0-200 bar (water)	
Max down hole temp	70° Celsius	
Annular volumes		
2 7/8" string	7,12 m3	
2 7/8" x 5" annulus (0 - 2358 m)	13,36 m3	
3 ½" x 5" tubing (2358 – 2455 m)	0,49 m3	
5" x 7" annulus	16,62 m3	
7" x 9 5/8" annulus	32,00 m3	
LSA Potential	There is no indication of LSA radioactive materials present in the salts or which might have accumulated in the flow equipment.	
Chrome-VI	No chrome-VI has been used on the wellhead	

4. Introduction

The objective of this operation is to remove the blockage in the 5" x 3 ½" tubing in VE-7 permanently.

This program details the technical operational steps of the well workover using a mini coil unit. All depths in this document are in m AH below GL, which is NAP+2 m.

For this document the same HSE documents as for the preceding operations in VE-5 can be used, for HSE purposes the wells are identical. These documents are: ***"NEDMAG VE-5 Project-Specific Safety & Health Document", "Concurrent Operations Document VE-5", "FFRP Nedmag VE-5" and "BARMM VE-5."***

4.1. History and current situation

VE-7 was drilled to TD at 2566 m AH in 2022 and production started in the beginning of 2024.

During production of the salt cavern in February 2024 a blockage in the bottom of the 5" x 3 ½" production string was formed. There is communication between the 5" x 2 7/8" production annulus and the 2 7/8" dilution string, but not with the other annuli. There is also connection between the 7" x 5" injection annulus and the 9 5/8" x 7" (blanket oil) annulus. The blockage is assumed to consist of salt crystals and possibly mud (barite) particles that were sucked into the tubing. A similar blockage was encountered in VE-5.

4.2. Scope of Work

The Scope of Work of the operations is to:

1. Dummy run on slickline
2. Remove the blockage using a jetting tool run on mini coil.
3. Circulate and reverse circulate through the 5" x 3 ½" tubing and the 5" x 7" annulus.
4. Do another jetting tool run on mini coil if necessary.

4.3. Location

The VE-7 well is positioned within the well cluster of WHC-1. The operations will be done directly after removing the blockage on VE-5. During the operations on VE-7, no work will be done on nearby well VE-5. On WHC-1 wells VE-1 through VE-4 are also present, the closest of which is 74 m from VE-7. No concurrent operations document is required.

4.4. Management of Change

Operational changes to the program may be needed as a result of conditions experienced while executing the work. Changes to the program may be initiated by NEDMAG, WEP project manager, WL/CT contractor operations manager or well site representatives.

The changes will need to be assessed by the initiator for the 'escalation level' as listed below in minor, medium or major.

Minor changes:
These changes shall have no environmental, safety or regulatory compliance impact on the operation or material impact to the program.

Minor changes are handled at the well site between the representatives of NEDMAG and WL/CT Contractor. These changes will be reported in the daily reports.

Medium changes
These changes have limited environmental, safety or regulatory compliance impact on the operation or material impact to the program. Additional measures are taken and/or work performed to ensure and show that the risk is limited.

These require approval of WEP project manager and NEDMAG Project Manager. A record of the risk assessment is put together for the relevant parties. NEDMAG and WL/CT Contractor will be notified of medium changes by email.

Medium changes with an impact on regulatory compliance will be reported to SodM.

Major changes:
These represent a major deviation from the program that has the potential to impact the objectives of the operation and/or significantly alter the risk profile for the environment, health, safety or affect regulatory compliance.

These require approval of Operational manager of WEP, Project manager of WEP and NEDMAG Project Manager.

An amendment to the program will be sent to NEDMAG, WEP, WL/CT and SodM.

5. Well Control Procedures

5.1. Maximum expected wellhead pressure

The operations will be done with ca. 225 bar pressure (self-induced) on the 2 7/8" x 5" annulus and 2 7/8" string, and with the cavern pressure of around 200 bar on the other annuli during the operations. The maximum possible wellhead pressure (MEWHP) is 250 bar (based on the 2.31 s.g. squeezing salt EMW - fresh water column in the 5 x 3 1/2" tubing.)

5.2. Well integrity

The well was drilled in 2022, the well been in production for one month and there have been no operations on the well that could have damaged the casing or any other part of the well. No well integrity issues are expected.

5.3. Well Barriers

The existing X-mas tree will stay in place during the operations. Additional pressure control equipment will be installed on top of the X-mas tree.
For mini coil operations the PCE consists of a mini coil BOP and a lubricator, see attachments 8.2.1 and 8.2.3 for more details. For wireline operations the PCE consists of a wireline BOP and lubricator, see attachments 8.2.2 and 8.2.3 for details. The well will be filled with fresh water during operations, no interaction is planned with the 7" x 9 5/8" annulus.

5.4. Well control equipment

During wireline and mini coil operations a lubricator and BOP will be used.

5.5. BOP Testing Requirements

The BOP and its connection to the PCE for mini coil and wireline will be function and pressure tested before the start of operations.

5.6. Uncontrolled Flow

During mini coil operations, the well is secured by a BOP and a stripper packer. During wireline operations, the well is secured by a BOP and a stuffing box. If the outflow rate is too high the VE-5 project specific blow out contingency plan will be used, which is attached to the VE-5 project Fire Fighting and Rescue Plan. The worst case is the flow of a small amount of water through a failing seal of the coil entry or wireline pack off element.

Any liquid from the well will go to the flow lines.

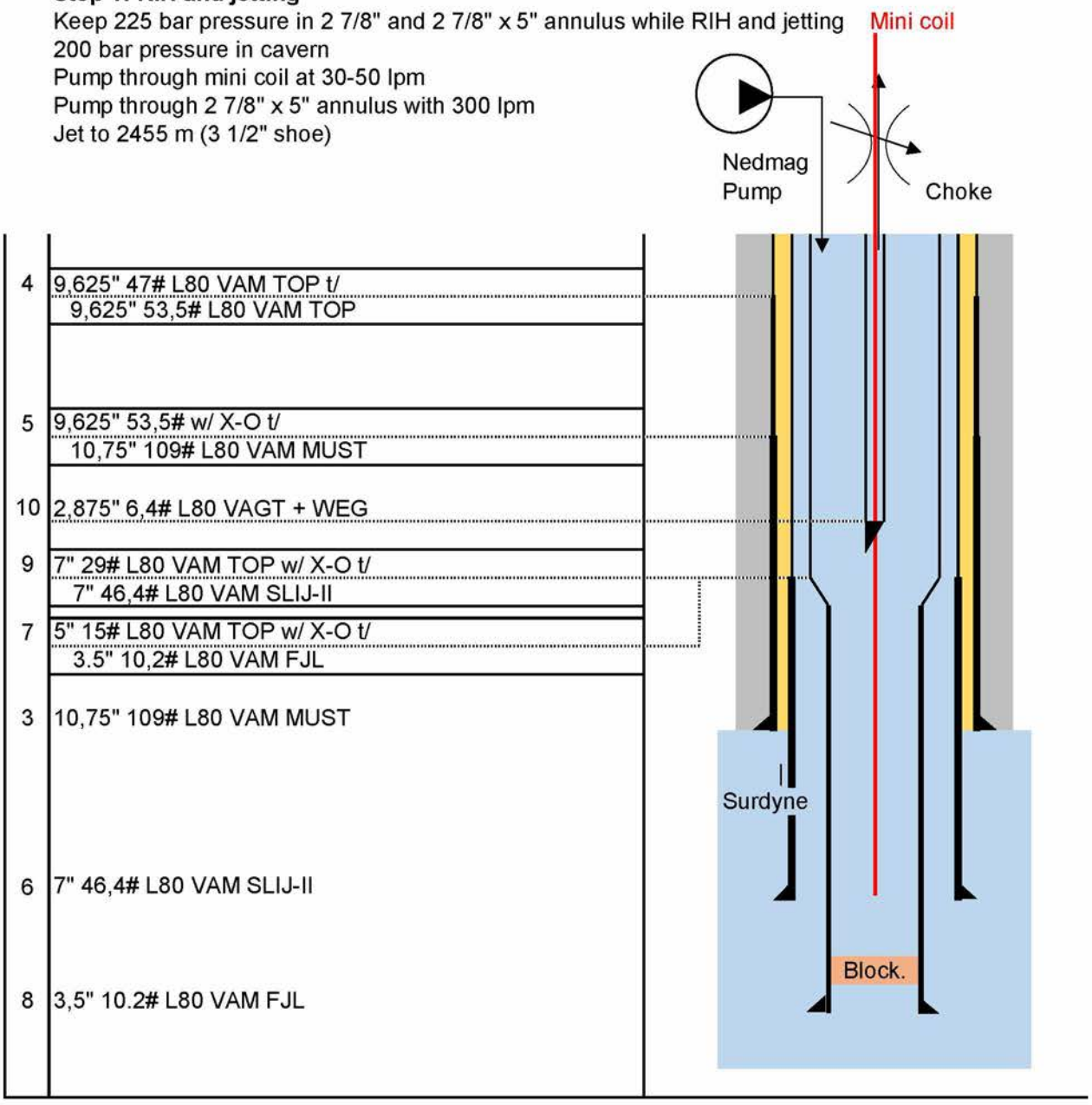
5.7. First line of responsibility for well control

All well control operations shall be carried out in accordance with the wireline and mini coil contractor (Inwatec) procedures. The Inwatec supervisor shall have the first line responsibility for well control and well intervention operations and must be kept advised of any well control or intervention problems if they occur. The Inwatec supervisor will co-operate with the NEDMAG Company Representative (SSV) at all times. Refer to ***"NEDMAG VE-5 Project-Specific Safety & Health Document"*** for more details.

6. Work program

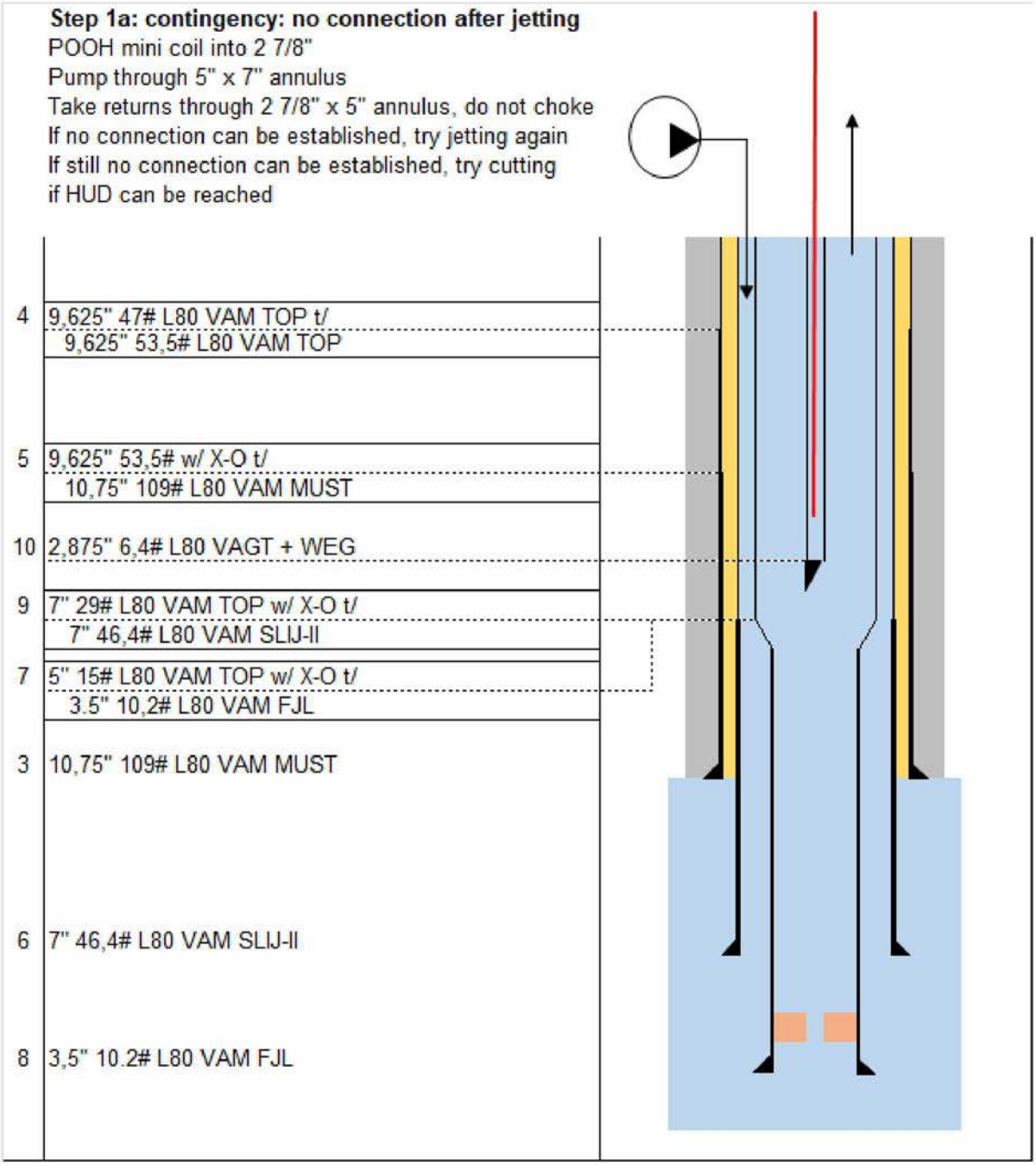
A schematic overview of all important steps of the work program can be found below.

Step 1: RIH and jetting
Keep 225 bar pressure in 2 7/8" and 2 7/8" x 5" annulus while RIH and jetting
200 bar pressure in cavern
Pump through mini coil at 30-50 lpm
Pump through 2 7/8" x 5" annulus with 300 lpm
Jet to 2455 m (3 1/2" shoe)



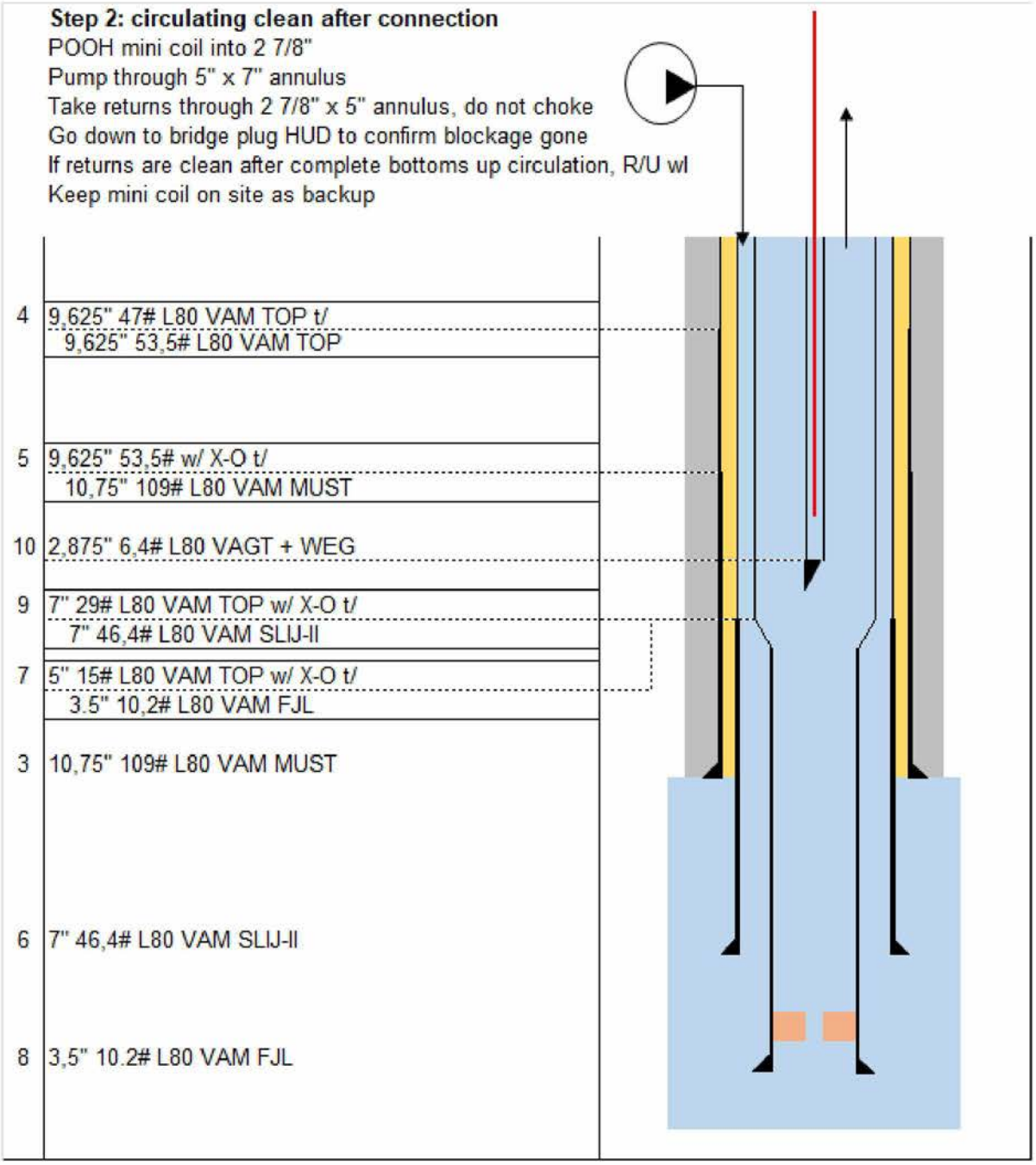
Step 1a: contingency: no connection after jetting

POOH mini coil into 2 7/8"
Pump through 5" x 7" annulus
Take returns through 2 7/8" x 5" annulus, do not choke
If no connection can be established, try jetting again
If still no connection can be established, try cutting
if HUD can be reached



Step 2: circulating clean after connection

POOH mini coil into 2 7/8"
Pump through 5" x 7" annulus
Take returns through 2 7/8" x 5" annulus, do not choke
Go down to bridge plug HUD to confirm blockage gone
If returns are clean after complete bottoms up circulation, R/U wl
Keep mini coil on site as backup



Note 1: Below the base plan is described; all foreseen contingencies can be found in Chapter 7

6.1. Rig up mini coil unit

1) Handover well from Nedmag to WEP, as per report of transmission
2) Hold a PJSM with all involved.
   a. Distribute work instructions
   b. Discuss lifting plan, communications and responsibilities
3) Spot equipment and crane on location
   a. Check impact of lights on surrounding area, lights only on working area
4) R/U mini coil unit and scaffolding
5) Pressure up 2 7/8" string and 2 7/8" x 5" annulus to 225 bar, to be confirmed by Nedmag
6) Confirm choke on 2 7/8" x 5" annulus is operational by doing an injection test
7) Remove blind flange
8) Install 4 1/16" 5K x 4 1/16" 10K PCE XO on wellhead
9) R/U mini coil support tower
10) Function test mini coil BOP
11) Install mini coil BOP on PCE XO
12) Pressure test mini coil BOP to 345 bar (max. rating wellhead) for 10 minutes, as per contractor's procedure

6.2. Perform drift run on slickline

13) Function test wireline BOP
14) Remove pressure cap from mini coil BOP
15) Install wireline BOP on top of mini coil BOP
16) M/U toolstring with gauge cutter for dummy run, see attachment 9.4.2
17) P/U wireline lubricator and zero toolstring at reference point (GL)
18) Pressure test BOP to 345 bar (max. rating wellhead) for 10 minutes, as per contractor's procedure
19) Stab wireline lubricator on wireline BOP
20) Stop circulation over the well.
21) Equalize pressure over master and swab valves
22) RIH dummy run toolstring to maximum 2455 m
    a. Running speed max. 60 m/min
    b. Perform pull test every 500 m
    c. Exit 2 7/8" string at 2358 m, enter 3 ½" x 5" XO at 2374 m, both at 0 degrees inclination
    d. Run in slow until hold up point
23) POOH dummy run toolstring
    a. Running speed max. 60 m/min
24) Close master and swab valves
25) Bleed off pressure from lubricator
26) P/U and L/D wireline lubricator, wireline BOP

6.3. Remove blockage at 2455 m

27) Hold a PJSM with all involved.
    a. Notify all personnel involved that making noise at night (22:00 – 07:00) must be avoided as much as possible
    b. Distribute work instructions

c. Discuss operations, communications and responsibilities

28) M/U jetting toolstring and function test, see attachment 9.4.1
29) Function test weak point of connection jetting tool to mini coil
30) P/U mini coil lubricator and zero toolstring at reference point (GL)
31) Stab mini coil lubricator on BOP
32) Fill up coil with fresh water, use Inwatec pump to pressure up the water to 3 bar
33) Pressure test connector and coil to 500 bar for 15 minutes, as per contractor's procedure
34) Perform circulation test
35) Equalize pressure over master and swab valves
36) RIH toolstring on mini coil to blockage
    a. Choke on 2 7/8" string open, pressure in 2 7/8" string and 2 7/8" x 5" annulus while RIH 50 bar, to be confirmed by Nedmag
    b. Running speed max. 20 m/min in 2 7/8" string (to 2358 m), running speed max. 2 m/min in 5" 3 ½" string (below 2358 m)
    c. Perform pull test every 500 m
    d. Pump fresh water through mini coil at 10-15 lpm
    e. Exit 2 7/8" string at 2358 m, enter 3 ½" x 5" XO at 2374 m, both at 0 degrees inclination
37) Start jetting while running in to 2455 m
    a. Keep pressure in 2 7/8" string at 225 bar using choke
    b. Pump fresh water through mini coil, pump rate, ROP and number of passes to be determined based on conditions encountered while RIH
    c. Move coil up and down while jetting to avoid getting stuck
    d. Observe pressure responses indicating connection with 5" x 7" annulus
38) POOH toolstring to 2358 m AH, inside 2 7/8" tubing
    a. Running speed max. 20 m/min
    b. Keep pumping through coil with 10-15 lpm
39) Keep pumping fresh water through 5" x 7" annulus, taking returns through 2 7/8" x 5" annulus, until returns are clean, bottoms up volume is approximately 32 m3
40) POOH toolstring to surface
    a. Running speed max. 20 m/min
41) Close master and swab valves
    a. Keep circulating through 2 7/8" x 5" and 5" x 7" annuli at minimum pump rate as per Nedmag instructions
42) Bleed off pressure from lubricator
43) P/U and L/D mini coil lubricator
44) Install pressure cap on mini coil BOP
45) R/D mini coil unit as per contractor's procedure
46) Install new ring gasket
47) Install blind flange on wellhead, inflow test/pressure test with manifold pressure same

6.4. Circulate to clean out well

48) Circulate through injection and production tubing as per Nedmag instructions
    a. Keep mini coil standby in case more jetting is required, if this is the case, follow the steps from Sections 6.1 and 6.2.
49) B/L all mini coil equipment and truck
50) Leave location

7. Contingencies

7.1. Blockage in jetting tool

Explanation/Consequences	While jetting through mini coil the nozzles of the jetting tool may get blocked, in this case they have to be cleaned on surface. In case the blockage cannot be solved quickly a backup jetting tool must be used.		
Material required	Material	Supplier	Status
	Backup jetting tool	Inwatec	On site
Steps 1. POOH jetting tool 2. Inspect the nozzles and the rest of the tool a. If blockage(s) can be cleaned easily, do this on surface b. If blockage(s) cannot be cleaned easily, install backup jetting tool 3. RIH cleaned/backup jetting tool and continue jetting operations			

7.2. Jetting tool stuck

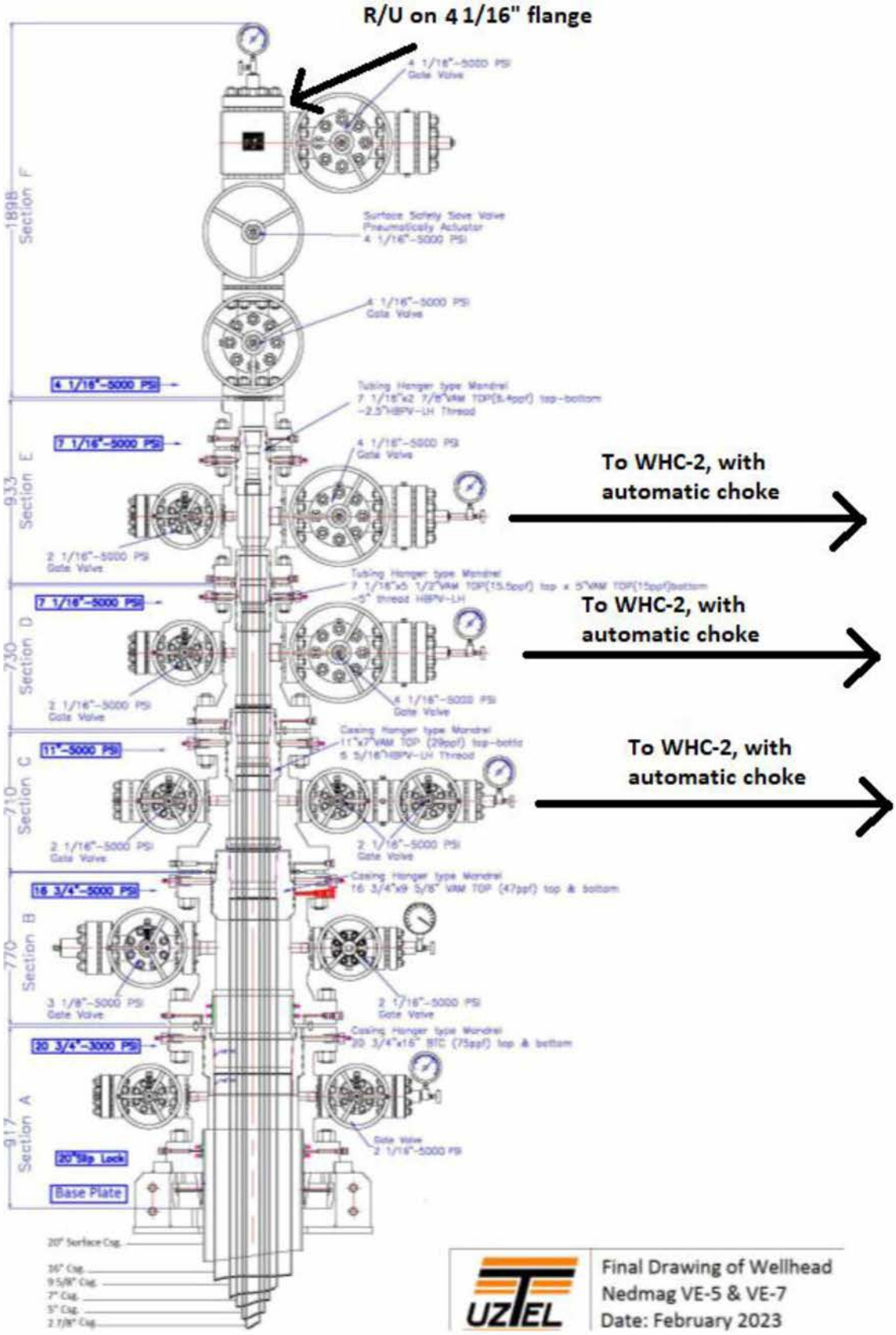
Explanation/Consequences	While jetting through mini coil the agitated mud particles may fall down again, if this happens on top of the jetting tool this may get stuck. In this case the jetting tool should get severed from the mini coil using the hydraulic disconnect and the BHA should be fished out.		
Material required	Material	Supplier	Status
	Fishing tools	Inwatec	On call off
Steps 1. Try and pull jetting tool loose, max pull force as per contractor's limits 2. If no success, activate the hydraulic disconnect 3. POOH mini coil without jetting tool 4. Fish out the left behind BHA.			

7.3. No communication achieved after jetting

Explanation/Consequences	If there is no communication after reaching the bottom of the 3 ½" string with the jetting device, first it should be attempted to dissolve the plug by more circulation, then another jetting run should be attempted, finally it should be attempted to cut the tubing		
Material required	Material	Supplier	Status
	Mini coil unit Wireline unit	Inwatec	On site
Steps 1. Pump through 5" x 7" annulus, taking returns through 2 7/8" x 5" annulus without using the choke, see the well schematic step 1a on page 11 2. RIH the toolstring to 2455 m and attempt jetting again as per Section 6.2 3. Attempt to circulate again as in step 1 4. If still no communication can be achieved, R/D the mini coil unit and attempt to cut using wireline			

8. Attachments

8.1. Wellhead VE-7



Cellar floor is 3,10 m BGL. Top of X-mas tree is +- 3,5 m above ground level.

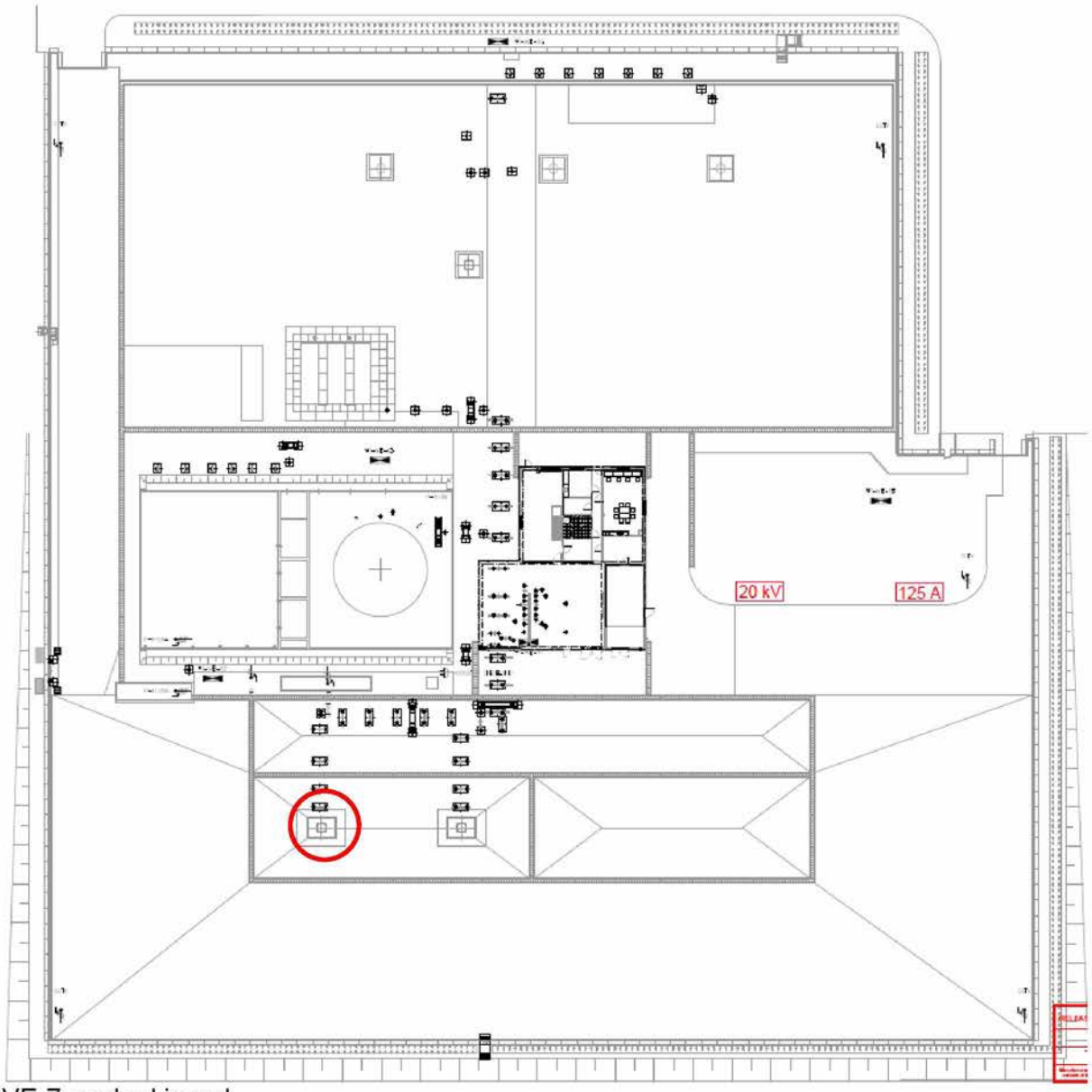
8.2. Mini coil unit, wireline unit and PCE equipment drawings

8.2.1. **Mini coil unit**

8.2.2. **Wireline unit**

8.2.3. **PCE equipment**

8.3. Location layout



VE-7 marked in red

8.4. Toolstring lists

8.4.1. Mini coil jetting tool

8.4.2. Wireline drift run

8.5. Data Sheets

8.5.1. Jetting tool

8.6. Tally VE-7

8.6.1. 2 7/8" casing

2 7/8" casing tally

Rig : Deutag T-700 | DSV: 5.1.2.e | Well : VE-7 | Date: 20/02/2024

Depth reference :	HOP	TD :	2.575,00	m	Buoyancy :	0,83	
Rotary-GL :	9,32 m	Rat hole :	208,00	m	Block weight :	25	metric Tons
Rotary-HOP :	7,83 m	Shoe depth :	2367,00	m	PUW :		metric Tons
		Mud weight :	1,30	sg	SOW :		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb			MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)		Min	Optimum	Max	(m)
1	2-7/8"	2,441	L80	6,40	3,02	1,17	VAM TOP	1.670	1.850	2.030	0,064
2	2-7/8"	2,441	L80-1	6,40	3,02	1,17	VAGT	1.890	2.100	2.415	0,064
3											
4											

Joint n° or name	Marked Pipe Number	Type n°	Total length	Make up length	In string	Cumul. length	Top depth BRT	Hook load	Mud gain	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
			m	m	Y/N	m	m	mT	(m3)		
					y		2.367,00	25			
WEG JOINT	WEG	3	12,03	12,03	y	12,03	2354,97	25	0,0	VAGT	WEG (15 cm)
196	1	2	12,07	12,00	y	24,03	2342,97	25	0,0	VAGT	
195	2	2	12,44	12,37	y	36,41	2330,59	25	0,0	VAGT	
194	3	2	12,07	12,00	y	48,41	2318,59	25	0,0	VAGT	
193	4	2	12,07	12,00	y	60,41	2306,59	25	0,1	VAGT	
192	5	2	12,07	12,00	y	72,41	2294,59	25	0,1	VAGT	
191	6	2	12,07	12,00	y	84,41	2282,59	26	0,1	VAGT	
190	7	2	12,46	12,39	y	96,81	2270,19	26	0,1	VAGT	
189	8	2	12,44	12,37	y	109,18	2257,82	26	0,1	VAGT	
188	9	2	12,07	12,00	y	121,18	2245,82	26	0,1	VAGT	
187	10	2	12,46	12,39	y	133,58	2233,42	26	0,1	VAGT	
186	11	2	12,46	12,39	y	145,97	2221,03	26	0,2	VAGT	
185	12	2	12,07	12,00	y	157,97	2209,03	26	0,2	VAGT	
184	13	2	12,46	12,39	y	170,36	2196,64	26	0,2	VAGT	
183	14	2	12,46	12,39	y	182,75	2184,25	26	0,2	VAGT	
182	15	2	12,06	12,00	y	194,75	2172,25	26	0,2	VAGT	
181	16	2	12,06	11,99	y	206,74	2160,26	27	0,2	VAGT	
180	25	2	12,06	12,00	y	218,74	2148,26	27	0,2	VAGT	
179	26	2	12,06	12,00	y	230,74	2136,26	27	0,3	VAGT	
178	17	2	12,06	12,00	y	242,73	2124,27	27	0,3	VAGT	
177	18	2	12,07	12,01	y	254,74	2112,26	27	0,3	VAGT	
176	19	2	12,46	12,39	y	267,14	2099,86	27	0,3	VAGT	
175	20	2	12,07	12,00	y	279,14	2087,86	27	0,3	VAGT	
174	21	2	12,06	12,00	y	291,14	2075,86	27	0,3	VAGT	
173	22	2	12,07	12,00	y	303,14	2063,86	27	0,3	VAGT	
172	23	2	12,06	12,00	y	315,14	2051,86	27	0,4	VAGT	
171	24	2	12,46	12,39	y	327,53	2039,47	28	0,4	VAGT	
170	30	2	12,46	12,39	y	339,92	2027,08	28	0,4	VAGT	
169	31	2	12,46	12,39	y	352,31	2014,69	28	0,4	VAGT	
168	32	2	12,06	12,00	y	364,31	2002,69	28	0,4	VAGT	
167	33	2	12,12	12,06	y	376,36	1990,64	28	0,4	VAGT	
166	34	2	12,46	12,39	y	388,76	1978,24	28	0,4	VAGT	
165	35	2	12,46	12,40	y	401,15	1965,85	28	0,5	VAGT	
164	36	2	12,06	12,00	y	413,15	1953,85	28	0,5	VAGT	
163	37	2	12,05	11,99	y	425,14	1941,86	28	0,5	VAGT	
162	54	2	11,98	11,91	y	437,05	1929,95	28	0,5	VAGT	
161	38	2	12,46	12,40	y	449,45	1917,55	28	0,5	VAGT	
160	39	2	12,07	12,01	y	461,45	1905,55	29	0,5	VAGT	
159	40	2	12,45	12,39	y	473,84	1893,16	29	0,5	VAGT	
158	41	2	12,06	12,00	y	485,84	1881,16	29	0,6	VAGT	
157	42	2	11,98	11,92	y	497,75	1869,25	29	0,6	VAGT	
156	43	2	12,06	12,00	y	509,75	1857,25	29	0,6	VAGT	
155	27	2	12,45	12,39	y	522,14	1844,86	29	0,6	VAGT	
154	28	2	12,06	12,00	y	534,14	1832,86	29	0,6	VAGT	
153	29	2	12,07	12,01	y	546,14	1820,86	29	0,6	VAGT	
152	46	2	12,46	12,39	y	558,54	1808,46	29	0,6	VAGT	
151	44	2	12,06	12,00	y	570,53	1796,47	29	0,7	VAGT	
150	47	2	12,07	12,00	y	582,54	1784,46	30	0,7	VAGT	
149	48	2	12,07	12,00	y	594,54	1772,46	30	0,7	VAGT	
148	45	2	12,06	12,00	y	606,54	1760,46	30	0,7	VAGT	
146	50	2	12,07	12,00	y	618,54	1748,46	30	0,7	VAGT	
145	51	2	12,06	12,00	y	630,54	1736,46	30	0,7	VAGT	
144	52	2	12,06	12,00	y	642,54	1724,46	30	0,8	VAGT	
143	53	2	12,06	12,00	y	654,54	1712,46	30	0,8	VAGT	
142	55	2	12,06	12,00	y	666,54	1700,46	30	0,8	VAGT	
141	56	2	12,07	12,00	y	678,54	1688,46	30	0,8	VAGT	
140	57	2	12,06	12,00	y	690,54	1676,46	30	0,8	VAGT	
139	58	2	12,06	12,00	y	702,54	1664,46	31	0,8	VAGT	
138	59	2	12,06	12,00	y	714,54	1652,46	31	0,8	VAGT	
137	60	2	12,06	12,00	y	726,54	1640,46	31	0,8	VAGT	
136	61	2	12,06	12,00	y	738,54	1628,46	31	0,9	VAGT	
135	62	2	12,06	12,00	y	750,54	1616,46	31	0,9	VAGT	
134	63	2	12,07	12,00	y	762,54	1604,46	31	0,9	VAGT	
133	64	2	12,06	12,00	y	774,54	1592,46	31	0,9	VAGT	
132	80	2	12,46	12,39	y	786,93	1580,07	31	0,9	VAGT	
131	65	2	12,46	12,39	y	799,32	1567,68	31	0,9	VAGT	

2 7/8" casing tally

Rig : Deutag T-700

DSV: 5.1.2.e

Well : VE-7

Date: 20/02/2024

Depth reference :	HOP	TD :	2.575,00	m	Buoyancy :	0,83	
Rotary-GL :	9,32 m	Rat hole :	208,00	m	Block weight :	25	metric Tons
Rotary-HOP :	7,83 m	Shoe depth :	2367,00	m	PUW :		metric Tons
		Mud weight :	1,30	sg	SOW :		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb			MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)		Min	Optimum	Max	(m)
1	2-7/8"	2,441	L80	6,40	3,02	1,17	VAM TOP	1.670	1.850	2.030	0,064
2	2-7/8"	2,441	L80-1	6,40	3,02	1,17	VAGT	1.890	2.100	2.415	0,064
3											
4											

Joint n° or name	Marked Pipe Number	Type n°	Total length	Make up length	In string	Cumul. length	Top depth BRT	Hook load	Mud gain	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
			m	m	Y/N	m	m	mT	(m3)		
					y		2.367,00	25			
130	66	2	12,46	12,39	y	12,39	2354,61	25	0,0	VAGT	
129	67	2	12,46	12,39	y	24,79	2342,21	25	0,0	VAGT	
128	68	2	12,46	12,39	y	37,18	2329,82	25	0,1	VAGT	
127	69	2	12,46	12,39	y	49,57	2317,43	25	0,1	VAGT	
126	70	2	12,46	12,39	y	61,96	2305,04	26	0,1	VAGT	
125	71	2	12,06	12,00	y	73,96	2293,04	26	0,1	VAGT	
124	72	2	12,46	12,39	y	86,36	2280,64	26	0,1	VAGT	
123	72	2	12,46	12,40	y	98,75	2268,25	26	0,1	VAGT	
122	73	2	12,16	12,09	y	110,84	2256,16	26	0,1	VAGT	
121	75	2	12,46	12,40	y	123,24	2243,76	26	0,2	VAGT	
120	76	2	12,46	12,39	y	135,63	2231,37	26	0,2	VAGT	
119	77	2	12,46	12,39	y	148,02	2218,98	26	0,2	VAGT	
118	78	2	12,46	12,40	y	160,42	2206,58	26	0,2	VAGT	
117	79	2	12,46	12,39	y	172,81	2194,19	26	0,2	VAGT	
116	81	2	12,46	12,40	y	185,21	2181,79	27	0,2	VAGT	
115	90	2	12,06	12,00	y	197,21	2169,79	27	0,2	VAGT	
114	91	2	12,06	12,00	y	209,21	2157,79	27	0,3	VAGT	
113	92	2	12,06	12,00	y	221,21	2145,79	27	0,3	VAGT	
112	93	2	12,06	12,00	y	233,21	2133,79	27	0,3	VAGT	
111	94	2	12,06	12,00	y	245,21	2121,79	27	0,3	VAGT	
110	96	2	12,46	12,39	y	257,60	2109,40	27	0,3	VAGT	
109	95	2	12,07	12,00	y	269,60	2097,40	27	0,3	VAGT	
108	82	2	12,46	12,40	y	282,00	2085,00	27	0,3	VAGT	
107	83	2	12,46	12,40	y	294,39	2072,61	27	0,4	VAGT	
106	84	2	12,46	12,39	y	306,79	2060,21	28	0,4	VAGT	
105	85	2	12,46	12,39	y	319,18	2047,82	28	0,4	VAGT	
104	86	2	12,46	12,40	y	331,57	2035,43	28	0,4	VAGT	
103	87	2	12,46	12,39	y	343,97	2023,03	28	0,4	VAGT	
102	88	2	12,07	12,00	y	355,97	2011,03	28	0,4	VAGT	
101	89	2	12,08	12,01	y	367,98	1999,02	28	0,4	VAGT	
X/O	X/O	2	11,90	11,84	y	379,82	1987,18	28	0,5	VAGT	X/O 2,875" VAM TOP B x 2,875" VAGT P
100	15	1	12,29	12,22	y	392,04	1974,96	28	0,5	VAM TOP	
99	16	1	12,48	12,41	y	404,46	1962,54	28	0,5	VAM TOP	
98	17	1	12,49	12,42	y	416,88	1950,12	28	0,5	VAM TOP	
97	18	1	12,15	12,09	y	428,97	1938,03	29	0,5	VAM TOP	
96	19	1	12,48	12,42	y	441,39	1925,61	29	0,5	VAM TOP	
95	20	1	12,28	12,22	y	453,60	1913,40	29	0,5	VAM TOP	
94	21	1	12,28	12,21	y	465,82	1901,18	29	0,6	VAM TOP	
93	1	1	12,51	12,45	y	478,26	1888,74	29	0,6	VAM TOP	
92	2	1	12,29	12,22	y	490,48	1876,52	29	0,6	VAM TOP	
91	3	1	12,29	12,23	y	502,71	1864,29	29	0,6	VAM TOP	
90	22	1	12,48	12,42	y	515,13	1851,87	29	0,6	VAM TOP	
89	24	1	12,49	12,42	y	527,55	1839,45	29	0,6	VAM TOP	
88	23	1	12,49	12,43	y	539,98	1827,02	29	0,6	VAM TOP	
87	25	1	12,28	12,22	y	552,20	1814,80	29	0,7	VAM TOP	
86	26	1	12,46	12,39	y	564,59	1802,41	30	0,7	VAM TOP	
85	28	1	12,28	12,21	y	576,80	1790,20	30	0,7	VAM TOP	
84	27	1	12,28	12,21	y	589,01	1777,99	30	0,7	VAM TOP	
83	12	1	12,29	12,22	y	601,24	1765,76	30	0,7	VAM TOP	
82	13	1	12,29	12,23	y	613,46	1753,54	30	0,7	VAM TOP	
81	14	1	12,28	12,22	y	625,68	1741,32	30	0,7	VAM TOP	
80	35	1	12,47	12,41	y	638,09	1728,91	30	0,8	VAM TOP	
79	36	1	12,49	12,43	y	650,52	1716,48	30	0,8	VAM TOP	
78	37	1	12,27	12,21	y	662,73	1704,27	30	0,8	VAM TOP	
77	38	1	12,49	12,42	y	675,15	1691,85	30	0,8	VAM TOP	
76	39	1	12,48	12,41	y	687,56	1679,44	31	0,8	VAM TOP	
75	40	1	12,27	12,21	y	699,77	1667,23	31	0,8	VAM TOP	
74	41	1	12,28	12,22	y	711,98	1655,02	31	0,8	VAM TOP	
73	42	1	12,28	12,21	y	724,20	1642,80	31	0,9	VAM TOP	
72	47	1	12,45	12,39	y	736,59	1630,41	31	0,9	VAM TOP	
71	48	1	12,31	12,25	y	748,83	1618,17	31	0,9	VAM TOP	
70	49	1	12,03	11,97	y	760,80	1606,20	31	0,9	VAM TOP	
69	50	1	12,27	12,21	y	773,01	1593,99	31	0,9	VAM TOP	
68	29	1	12,49	12,42	y	785,43	1581,57	31	0,9	VAM TOP	
67	30	1	12,48	12,42	y	797,85	1569,15	31	0,9	VAM TOP	

2 7/8" casing tally

Rig : Deutag T-700
DSV: 5.1.2.e
Well : VE-7
Date: 20/02/2024

Depth reference :	HOP	TD :	2.575,00	m	Buoyancy :	0,83	
Rotary-GL :	9,32 m	Rat hole :	208,00	m	Block weight :	25	metric Tons
Rotary-HOP :	7,83 m	Shoe depth :	2367,00	m	PUW :		metric Tons
		Mud weight :	1,30	sg	SOW :		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb			MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)		Min	Optimum	Max	(m)
1	2-7/8"	2,441	L80	6,40	3,02	1,17	VAM TOP	1.670	1.850	2.030	0,064
2	2-7/8"	2,441	L80-1	6,40	3,02	1,17	VAGT	1.890	2.100	2.415	0,064
3											
4											

Joint n° or name	Marked Pipe Number	Type n°	Total length	Make up length	In string	Cumul. length	Top depth BRT	Hook load	Mud gain	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
			m	m	Y/N	m	m	mT	(m3)		
					y		2.367,00	25			
66	31	1	12,27	12,21	y	12,21	2354,79	25	0,0	VAM TOP	
65	32	1	12,29	12,23	y	24,44	2342,56	25	0,0	VAM TOP	
64	33	1	12,48	12,42	y	36,86	2330,14	25	0,1	VAM TOP	
63	34	1	12,49	12,42	y	49,28	2317,72	25	0,1	VAM TOP	
62	51	1	12,53	12,46	y	61,74	2305,26	26	0,1	VAM TOP	
61	52	1	12,47	12,41	y	74,15	2292,85	26	0,1	VAM TOP	
60	56	1	12,28	12,22	y	86,37	2280,63	26	0,1	VAM TOP	
59	53	1	12,50	12,43	y	98,80	2268,20	26	0,1	VAM TOP	
58	54	1	12,50	12,43	y	111,23	2255,77	26	0,1	VAM TOP	
57	55	1	12,29	12,23	y	123,46	2243,54	26	0,2	VAM TOP	
56	43	1	12,48	12,42	y	135,88	2231,12	26	0,2	VAM TOP	
55	44	1	12,49	12,42	y	148,30	2218,70	26	0,2	VAM TOP	
54	45	1	12,28	12,21	y	160,51	2206,49	26	0,2	VAM TOP	
53	46	1	12,48	12,42	y	172,93	2194,07	26	0,2	VAM TOP	
52	60	1	12,38	12,32	y	185,25	2181,75	27	0,2	VAM TOP	
51	61	1	12,51	12,45	y	197,70	2169,30	27	0,2	VAM TOP	
50	62	1	12,37	12,30	y	210,00	2157,00	27	0,3	VAM TOP	
49	65	1	12,27	12,21	y	222,21	2144,79	27	0,3	VAM TOP	
48	63	1	12,18	12,11	y	234,32	2132,68	27	0,3	VAM TOP	
47	64	1	12,06	11,99	y	246,32	2120,68	27	0,3	VAM TOP	
46	67	1	12,32	12,25	y	258,57	2108,43	27	0,3	VAM TOP	
45	66	1	12,30	12,23	y	270,80	2096,20	27	0,3	VAM TOP	
44	73	1	12,41	12,34	y	283,14	2083,86	27	0,3	VAM TOP	
43	74	1	12,52	12,46	y	295,60	2071,40	27	0,4	VAM TOP	
42	75	1	12,07	12,01	y	307,61	2059,39	28	0,4	VAM TOP	
41	76	1	12,16	12,09	y	319,70	2047,30	28	0,4	VAM TOP	
40	77	1	12,41	12,35	y	332,05	2034,95	28	0,4	VAM TOP	
39	78	1	12,16	12,09	y	344,14	2022,86	28	0,4	VAM TOP	
38	79	1	12,18	12,12	y	356,26	2010,74	28	0,4	VAM TOP	
37	57	1	12,39	12,33	y	368,59	1998,41	28	0,4	VAM TOP	
36	58	1	12,49	12,43	y	381,01	1985,99	28	0,5	VAM TOP	
35	59	1	12,45	12,38	y	393,40	1973,60	28	0,5	VAM TOP	
34	80	1	12,51	12,45	y	405,85	1961,15	28	0,5	VAM TOP	
33	81	1	12,35	12,29	y	418,14	1948,86	28	0,5	VAM TOP	
32	82	1	12,40	12,33	y	430,47	1936,53	29	0,5	VAM TOP	
31	83	1	12,19	12,13	y	442,60	1924,40	29	0,5	VAM TOP	
30	84	1	11,74	11,68	y	454,28	1912,72	29	0,5	VAM TOP	
29	70	1	12,11	12,05	y	466,33	1900,67	29	0,6	VAM TOP	
28	68	1	12,48	12,42	y	478,74	1888,26	29	0,6	VAM TOP	
27	71	1	12,51	12,44	y	491,19	1875,81	29	0,6	VAM TOP	
26	72	1	12,55	12,48	y	503,67	1863,33	29	0,6	VAM TOP	
25	69	1	12,28	12,22	y	515,89	1851,11	29	0,6	VAM TOP	
24	93	1	12,50	12,44	y	528,32	1838,68	29	0,6	VAM TOP	
23	94	1	12,49	12,43	y	540,75	1826,25	29	0,6	VAM TOP	
22	96	1	12,45	12,39	y	553,14	1813,86	29	0,7	VAM TOP	
21	97	1	12,45	12,39	y	565,53	1801,47	30	0,7	VAM TOP	
20	107	1	12,45	12,38	y	577,91	1789,09	30	0,7	VAM TOP	
19	108	1	12,51	12,44	y	590,35	1776,65	30	0,7	VAM TOP	
18	87	1	12,47	12,40	y	602,76	1764,24	30	0,7	VAM TOP	
17	86	1	12,55	12,48	y	615,24	1751,76	30	0,7	VAM TOP	
16	85	1	12,15	12,09	y	627,33	1739,67	30	0,7	VAM TOP	
15	88	1	12,25	12,19	y	639,52	1727,48	30	0,8	VAM TOP	
14	89	1	12,50	12,43	y	651,95	1715,05	30	0,8	VAM TOP	
13	90	1	12,45	12,38	y	664,33	1702,67	30	0,8	VAM TOP	
12	91	1	12,30	12,24	y	676,57	1690,43	30	0,8	VAM TOP	
11	92	1	12,45	12,38	y	688,95	1678,05	31	0,8	VAM TOP	
10	99	1	12,08	12,01	y	700,96	1666,04	31	0,8	VAM TOP	
9	98	1	12,48	12,41	y	713,37	1653,63	31	0,8	VAM TOP	
8	100	1	12,57	12,50	y	725,88	1641,12	31	0,9	VAM TOP	
7	101	1	12,28	12,22	y	738,09	1628,91	31	0,9	VAM TOP	
6	95	1	12,50	12,43	y	750,53	1616,47	31	0,9	VAM TOP	
Hanger Joint	Hanger joint	1	11,89	11,82	y	762,35	1604,65	32	1,0	VAM TOP	
	Hanger to HOP	0	0,20	0,20	y	762,55	1604,45	#N/A	#N/A	#N/A	HOP is 7,83m below RT
	HOP to top hanger	0	0,38	0,38	y	762,93	1604,07	#N/A	#N/A	#N/A	
Landing Joint 1	111	1	8,45	8,39	y	771,31	1595,69	#N/A	#N/A	VAM TOP	

Casing	Capacity [l/m]	Closed end displacement [l/m]	Metal displacement [l/m]	Collapse load [bar]	Burst load [bar]
2 7/8" 6.4# L80	3.02	4.19	1.17	729	770

8.6.2. 5” x 3 ½” casing

5" x 3.5" Tubing Tally

Rig : Deutag T-700 | Well : VE-7
DSV: 5.1.2.e | Date: 12/09/2022

Depth reference :	HOP	TD :	2.575,00	m	Buoyancy :	0,79	
Wellhead-GL :	9,32 m	Rat hole :	111,00	m	Block weight :	25	metric Tons
Wellhead-HOP :	8,53 m	Shoe depth :	2464,00	m	PUW :		metric Tons
		Mud weight :	1,65	sg	SOW :		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb			MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)		Min	Optimum	Max	(m)
1	5"	4,408	L80	15,00	9,90	2,80	VAM TOP HC	4.950	5.500	6.050	0,106
2	3.5"	2,922	L80	10,20	4,30	1,90	VAM FJL	1.240	1.370	1.500	0,084
3											
4											

Joint n° or name	Marked Pipe Number	Type n°	Total length m	Make up length m	In string Y/N	Cumul. length m	Top depth BGL m	Hook load mT	Mud gain (m3)	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
					y		2.464,00	25			
231	21	2	11,79	11,70	y	11,70	2452,30	25	0,0	VAM FJL	PRE-INSTALLED BRIDGE PLUG
230	20	2	12,11	12,03	y	23,73	2440,27	25	0,0	VAM FJL	
229	11	2	11,61	11,53	y	35,26	2428,74	25	0,1	VAM FJL	
228	14	2	12,00	11,92	y	47,18	2416,82	26	0,1	VAM FJL	
227	13	2	11,61	11,53	y	58,71	2405,29	26	0,1	VAM FJL	
226	12	2	12,00	11,92	y	70,62	2393,38	26	0,1	VAM FJL	
225	17	2	12,11	12,03	y	82,65	2381,35	26	0,2	VAM FJL	
X/O	X/O	2	1,00	0,91	y	83,56	2380,44	28	0,5	VAM FJL	X/O 5" 15# Pin x 3.5" 10.2# Box
210	91	1	13,19	13,09	y	96,65	2367,35	28	0,5	VAM TOP HC	
209	92	1	13,22	13,12	y	109,76	2354,24	28	0,5	VAM TOP HC	
208	93	1	13,24	13,13	y	122,90	2341,10	29	0,6	VAM TOP HC	
207	81	1	13,09	12,98	y	135,88	2328,12	29	0,6	VAM TOP HC	
206	82	1	13,14	13,03	y	148,91	2315,09	29	0,7	VAM TOP HC	
205	83	1	13,13	13,02	y	161,93	2302,07	29	0,7	VAM TOP HC	
204	84	1	13,24	13,13	y	175,06	2288,94	30	0,7	VAM TOP HC	
203	85	1	13,24	13,13	y	188,19	2275,81	30	0,8	VAM TOP HC	
202	96	1	13,20	13,09	y	201,29	2262,71	30	0,8	VAM TOP HC	
201	97	1	13,25	13,14	y	214,43	2249,57	30	0,8	VAM TOP HC	
200	86	1	13,25	13,14	y	227,57	2236,43	31	0,9	VAM TOP HC	
199	87	1	13,25	13,15	y	240,72	2223,28	31	0,9	VAM TOP HC	
198	88	1	13,23	13,13	y	253,84	2210,16	31	1,0	VAM TOP HC	
197	89	1	13,23	13,13	y	266,97	2197,03	31	1,0	VAM TOP HC	
196	90	1	13,22	13,12	y	280,09	2183,91	31	1,0	VAM TOP HC	
195	105	1	13,26	13,16	y	293,24	2170,76	32	1,1	VAM TOP HC	
194	98	1	13,24	13,14	y	306,38	2157,62	32	1,1	VAM TOP HC	
193	99	1	13,25	13,14	y	319,52	2144,48	32	1,1	VAM TOP HC	
192	100	1	13,25	13,14	y	332,66	2131,34	32	1,2	VAM TOP HC	
191	94	1	13,24	13,13	y	345,80	2118,20	33	1,2	VAM TOP HC	
190	95	1	13,24	13,13	y	358,93	2105,07	33	1,2	VAM TOP HC	
189	106	1	13,23	13,13	y	372,06	2091,94	33	1,3	VAM TOP HC	
188	109	1	13,24	13,13	y	385,19	2078,81	33	1,3	VAM TOP HC	
187	110	1	13,24	13,14	y	398,33	2065,68	34	1,4	VAM TOP HC	
186	111	1	13,25	13,15	y	411,47	2052,53	34	1,4	VAM TOP HC	
185	101	1	13,23	13,12	y	424,59	2039,41	34	1,4	VAM TOP HC	
184	102	1	13,24	13,13	y	437,72	2026,28	34	1,5	VAM TOP HC	
183	103	1	13,23	13,13	y	450,85	2013,15	34	1,5	VAM TOP HC	
182	104	1	13,22	13,12	y	463,97	2000,04	35	1,5	VAM TOP HC	
181	120	1	13,23	13,13	y	477,09	1986,91	35	1,6	VAM TOP HC	
180	121	1	13,25	13,14	y	490,23	1973,77	35	1,6	VAM TOP HC	
179	112	1	13,25	13,14	y	503,37	1960,63	35	1,7	VAM TOP HC	
178	113	1	13,23	13,13	y	516,50	1947,50	36	1,7	VAM TOP HC	
177	114	1	13,23	13,12	y	529,62	1934,38	36	1,7	VAM TOP HC	
176	115	1	13,24	13,13	y	542,75	1921,25	36	1,8	VAM TOP HC	
175	107	1	13,25	13,14	y	555,89	1908,11	36	1,8	VAM TOP HC	
174	108	1	13,23	13,12	y	569,01	1894,99	37	1,8	VAM TOP HC	
173	118	1	13,20	13,09	y	582,10	1881,90	37	1,9	VAM TOP HC	
172	119	1	13,21	13,11	y	595,21	1868,79	37	1,9	VAM TOP HC	
171	122	1	13,24	13,13	y	608,34	1855,66	37	1,9	VAM TOP HC	
170	123	1	13,24	13,13	y	621,47	1842,53	37	2,0	VAM TOP HC	
169	124	1	13,30	13,19	y	634,66	1829,34	38	2,0	VAM TOP HC	
168	125	1	13,24	13,14	y	647,80	1816,21	38	2,1	VAM TOP HC	
167	126	1	13,25	13,14	y	660,94	1803,06	38	2,1	VAM TOP HC	
166	127	1	13,23	13,13	y	674,07	1789,93	38	2,1	VAM TOP HC	
165	116	1	13,26	13,15	y	687,22	1776,79	39	2,2	VAM TOP HC	
164	117	1	13,24	13,14	y	700,35	1763,65	39	2,2	VAM TOP HC	
163	132	1	13,24	13,13	y	713,48	1750,52	39	2,2	VAM TOP HC	
162	133	1	13,23	13,13	y	726,61	1737,39	39	2,3	VAM TOP HC	
161	134	1	13,26	13,15	y	739,76	1724,24	40	2,3	VAM TOP HC	
160	135	1	13,24	13,14	y	752,90	1711,11	40	2,4	VAM TOP HC	
159	136	1	13,25	13,14	y	766,04	1697,96	40	2,4	VAM TOP HC	
158	128	1	13,25	13,14	y	779,18	1684,83	40	2,4	VAM TOP HC	
157	129	1	13,24	13,13	y	792,31	1671,70	41	2,5	VAM TOP HC	
156	130	1	13,23	13,13	y	805,43	1658,57	41	2,5	VAM TOP HC	
155	137	1	13,24	13,13	y	818,56	1645,44	41	2,5	VAM TOP HC	
154	140	1	13,24	13,14	y	831,70	1632,30	41	2,6	VAM TOP HC	

5" x 3.5" Tubing Tally

Rig : Deutag T-700
DSV: 5.1.2.e
Well : VE-7
Date: 12/09/2022

Depth reference :	HOP	TD :	2.575,00	m	Buoyancy :	0,79	
Wellhead-GL :	9,32 m	Rat hole :	111,00	m	Block weight :	25	metric Tons
Wellhead-HOP :	8,53 m	Shoe depth :	2464,00	m	PUW :		metric Tons
		Mud weight :	1,65	sg	SOW :		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb			MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)		Min	Optimum	Max	(m)
1	5"	4,408	L80	15,00	9,90	2,80	VAM TOP HC	4.950	5.500	6.050	0,106
2	3.5"	2,922	L80	10,20	4,30	1,90	VAM FJL	1.240	1.370	1.500	0,084
3											
4											

Joint n° or name	Marked Pipe Number	Type n°	Total length	Make up length	In string	Cumul. length	Top depth BGL	Hook load	Mud gain	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
			m	m	Y/N	m	m	mT	(m3)		
					y		2.464,00	25			
153	141	1	13,23	13,13	y	13,13	2450,88	25	0,0	VAM TOP HC	
152	142	1	13,24	13,13	y	26,26	2437,74	25	0,1	VAM TOP HC	
151	143	1	13,25	13,15	y	39,41	2424,60	26	0,1	VAM TOP HC	
150	144	1	13,24	13,13	y	52,54	2411,46	26	0,1	VAM TOP HC	
149	145	1	13,09	12,98	y	65,52	2398,49	26	0,2	VAM TOP HC	
148	131	1	13,25	13,14	y	78,66	2385,34	26	0,2	VAM TOP HC	
147	147	1	13,09	12,98	y	91,64	2372,36	27	0,3	VAM TOP HC	
146	148	1	13,13	13,02	y	104,66	2359,34	27	0,3	VAM TOP HC	
145	149	1	13,24	13,14	y	117,80	2346,20	27	0,3	VAM TOP HC	
144	150	1	13,10	12,99	y	130,79	2333,21	27	0,4	VAM TOP HC	
143	151	1	13,09	12,99	y	143,78	2320,22	28	0,4	VAM TOP HC	
142	152	1	13,25	13,14	y	156,92	2307,08	28	0,4	VAM TOP HC	
141	138	1	13,25	13,14	y	170,06	2293,94	28	0,5	VAM TOP HC	
140	139	1	13,26	13,15	y	183,21	2280,79	28	0,5	VAM TOP HC	
139	154	1	13,25	13,14	y	196,35	2267,65	28	0,5	VAM TOP HC	
138	155	1	13,23	13,13	y	209,48	2254,52	29	0,6	VAM TOP HC	
137	156	1	13,23	13,12	y	222,60	2241,40	29	0,6	VAM TOP HC	
136	157	1	13,24	13,14	y	235,74	2228,26	29	0,7	VAM TOP HC	
135	158	1	13,29	13,18	y	248,92	2215,08	29	0,7	VAM TOP HC	
134	159	1	13,24	13,13	y	262,06	2201,95	30	0,7	VAM TOP HC	
133	160	1	13,25	13,14	y	275,19	2188,81	30	0,8	VAM TOP HC	
132	146	1	13,11	13,00	y	288,20	2175,80	30	0,8	VAM TOP HC	
131	10	1	13,24	13,14	y	301,33	2162,67	30	0,8	VAM TOP HC	
130	11	1	13,25	13,14	y	314,47	2149,53	31	0,9	VAM TOP HC	
129	1	1	12,83	12,73	y	327,20	2136,80	31	0,9	VAM TOP HC	
128	2	1	13,25	13,14	y	340,34	2123,66	31	1,0	VAM TOP HC	
127	3	1	13,22	13,11	y	353,46	2110,54	31	1,0	VAM TOP HC	
126	4	1	13,24	13,14	y	366,59	2097,41	31	1,0	VAM TOP HC	
125	5	1	13,23	13,12	y	379,72	2084,29	32	1,1	VAM TOP HC	
124	153	1	13,24	13,14	y	392,85	2071,15	32	1,1	VAM TOP HC	
123	13	1	13,24	13,14	y	405,99	2058,01	32	1,1	VAM TOP HC	
122	14	1	13,23	13,12	y	419,11	2044,89	32	1,2	VAM TOP HC	
121	15	1	13,26	13,15	y	432,26	2031,74	33	1,2	VAM TOP HC	
120	6	1	13,28	13,17	y	445,43	2018,57	33	1,2	VAM TOP HC	
119	7	1	13,23	13,13	y	458,56	2005,44	33	1,3	VAM TOP HC	
118	8	1	13,20	13,09	y	471,65	1992,35	33	1,3	VAM TOP HC	
117	9	1	13,25	13,14	y	484,80	1979,21	34	1,4	VAM TOP HC	
116	19	1	13,21	13,11	y	497,90	1966,10	34	1,4	VAM TOP HC	
115	20	1	13,24	13,14	y	511,04	1952,96	34	1,4	VAM TOP HC	
114	25	1	13,22	13,12	y	524,16	1939,84	34	1,5	VAM TOP HC	
113	26	1	13,26	13,15	y	537,31	1926,69	34	1,5	VAM TOP HC	
112	27	1	13,24	13,14	y	550,45	1913,55	35	1,5	VAM TOP HC	
111	16	1	13,45	13,34	y	563,79	1900,21	35	1,6	VAM TOP HC	
110	17	1	13,24	13,13	y	576,92	1887,08	35	1,6	VAM TOP HC	
109	18	1	13,21	13,10	y	590,02	1873,98	35	1,7	VAM TOP HC	
108	34	1	13,23	13,12	y	603,14	1860,86	36	1,7	VAM TOP HC	
107	12	1	13,25	13,14	y	616,28	1847,72	36	1,7	VAM TOP HC	
106	35	1	13,37	13,27	y	629,55	1834,45	36	1,8	VAM TOP HC	
105	21	1	13,22	13,12	y	642,67	1821,33	36	1,8	VAM TOP HC	
104	22	1	13,23	13,13	y	655,79	1808,21	37	1,8	VAM TOP HC	
103	23	1	13,24	13,13	y	668,92	1795,08	37	1,9	VAM TOP HC	
102	24	1	13,23	13,13	y	682,05	1781,95	37	1,9	VAM TOP HC	
101	28	1	13,22	13,11	y	695,16	1768,84	37	1,9	VAM TOP HC	
100	29	1	13,25	13,14	y	708,30	1755,70	37	2,0	VAM TOP HC	
99	30	1	13,24	13,13	y	721,43	1742,57	38	2,0	VAM TOP HC	
98	31	1	13,25	13,14	y	734,58	1729,43	38	2,1	VAM TOP HC	
97	32	1	13,25	13,14	y	747,72	1716,29	38	2,1	VAM TOP HC	
96	33	1	13,25	13,14	y	760,86	1703,15	38	2,1	VAM TOP HC	
95	36	1	13,24	13,13	y	773,99	1690,01	39	2,2	VAM TOP HC	
94	37	1	13,25	13,14	y	787,13	1676,87	39	2,2	VAM TOP HC	
93	38	1	13,25	13,14	y	800,27	1663,73	39	2,2	VAM TOP HC	
92	39	1	13,24	13,14	y	813,41	1650,59	39	2,3	VAM TOP HC	
91	40	1	13,24	13,13	y	826,54	1637,46	40	2,3	VAM TOP HC	
90	41	1	13,26	13,15	y	839,69	1624,31	40	2,4	VAM TOP HC	
89	42	1	13,23	13,13	y	852,82	1611,18	40	2,4	VAM TOP HC	
88	43	1	13,24	13,13	y	865,95	1598,05	40	2,4	VAM TOP HC	
87	44	1	13,24	13,13	y	879,08	1584,92	41	2,5	VAM TOP HC	

5" x 3.5" Tubing Tally

Rig : Deutag T-700
DSV: 5.1.2.e
Well : VE-7
Date: 12/09/2022

Depth reference :	HOP	TD :	2.575,00	m	Buoyancy :	0,79	
Wellhead-GL :	9,32 m	Rat hole :	111,00	m	Block weight :	25	metric Tons
Wellhead-HOP :	8,53 m	Shoe depth :	2464,00	m	PUW :		metric Tons
		Mud weight :	1,65	sg	SOW :		metric Tons

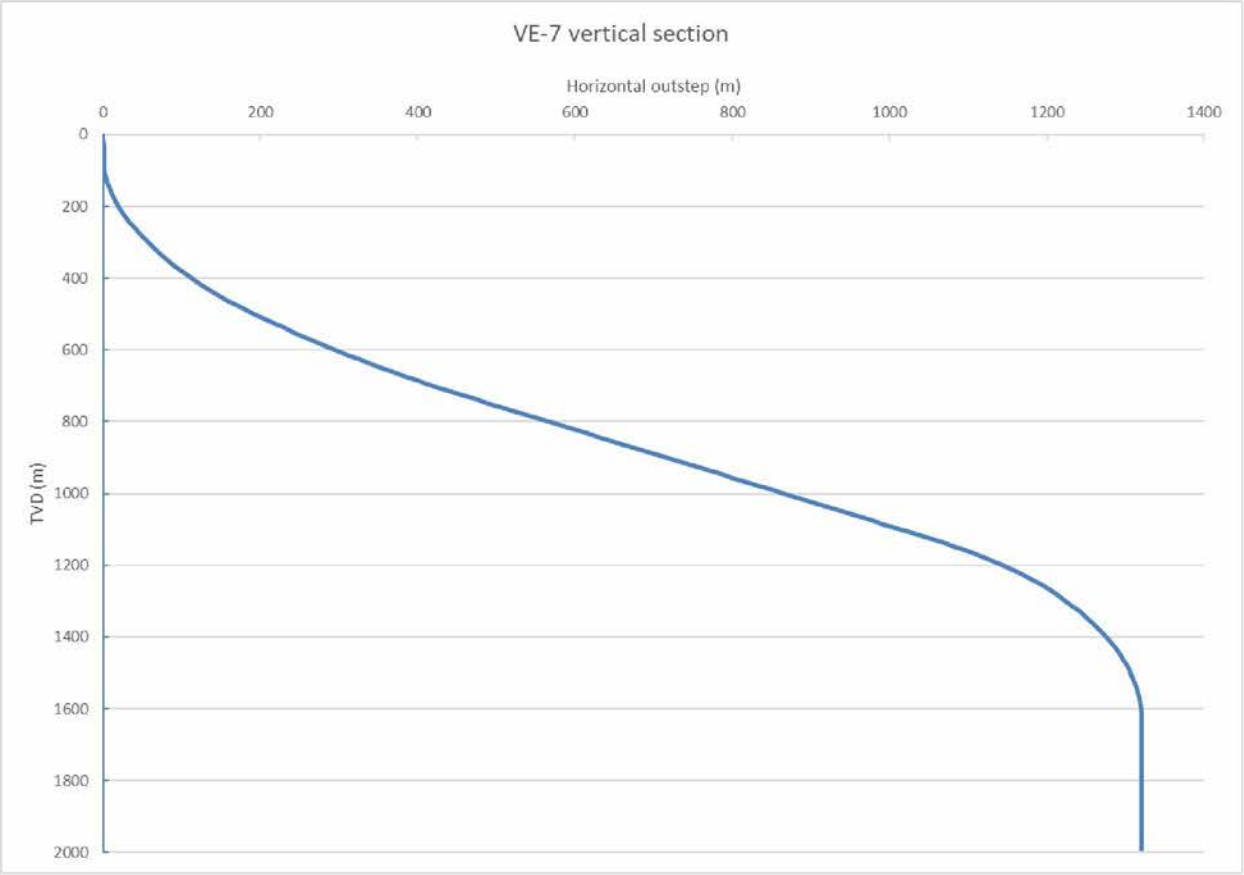
Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb			MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)		Min	Optimum	Max	(m)
1	5"	4,408	L80	15,00	9,90	2,80	VAM TOP HC	4.950	5.500	6.050	0,106
2	3.5"	2,922	L80	10,20	4,30	1,90	VAM FJL	1.240	1.370	1.500	0,084
3											
4											

Joint n° or name	Marked Pipe Number	Type n°	Total length	Make up length	In string	Cumul. length	Top depth BGL	Hook load	Mud gain	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
			m	m	Y/N	m	m	mT	(m3)		
					y		2.464,00	25			
86	45	1	13,21	13,11	y	13,11	2450,89	25	0,0	VAM TOP HC	
85	46	1	13,24	13,13	y	26,24	2437,76	25	0,1	VAM TOP HC	
84	47	1	13,23	13,12	y	39,36	2424,64	26	0,1	VAM TOP HC	
83	55	1	13,16	13,05	y	52,41	2411,59	26	0,1	VAM TOP HC	
82	56	1	13,23	13,12	y	65,53	2398,47	26	0,2	VAM TOP HC	
81	57	1	12,96	12,86	y	78,39	2385,62	26	0,2	VAM TOP HC	
80	48	1	13,24	13,13	y	91,52	2372,48	27	0,3	VAM TOP HC	
79	49	1	13,24	13,14	y	104,65	2359,35	27	0,3	VAM TOP HC	
78	50	1	13,20	13,10	y	117,75	2346,25	27	0,3	VAM TOP HC	
77	58	1	13,10	12,99	y	130,74	2333,26	27	0,4	VAM TOP HC	
76	59	1	13,10	12,99	y	143,73	2320,27	28	0,4	VAM TOP HC	
75	60	1	13,24	13,14	y	156,86	2307,14	28	0,4	VAM TOP HC	
74	51	1	12,24	12,13	y	169,00	2295,00	28	0,5	VAM TOP HC	
73	52	1	13,24	13,13	y	182,13	2281,87	28	0,5	VAM TOP HC	
72	53	1	13,25	13,14	y	195,27	2268,73	28	0,5	VAM TOP HC	
71	54	1	13,24	13,14	y	208,41	2255,59	29	0,6	VAM TOP HC	
70	63	1	13,26	13,15	y	221,56	2242,44	29	0,6	VAM TOP HC	
69	64	1	13,24	13,14	y	234,69	2229,31	29	0,7	VAM TOP HC	
68	65	1	13,25	13,15	y	247,84	2216,16	29	0,7	VAM TOP HC	
67	67	1	13,29	13,18	y	261,02	2202,98	30	0,7	VAM TOP HC	
66	68	1	13,25	13,14	y	274,16	2189,84	30	0,8	VAM TOP HC	
65	69	1	13,09	12,99	y	287,15	2176,85	30	0,8	VAM TOP HC	
64	70	1	13,24	13,13	y	300,28	2163,72	30	0,8	VAM TOP HC	
63	71	1	12,95	12,85	y	313,13	2150,87	31	0,9	VAM TOP HC	
62	72	1	12,96	12,85	y	325,98	2138,02	31	0,9	VAM TOP HC	
61	61	1	13,24	13,14	y	339,12	2124,89	31	0,9	VAM TOP HC	
60	62	1	13,30	13,19	y	352,31	2111,70	31	1,0	VAM TOP HC	
59	78	1	12,96	12,86	y	365,16	2098,84	31	1,0	VAM TOP HC	
58	79	1	12,97	12,87	y	378,03	2085,97	32	1,1	VAM TOP HC	
57	80	1	13,13	13,02	y	391,05	2072,95	32	1,1	VAM TOP HC	
56	66	1	13,25	13,15	y	404,20	2059,80	32	1,1	VAM TOP HC	
55	74	1	13,10	12,99	y	417,19	2046,81	32	1,2	VAM TOP HC	
54	75	1	13,12	13,01	y	430,20	2033,80	33	1,2	VAM TOP HC	
53	76	1	12,95	12,85	y	443,05	2020,95	33	1,2	VAM TOP HC	
52	77	1	13,27	13,16	y	456,21	2007,79	33	1,3	VAM TOP HC	
51	73	1	11,35	11,24	y	467,45	1996,55	33	1,3	VAM TOP HC	
50	208	1	13,09	12,99	y	480,44	1983,56	33	1,3	VAM TOP HC	
49	209	1	13,10	12,99	y	493,43	1970,57	34	1,4	VAM TOP HC	
48	210	1	13,23	13,13	y	506,55	1957,45	34	1,4	VAM TOP HC	
47	171	1	13,24	13,14	y	519,69	1944,31	34	1,5	VAM TOP HC	
46	162	1	13,31	13,20	y	532,89	1931,11	34	1,5	VAM TOP HC	
45	163	1	13,31	13,20	y	546,09	1917,91	35	1,5	VAM TOP HC	
44	164	1	13,28	13,17	y	559,26	1904,74	35	1,6	VAM TOP HC	
43	165	1	13,12	13,02	y	572,28	1891,72	35	1,6	VAM TOP HC	
42	166	1	13,11	13,00	y	585,28	1878,72	35	1,6	VAM TOP HC	
41	161	1	13,24	13,13	y	598,41	1865,59	36	1,7	VAM TOP HC	
40	207	1	13,12	13,01	y	611,42	1852,58	36	1,7	VAM TOP HC	
39	173	1	13,31	13,20	y	624,62	1839,38	36	1,7	VAM TOP HC	
38	174	1	13,31	13,20	y	637,83	1826,18	36	1,8	VAM TOP HC	
37	175	1	13,31	13,21	y	651,03	1812,97	36	1,8	VAM TOP HC	
36	176	1	13,31	13,20	y	664,23	1799,77	37	1,9	VAM TOP HC	
35	167	1	13,31	13,20	y	677,44	1786,56	37	1,9	VAM TOP HC	
34	168	1	13,20	13,10	y	690,53	1773,47	37	1,9	VAM TOP HC	
33	169	1	13,31	13,20	y	703,74	1760,26	37	2,0	VAM TOP HC	
32	170	1	13,31	13,20	y	716,94	1747,06	38	2,0	VAM TOP HC	
31	177	1	13,12	13,01	y	729,95	1734,05	38	2,0	VAM TOP HC	
Hanger Joint	Hanger joint	1	13,04	12,93	y	742,88	1721,12	45	3,2	VAM TOP HC	
	Hanger to HOP	0	0,02	0,02	y	742,90	**1721,11**	#N/A	#N/A	#N/A	
	HOP to top hanger	0	0,38	0,38	y	743,28	1720,73	#N/A	#N/A	#N/A	
X/O	X/O	1	0,60	0,49	y	743,77	1720,23	#N/A	#N/A	VAM TOP HC	X/O 5,5" Pin x 5" Box
Landing Joint 1	211	1	9,20	9,09	y	752,86	1711,14	#N/A	#N/A	VAM TOP HC	
Landing Joint 2	212	1	9,19	9,09	y	761,94	1702,06	#N/A	#N/A	VAM TOP HC	

Casing	Capacity [l/m]	Closed end displacement [l/m]	Metal displacement [l/m]	Collapse load [bar]	Burst load [bar]
5" 15# L80	9.85	12.67	2.82	572	500
3 1/2" 10.2# L80	4.33	6.21	1.88	797	836

8.7. Well profile



Max. 56 degrees inclination between 895 m AH / 618 m TVD and 1611 m AH / 1117 m TVD