Docnr3

Work Program

VE-5 Workover

Operator:	Nedmag B.V.
Prepared by:	Well Engineering Partners Toldijk 17-19 7900 AP Hoogeveen (NL) Tel: +31 (0) 528 227710 www.wellengineeringpartners.com
Author:	MN
Publication date:	04 January 2024
Version:	0.4

Contents

1. Revision Change Notice 3
2. Authorized Signatures 3
3. Summary 4
   3.1. Abstract 4
   3.2. VE-5 well data 6
4. Introduction 7
   4.1. History and current situation 7
   4.2. Scope of Work 7
   4.3. Location 7
   4.4. Management of Change 8
5. Well Control Procedures 9
   5.1. Maximum expected wellhead pressure 9
   5.2. Well integrity 9
   5.3. Well Barriers 9
   5.4. Well control equipment 9
   5.5. BOP Testing Requirements 9
   5.6. Uncontrolled Flow 9
   5.7. First line of responsibility for well control 9
6. Work program 10
   6.1. Rig up mini coil unit 15
   6.2. Remove blockage at 2619 m 15
   6.3. Cut 3 ½" tubing 16
   6.4. Circulate to clean out well 17
7. Contingencies 18
   7.1. Blockage in jetting tool 18
   7.2. Jetting tool stuck 18
   7.3. No communication achieved after jetting 18
   7.4. Explosive cutter not working/fully cutting 19
   7.5. Explosive cutter or dummy run not reaching target depth 19
8. Attachments 20
   8.1. Wellhead VE-5 21
   8.2. Mini coil unit, wireline unit and PCE equipment drawings 22
      8.2.1. Mini coil unit 22
      8.2.2. Wireline unit 22
      8.2.3. PCE equipment 22
   8.3. Location layout 23
   8.4. Toolstring lists 24
      8.4.1. Mini coil jetting tool 24
      8.4.2. Wireline cutting tool 24
   8.5. Data Sheets 25
      8.5.1. Jetting tool 25
      8.5.2. Cutting tool 25
   8.6. Tally VE-5 26
      8.6.1. 2 7/8" casing 26
      8.6.2. 5" x 3 ½" casing 29
      8.6.3. 7" casing 32
      8.6.4. 10 ¾" x 9 5/8" casing 35
   8.7. Well profile 38

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

Copyright

1. Revision Change Notice

Version	*Date*	*Brief description of Change*
0.1	11/12/2023	Initial draft
0.2	13/12/2023	Revision based on internal comments
0.3	21/12/2023	Revision based on internal comments
0.4	03/01/2024	Revision based on comments Nedmag

2. Authorized Signatures

Title	Name	Date	Signature
NEDMAG Project Manager	5.1.2.e	19/04/2024	5.1.2.e
WEP Project Manager	5.1.2.e		Approved version 0.4 by email on 18/01/2024
WEP Operations Manager	5.1.2.e		Approved version 0.4 by email on 18/01/2024

3. Summary

3.1. Abstract

VE-5 was drilled in 2022, during well construction the 3 ½" tubing was not completely severed above the bridge plug. While circulating to expand the cavern some salt crystals were deposited above the bridge plug, which eventually created a blockage preventing communication between the 3 ½" tubing and the annuli outside of it. The top of the blockage was measured at 2617 m AH, 19 m above the depth of the bridge plug.

The goal of this workover is to dissolve the blockage in the 3 ½" tubing and to fully cut through the 3 ½" tubing right above the bridge plug.

The scope of work of this workover is:

- Remove blockage in 3 ½" tubing using jetting on mini coil.
- Cut off 3 ½" tubing at 2635 m AH.
- 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-5 A1** **Concentric completion**	Approx. Depth m tvd	Approx. Depth m ah
26" 136,4#		51	51
20" 94# X56 BTC		222	223
20" 106,5# K55 BTC			
20" 106,5# K55 BTC		404	424
TOC 16" x 9-5/8"			
16" 84# L80 BTC		851	1276
9,625" 47# L80 VAM TOP t/ 9,625" 53,5# L80 VAM TOP		1330	2221
9,625" 53,5# w/ X-O t/ 10,75" 109# L80 VAM MUST		1433	2330
2,875" 6,4# L80 VAM TOP + WEG		1535	2431
5" 15# L80 VAM TOP w/ X-O t/ 3,5" 10,2# L80 VAM FJL		1557	2454
7" 29# L80 VAM TOP w/ X-O t/ 7" 46,4# L80 VAM SLIJ-II		1569	2466
10,75" 109# L80 VAM MUST	Brine Surdyne	1589	2486
7" 46,4# L80 VAM SLIJ-II	Block.	1710	2607
Incomplete cut 2022 Bridge plug 3,5" 10.2# L80 VAM FJL		1738	2636
		1814	2711

Figure 1. VE-5 current situation well schematic

3.2. VE-5 well data

Well name	VE-5 (VDM-05)	
Well location	WHC-1, Borgercompagnie, Municipality Veendam	
Surface coordinates	RD: X 250 801.408 Y 570 437.022	ETRS89: E 06° 49' 6.991" N 53° 06' 47.744"
Type of well	Solution mining producer and injector	
Originally drilled in	April – July 2022	
Final TD	2711 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 @ 79 m, EOB @ 821 m AH / 670 m TVD, max 68 degrees between 821 m AH / 670 m TVD and 1052 m AH / 759 m TVD	
Start of operations	February 2024	
WL/mini coil Contractor	Inwatec	
Duration of operations	3 days	
Wellhead pressures		
7" x 9 5/8" annulus	24-224 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	7,34 m3	
2 7/8" x 5" annulus (0 - 2431 m)	13,78 m3	
3 ½" x 5" tubing (2431 – 2636 m)	1,01 m3	
5" x 7" annulus	18,03 m3	
7" x 9 5/8" annulus	33,07 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-5 permanently.

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

This document is to be combined with the ***"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-5 was drilled to TD at 2711 m AH in 2022 and is planned to start production in the beginning of 2024. During well construction a bridge plug was set in the bottom of the 3 ½" string to pressure test it. After the test an explosive cut was done to shoot off the bottom meter of the 3 ½" string with the plug in it. This failed to completely cut off the string, leaving only a small opening with a bridge plug still hanging below it. A wireline run with the same tool string found a HUD at 2636 m AH, the depth of the bridge plug.

During the process of creating the start of the salt cavern in September 2023 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, precipitated at production flow and got stuck (compressed) because of the small size of the failed explosive cut.

In November 2023 during a wireline run with a 55 mm (2.165") gauge cutter the hold-up depth was encountered at 2617 m AH, meaning that the blockage has a thickness of maximum 19 m.

4.2. Scope of Work

The Scope of Work of the operations is to:

1. Remove the blockage using a jetting tool run on mini coil.
2. Shoot off the bottom part of the 5" x 3 ½" tubing using a wireline explosive cutting tool.
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-5 well is positioned within the well cluster of WHC-1. During the operations, no work will be done on nearby well VE-7. On WHC-1 wells VE-1 through VE-4 are also present, the closest of which is 74 m from VE-5. 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 well 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. 50 bar pressure (self-induced) on the 2 7/8" x 5" annulus and 2 7/8" string, and with no pressure on the other annuli during the operations. The maximum possible wellhead pressure (MEWHP) is 224 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 has not produced 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 both 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 cavern volume is still very small so extreme flow via the 2 7/8" is very unlikely, 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.

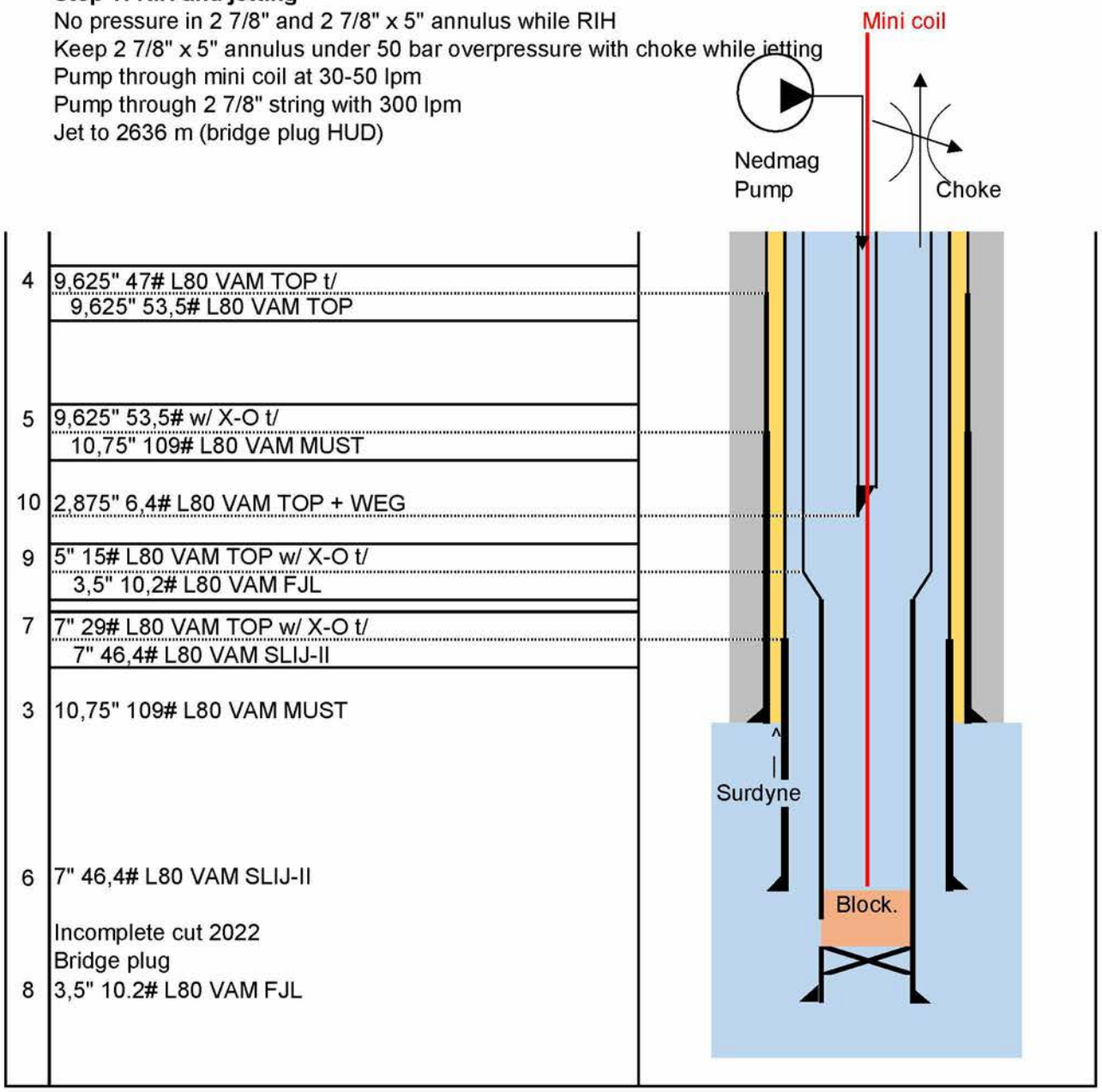
5.7. First line of responsibility for well control

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.

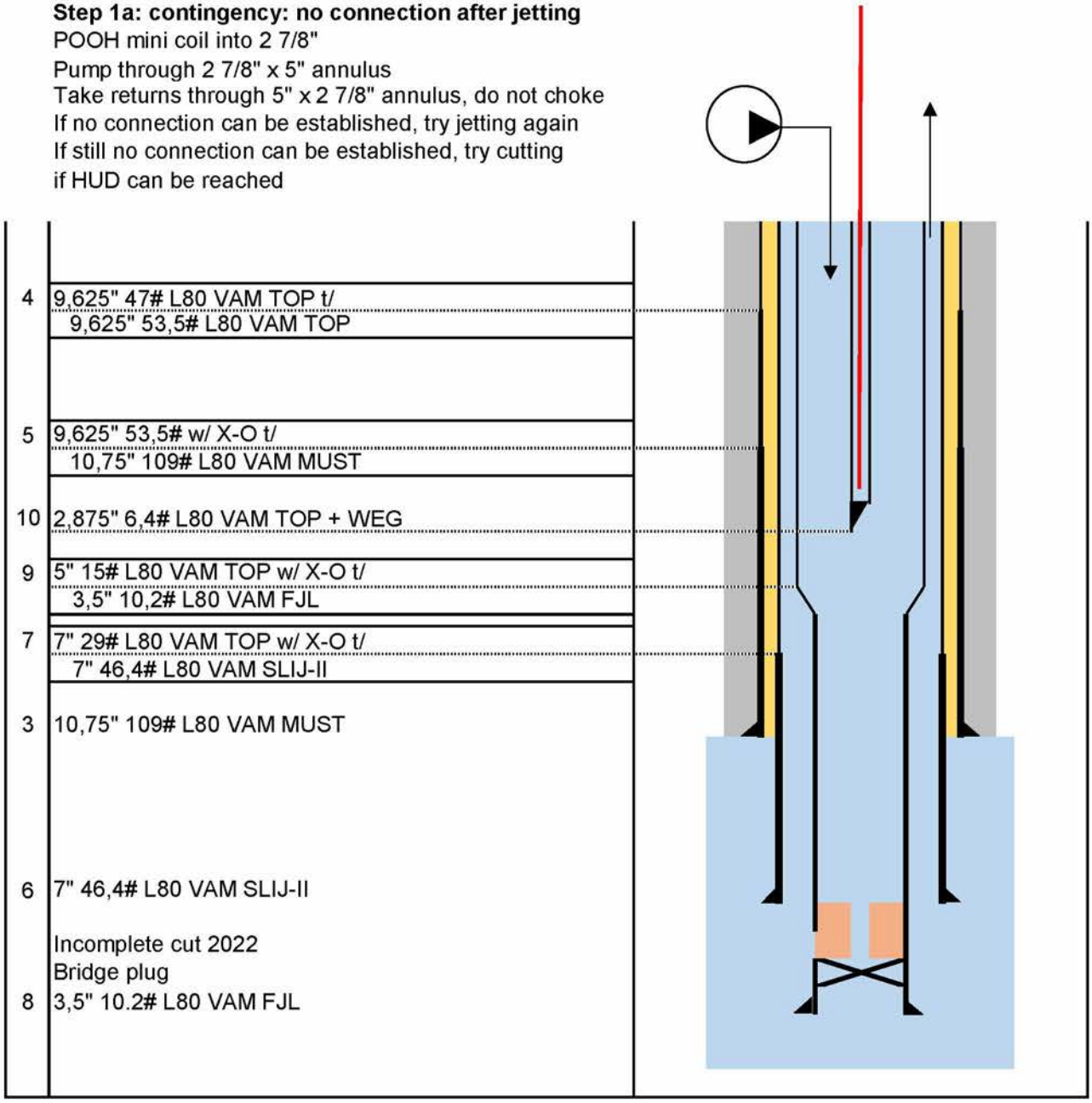
6. Work program

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

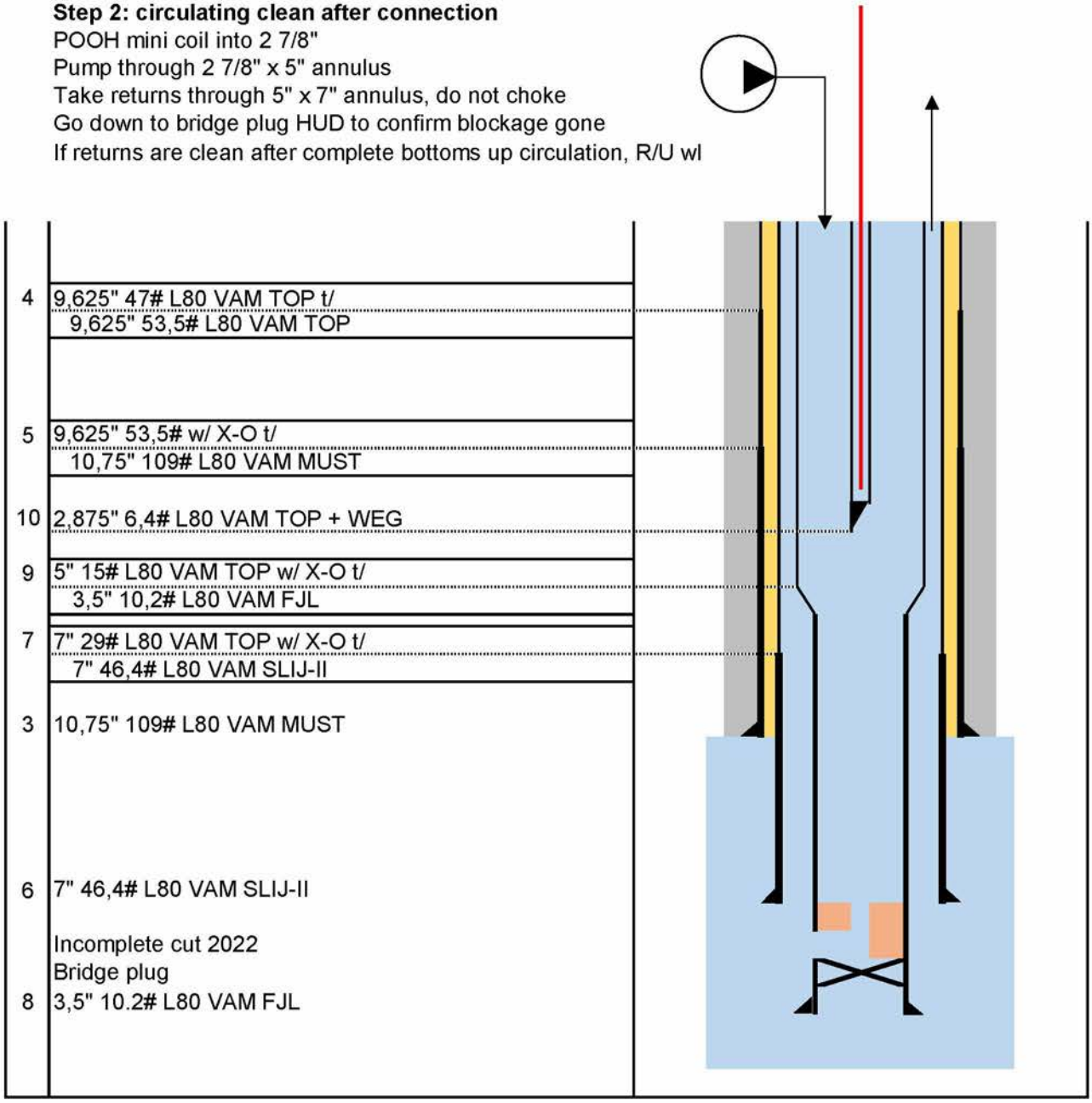
Step 1: RIH and jetting
No pressure in 2 7/8" and 2 7/8" x 5" annulus while RIH
Keep 2 7/8" x 5" annulus under 50 bar overpressure with choke while jetting
Pump through mini coil at 30-50 lpm
Pump through 2 7/8" string with 300 lpm
Jet to 2636 m (bridge plug HUD)



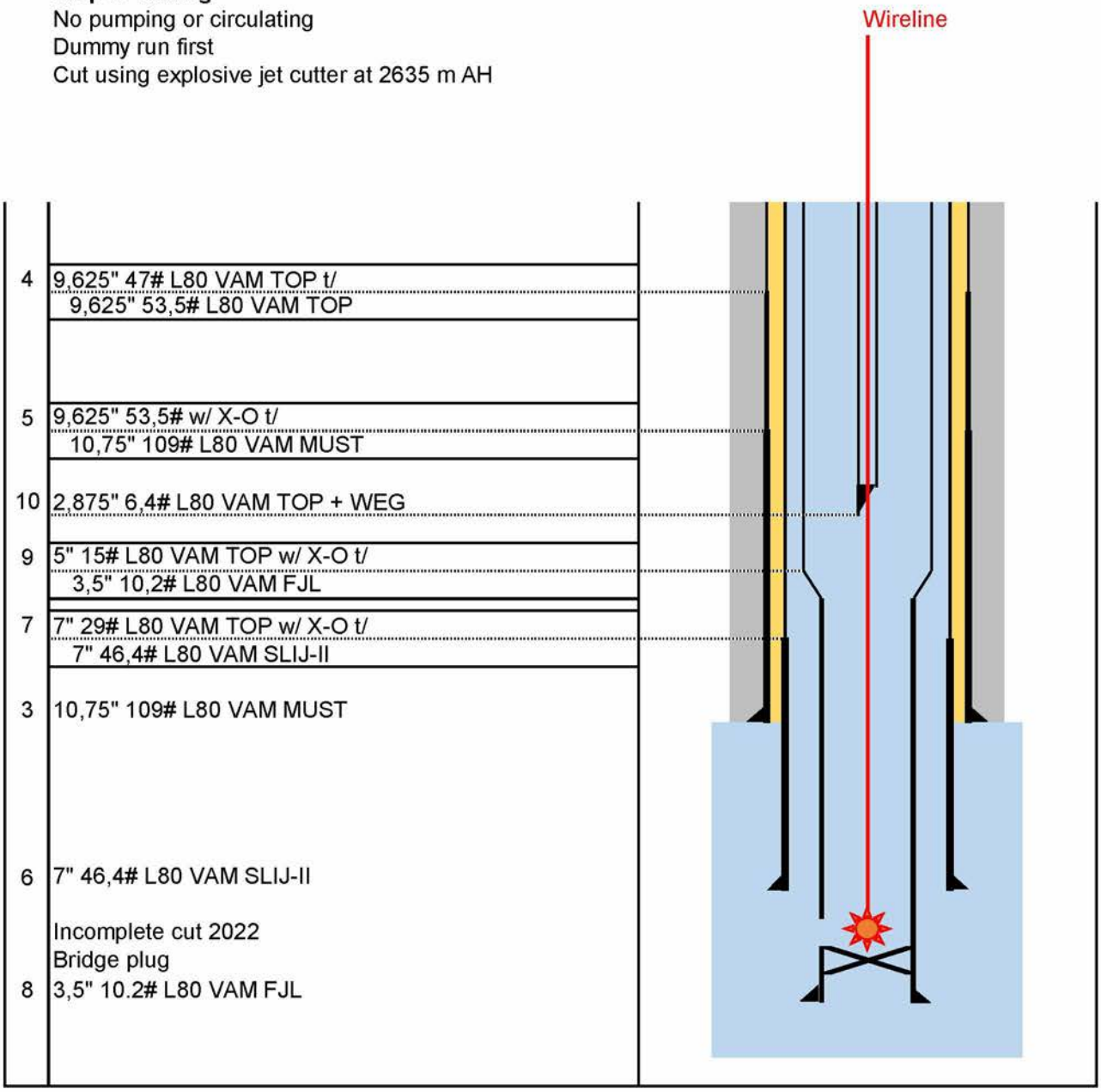
Step 1a: contingency: no connection after jetting
POOH mini coil into 2 7/8"
Pump through 2 7/8" x 5" annulus
Take returns through 5" x 2 7/8" annulus, do not choke
If no connection can be established, try jetting again
If still no connection can be established, try cutting
if HUD can be reached



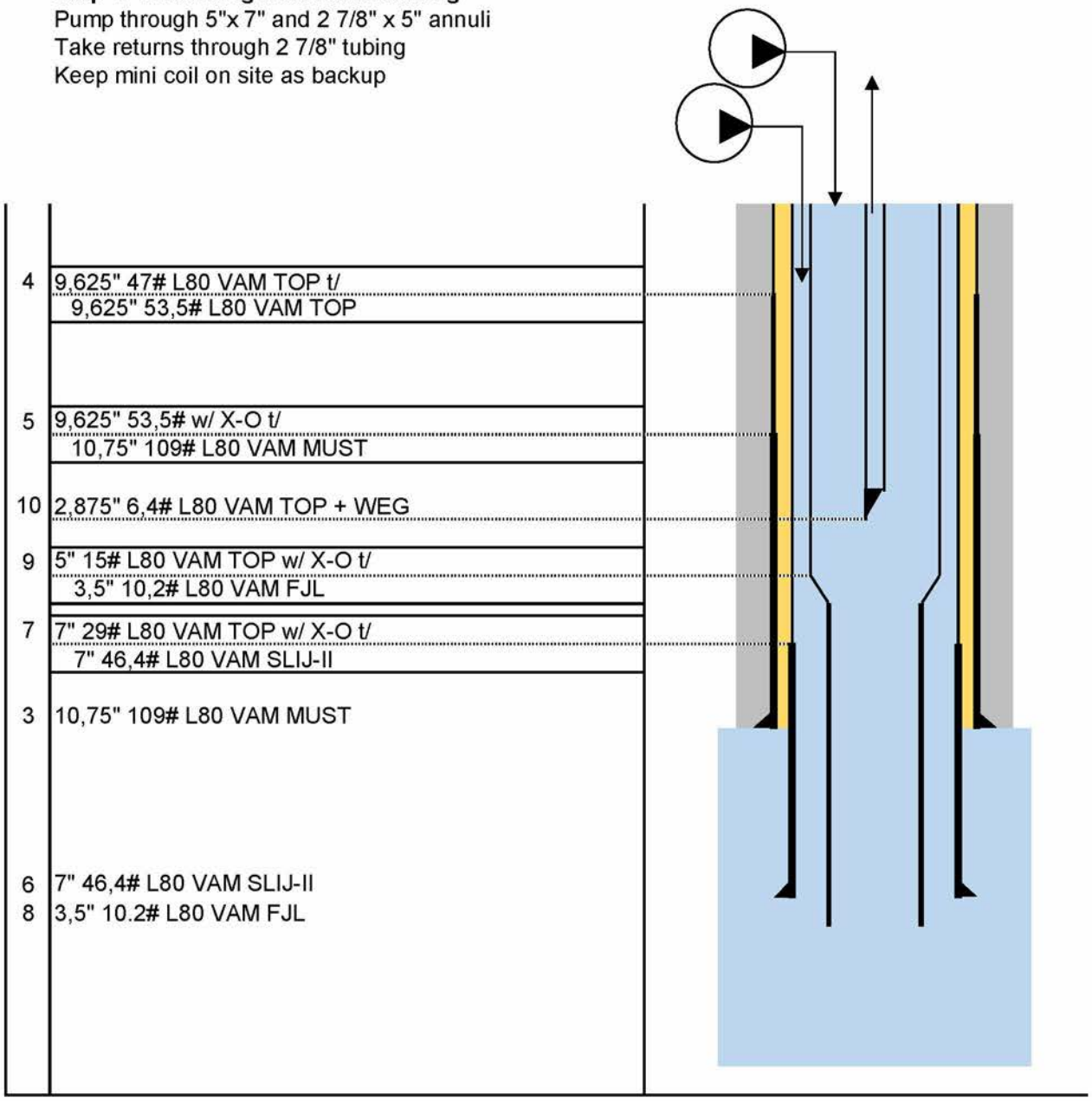
Step 2: circulating clean after connection
POOH mini coil into 2 7/8"
Pump through 2 7/8" x 5" annulus
Take returns through 5" x 7" annulus, do not choke
Go down to bridge plug HUD to confirm blockage gone
If returns are clean after complete bottoms up circulation, R/U wl



Step 3: cutting
No pumping or circulating
Dummy run first
Cut using explosive jet cutter at 2635 m AH



Step 4: circulating clean after cutting
Pump through 5"x 7" and 2 7/8" x 5" annuli
Take returns through 2 7/8" tubing
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) Bleed off 7" x 5", 2 7/8" x 5" and 2 7/8" annuli to 0 bar
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) M/U jetting toolstring and function test, see attachment 9.4.1
13) Function test weak point of connection jetting tool to mini coil
14) P/U mini coil lubricator and zero toolstring at reference point (GL)
15) Stab mini coil lubricator on BOP
16) Pressure test mini coil BOP to 335 bar (1.5 times expected WHP) for 10 minutes, as per contractor's procedure

6.2. Remove blockage at 2619 m

17) 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
18) Fill up coil with fresh water, use Inwatec pump to pressure up the water to 3 bar
19) Pressure test connector and coil to 500 bar for 15 minutes, as per contractor's procedure
20) Perform circulation test
21) Equalize pressure over master and swab valves
22) RIH toolstring on mini coil to 2618 m
   a. Choke on 2 7/8" x 5" annulus open, no pressure in 2 7/8" string and 2 7/8" x 5" annulus while RIH
   b. Running speed max. 20 m/min
   c. Perform pull test every 500 m
   d. Pump fresh water through mini coil at 30-50 lpm
   e. Exit 2 7/8" string at 2431 m, enter 3 ½" x 5" XO at 2454 m, both at 0 degrees inclination
23) Start jetting while running in to 2636 m
   a. Keep pressure in 2 7/8" x 5" annulus at 50 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

24) POOH toolstring to 2431 m AH, inside 2 7/8" tubing
   a. Running speed max. 20 m/min
   b. Keep pumping through coil with 30-50 lpm

25) Keep pumping fresh water through 2 7/8" x 5" annulus taking returns through 5" x 7" annulus, until returns are clean, bottoms up volume is approximately 33 m3

26) POOH toolstring to surface
   a. Running speed max. 20 m/min

27) Close master and swab valves
   a. Keep circulating through 2 7/8" x 5" and 5" x 7" annuli at minimum pump rate until wireline operations are about to start

28) Bleed off pressure from lubricator

29) P/U and L/D mini coil lubricator

30) Install pressure cap on mini coil BOP

31) R/D mini coil unit as per contractor's procedure

6.3. Cut 3 ½" tubing

32) Hold a PJSM with all involved
   a. Distribute work instructions
   b. Discuss operations, communications and responsibilities, discuss use of explosives and related safety procedures
   c. Ensure no pumping or circulating is done during wireline operations

33) R/U wireline unit

34) Function test wireline BOP

35) Remove pressure cap from mini coil BOP

36) Install wireline BOP on top of mini coil BOP

37) M/U toolstring with gauge cutter for dummy run, see attachment 9.4.2

38) P/U wireline lubricator and zero toolstring at reference point (GL)

39) Pressure test BOP to 335 bar (1.5 times expected WHP) for 10 minutes, as per contractor's procedure

40) Stab wireline lubricator on wireline BOP

41) Stop circulation over the well.

42) Equalize pressure over master and swab valves

43) RIH dummy run toolstring to 2636 m
   a. Running speed max. 60 m/min
   b. Perform pull test every 500 m
   c. Exit 2 7/8" string at 2431 m, enter 3 ½" x 5" XO at 2454 m, both at 0 degrees inclination

44) POOH dummy run toolstring
   a. Running speed max. 60 m/min

45) Close master and swab valves

46) Bleed off pressure from lubricator

47) P/U and L/D lubricator

48) M/U toolstring with explosive cutting device, see attachment 9.4.2
   a. Maintain radio silence

49) P/U wireline lubricator and zero toolstring at reference point (GL)

50) Pressure test wireline BOP to 335 bar (1.5 times expected WHP) for 10 minutes, as per contractor's procedure

51) Stab wireline lubricator on wireline BOP

52) Equalize pressure over master and swab valves
53) RIH toolstring to 2635 m
    a. Running speed max. 60 m/min
    b. Perform pull test every 500 m
    c. Exit 2 7/8" string at 2431 m, enter 3 ½" x 5" XO at 2454 m, both at 0 degrees inclination
54) Cut 3 ½" tubing at 2635 m
55) Check if cut was successful by tagging with wireline toolstring
    a. If possible verify with CCL and with tape placed on wire at surface
56) POOH toolstring
    a. Running speed max. 60 m/min
57) Close master and swab valves
58) Bleed off pressure from lubricator
59) P/U and L/D wireline lubricator, wireline BOP, mini coil BOP and PCE XO
60) R/D scaffolding
61) R/D wireline unit
62) Install new ring gasket
63) Install blind flange on wellhead, inflow test/pressure test with manifold pressure same

6.4. Circulate to clean out well

64) 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.
65) B/L all mini coil and wireline equipment and truck
66) 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 HUD of the bridge plug at 2636 m 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	Inwater	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 2636 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 as per Section 6.3

7.4. Explosive cutter not working/fully cutting

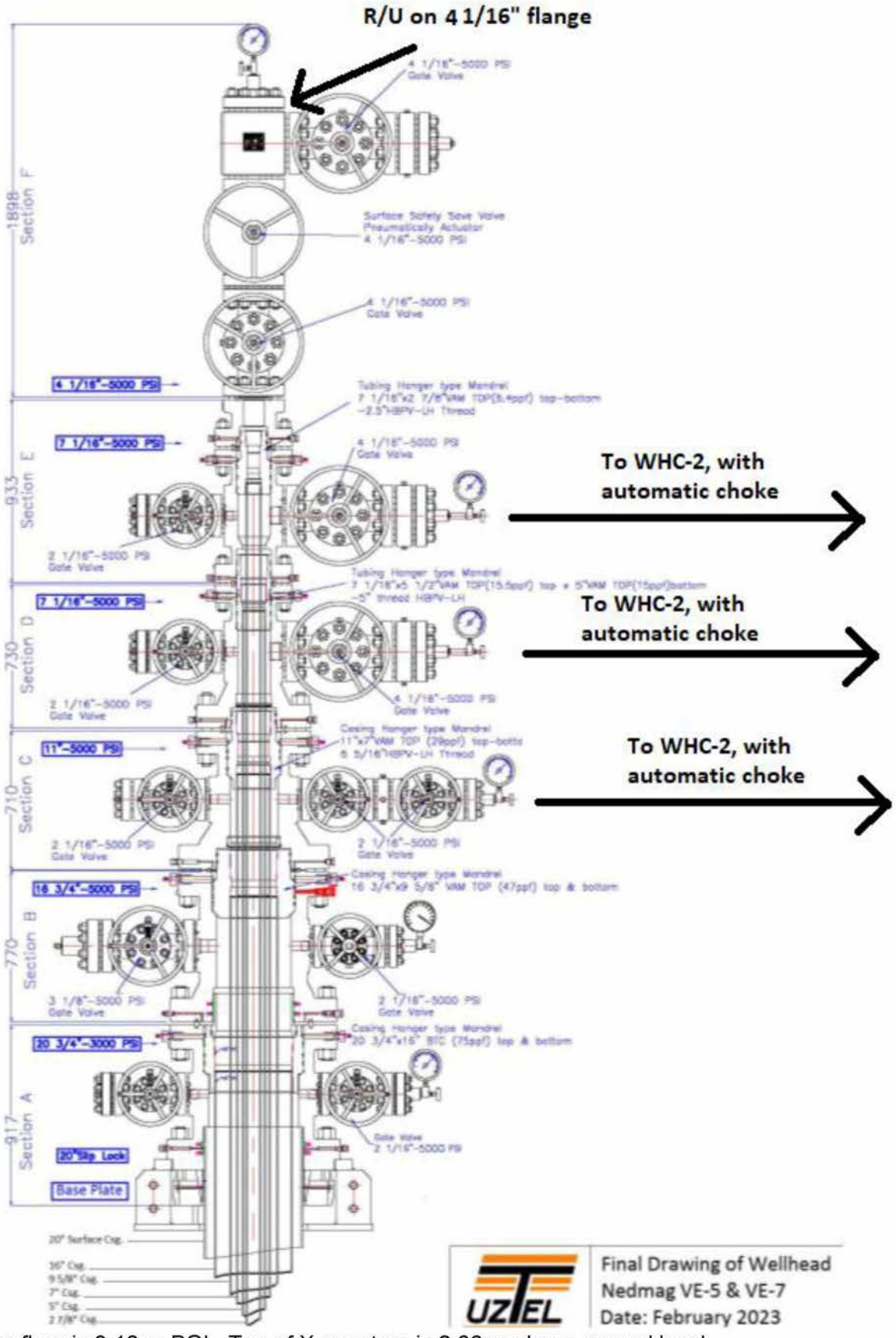
Explanation/Consequences	During the drilling of VE-5 an explosive jet cutter failed to completely cut through the 3 ½" tubing. If this happens again a new attempt must be made with backup explosives.		
Material required	Material	Supplier	Status
	Backup explosives	Inwatec	On site
Steps 1. POOH cutting tool 2. Install new explosives 3. RIH cutting tool and attempt new cut			

7.5. Explosive cutter or dummy run not reaching target depth

Explanation/Consequences	While RIH the explosive cutter or the gauge cutter before it, they may not reach the target depth of 2617 m AH. If this happens another cleanout run has to be done using mini coil.		
Material required	Material	Supplier	Status
	Mini coil unit	Inwatec	On site
Steps 1. POOH cutting tool/gauge cutter 2. R/D wireline unit as per steps 44-46 3. R/U mini coil and jet away any leftover salt as per Sections 6.1 and 6.2 4. R/U wireline and attempt the dummy run and cutting again as per Section 6.3			

8. Attachments

8.1. Wellhead VE-5



Cellar floor is 3,10 m BGL. Top of X-mas tree is 2,86 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

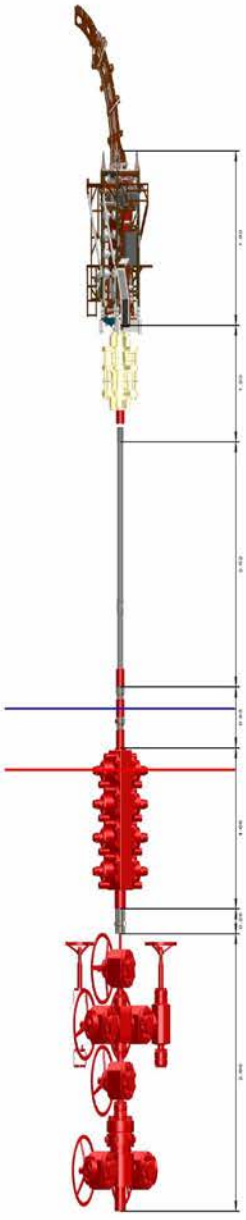
IDEX - Rigup Report

3/4" MCT Rig Up

Job Plan

Job Plan	Job Type	Customer
Nedmag VE-5	salt washing	Nedmag B.V.
Well Name	**Field**	
Veendam 5		

Rigup Description



Tool	Length [m]	Weight [lbs]	Distance To End [m]	ID [in]
1. 20K Injector Head 1	1.80	3174.66	10.93	0.000
2. Side Door Stripper	1.20	1642.44	9.13	0.000
3. 6-1/8" LW Lubricator 8ft	2.52	166.45	7.93	4.062
4. 4-1/16" QTS	0.63	117.95	5.41	4.062
5. 4-1/16" QUAD BOP	1.66	4806.08	4.78	4.060
6. X-over 7-1/16" 5K x 4-1/16" 10K	0.26	77.16	3.12	4.060
7. Wellhead	2.86	2.20	2.86	7.060

Free Lifting Height	Rigup Weight	Min ID
14.07 m	9986.94 lbs	4.060 in
Total Toolspace		
7.93 m		
Cutting Valve Height	**Cutting Valve Range**	**Cutting Valve Depth**
4.55 m	-	-
T. Space above Breakpoint #1	**T. Space below BP#1**	**Rigup weight above BP#1**
2.75 m	5.18 m	5101.50 lbs
Crane Lifting Capacity	**Lifting Maximum Height**	**Extra Weight**
132277.36 lbs	25.00 m	-

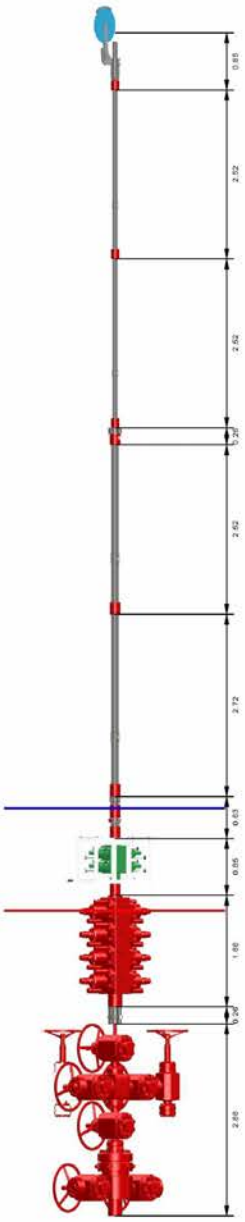
IDEX - Rigup Report

SL Rig up on Quad BOP

Job Plan

Job Plan	Job Type	Customer
Nedmag VE-5	Cutting	Nedmag B.V.
Well Name	**Field**	
Veendam 5		

Rigup Description

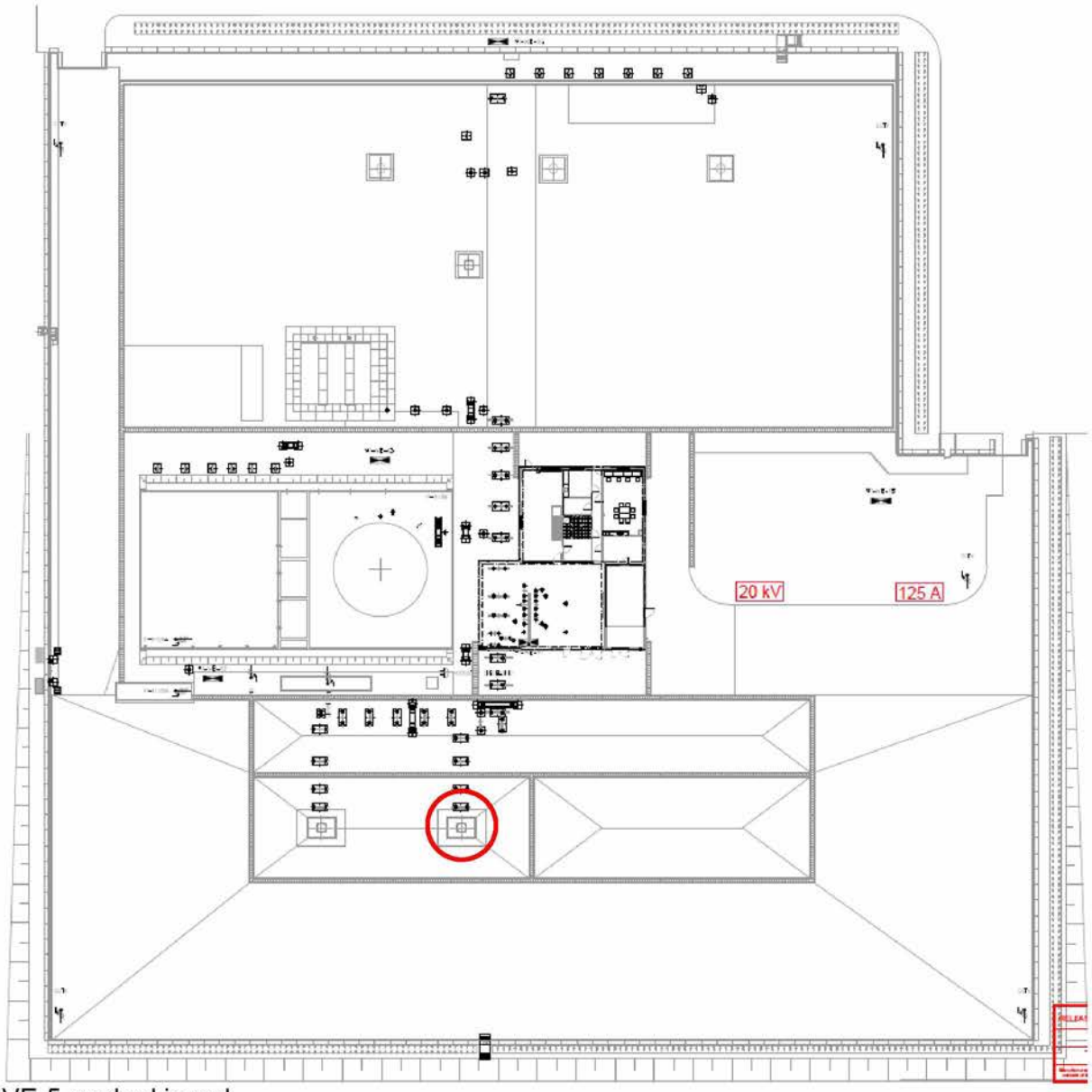


Tool	Length [m]	Weight [lbs]	Distance To End [m]	ID [in]
1. 4-3/4" Quick Load Stuffingbox	0.85	99.21	17.65	0.125
2. 4-3/4" LW Lubricator 8ft	2.52	92.59	16.80	3.000
3. 4-3/4" LW Lubricator 8ft	2.52	92.59	14.28	3.000
4. 5 1/8" Lub 0.3m 5 3/4" X 9" QU 10K X-over	0.26	2.20	11.76	3.000
5. 6-1/8" LW Lubricator 8ft	2.52	166.45	11.50	4.062
6. 6-1/8" LW Lubricator c/w Bleed Off Port	2.72	170.00	8.98	4.060
7. 4-1/16" QTS	0.63	117.95	6.26	4.062
8. 4-1/16" Elmar Dual Wireline BOP	0.85	1005.31	5.63	4.060
9. 4-1/16" QUAD BOP	1.66	4806.08	4.78	4.060
10. X-over 7-1/16" 5K x 4-1/16" 10K	0.26	70.00	3.12	4.060
11. Wellhead	2.86	2.20	2.86	7.060

Free Lifting Height	Rigup Weight	Min ID
7.35 m	6624.59 lbs	0.125 in
Total Toolspace		
17.65 m		
Cutting Valve Height	**Cutting Valve Range**	**Cutting Valve Depth**
4.55 m	-	-
T. Space above Breakpoint #1	**T. Space below BP#1**	**Rigup weight above BP#1**
11.57 m	6.08 m	741.00 lbs

Crane Lifting Capacity	Lifting Maximum Height	Extra Weight
132277.36 lbs	25.00 m	100.00 lbs

8.3. Location layout



VE-5 marked in red

8.4. Toolstring lists

8.4.1. Mini coil jetting tool

8.4.2. Wireline cutting tool

InWaTec Tools GmbH
Intra Tubing Services

BHA drawing Mini Coil HAG-GT-01P

Doc. Code	DRW-SLS-202
Owner:	5.1.2.e
rev. Date:	Freitag, 10. Juli 2020

Weakest Tensile
Coiled Tubing Connector
Measurements
to confirm by User prior RIH

Quotation: IWT-Q-10-1012024
Location: Nedmag Veendam-5
Service: Mini coil with Rotaiting Jeting Tool
BHA prep. Date: 16.01.2024

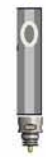
BHA	DESCRIPTION	OD (mm)	ID (mm)	Length (mm)	Weight (kg)	SERIAL#
						Serial numbers may change
	**3/4" CT** **Ext. Coiled Tubing Connector** Tensile Strenght 5K LBS Recommended Pull Test 1,5K LBS Connection 1" AM MT pin	43,00	19,00	305,00	3,8	ICTC 010
	1-11/16" **Dual Flapper Backpressure valve** Tensile Strenght 40K LBS Connection 1" AM MT	43,00	19	430,00	3,9	IBPV 001
	1-11/16" **Hydraulic disconnect** Tensile Strenght 36K LBS Ball size 1/2" Connection 1" AM MT	43,00	6	380,00	4,4	IHDI 00[illegible]
	1-11/16" **Dual circulation sub** Tensile Strenght 34K LBS Ball size 2/8" Connection 1" AM MT	43,00	4	285,00	3,5	IDCS 001
	X-over 1" AM MT Box x 1,5" AM MT Pin Tensile Strenght 65K LBS	54,00	19	200,00	1,1	IXOS 001
	2.2" **Down Hole Filter** Tensile Strenght 115K LBS	56,00	N/A	775,00	8,6	IIFTR 001
	1,75" **Rotaiting Jetting Tool** Tensile Strenght 115K LBS Jet Nozzle 3mm 2x 75° and 1x 15°	44,50	N/A	390,00	6,3	IRTR 001

Drawing made by:	Dienstag, 16. Januar 2024	Max. BHA OD (mm)	Min. BHA ID (mm)	Total BHA lenght (mm)	Total Weight (kg)	
5.1.2.e		56,00	4,00	2765,00	31,60	

TOOLSTRING SCHEMATIC
2.188" OD Jet Cutter

ID OILTOOLS
Well Intervention Technology

Company:	Inwatec	Created by:	512e	Max. Dev.	68 Deg
Well:	Nedmag VE-5	Location:	Veendam	Min. ID.	2.441"
Contact:	512e	Field:	VE-5	Ann. Fluid:	
Date:	16/01/2024	Rig:	N/A	Revision:	1

NR.	Tool	Description	OD [in]	Weight	Length [m]	Connection	
						Top	Btm.
1		CABLE HEAD e-Slickline	1.375	1.2	0.30		1-3/16" GO-A Pin
2		4x 5ft. *37lbs EACH* *148lbs Total*	1.688	148	4.56	1-3/16" GO-A Box	1-3/16" GO-A Pin
3		Centralizer - Feedthrough	1.688	6	0.92	1-3/16" GO-A Box	1-3/16" GO-A Pin
4		Shooting CCL	2.125	8	0.36	1-3/16" GO-A Box	1-3/16" GO-A Box
5		Crossover 1-3/16" GO-A PIN X PIN	1.438	1	0.10	1-3/16" GO-A Pin	1-3/16" GO-A Pin
6		*SAT-B Shock Absorber*	1.688	14	0.54	1-3/16" GO-A Box	1-3/16" GO-A Pin
7		Centralizer - Feedthrough	1.688	6	0.92	1-3/16" GO-A Box	1-3/16" GO-A Pin
8		Low-Pressure Button Sub	1.500	2	0.07	1-3/16" GO-A Box	
9		Wired Aluminum Shock Assy	1.500	1	0.36		
10		2.188" Jet Cutter *Tool Weight: 6lbs*	2.188	6	0.22	1-3/16" 12UN Box	N/A
			Total BHA length (m)		**8.35**		
			Weight (lbs)		**193.20**		

8.5. Data Sheets

8.5.1. Jetting tool

8.5.2. Cutting tool

Introduction

The high flow Rota Jetting Tool is used to efficiently wash sand and debris. Fluid is pumped through rotating nozzle that directs the flow to the bottom and sides of the hole.

Description

The Rota Sweep Tool has a high flow jetting-head with jet nozzles running on a pair of roller bearings, able to deliver high speed rotation under pressurized circumstances. The rotating nozzles though the jet blades will by the thrust of fluid through the tool efficiently attack and loosen any built-upscale, sand or other debris on the tubing of the wellbore.

The effectiveness and capabilities of the tool can create therefore access to the lower wellbore depth which could not entered before, especially in deviated completions. Other applications for which the tool is extremely effective is the usage of inhibitors or acid's to impregnate scales or other deposits. The tool with its close house bearings section (isolated) can also be used with other fluids such as: brines, waters, corrosive and alkaline fluids such as neutralizing products.

Furthermore, the Rota Wash Tool is capable of running at operating pressure generally used during well intervention and Work-over operation such as CT & HWO. This performance is based on the material specification where the yield strength will be sufficient to also withstand any spudding techniques in case of sand washing during wellbore Clean-outs.

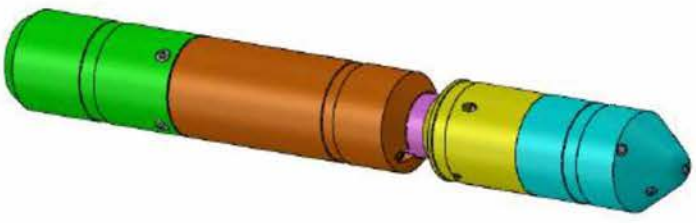
Operations

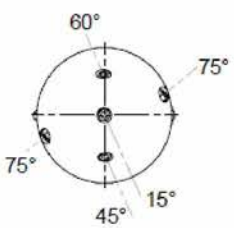
This Rota Sweep Tool operates by pumping fluid through the tool. The two 75 deg. Phasing Nozzles are machined outside center and creating a left hand torque. The rounds per minute are controlled by the Rotor/Oil/Temperature (Hydraulic Brake). The average RPM are 10-50. Maximum differential pressure is 350bar

This down hole Filter is run direct above the Rota Sweep Tool and prevents the Nozzles of the Rota Sweep Tool from blocking. All pieces bigger than 2mm size will be separated and collected inside of the Filter Screen. It is important that the pump operator is watching his pump pressure closely. Pressure peaks are the first sign of a blocked Filter. Maximum differential pressure is 350bar.

Operational procedures largely dependent on specific well and equipment parameters. A generic guide would be to design the operation and tool set-up such that a high velocity on each Nozzle is granted. Sufficient velocity is 100-200m/s.

Normal operating pump rate is in the range of 100 - 300 l/min. Higher rates may be used intermittently. Maximum differential Pressure of both tools are 350bar.





Specifications

Tool OD		Length		Standard Connection
In.	mm	In.	mm	
1.69	42.9	14.69	373.1	1" AM MT Box X Pin
2.5	57.2	16.21	411.7	1-1/2" AM MT Box X Pin

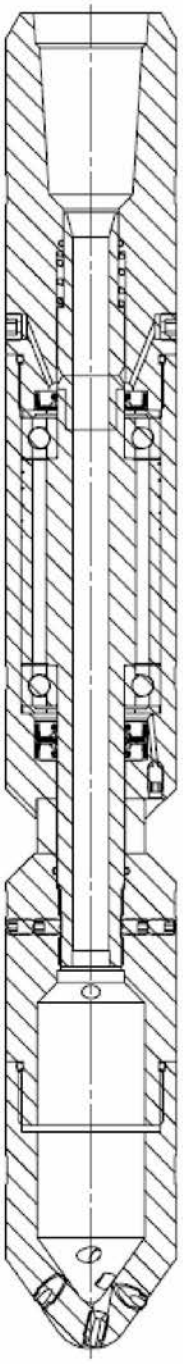
1-11/16" Rotating Jetting Tool

Equipment Dimensions			
Tool OD	Ø43mm	**Effective Length**	385mm
Tool ID	N/A (Flow Path only)	**Weight**	3kg
Connection	1" AMT Box		

Yield Specifications	
Tensile Yield	20000 lbs
Torsional Yield	250ft-lbs

Make-up Torque Specifications	
Top Sub / Stator	200ft-lbs
Noz Carrier / Adapter	250ft-lbs
Adapter / Rotor	Set Screw

Operational Specifications	
Number of Nozzles	Up to 7
Casing Size	Up to 9-5/8"
Operating Pressure	350bar



2,5" Rotating Wash Tool

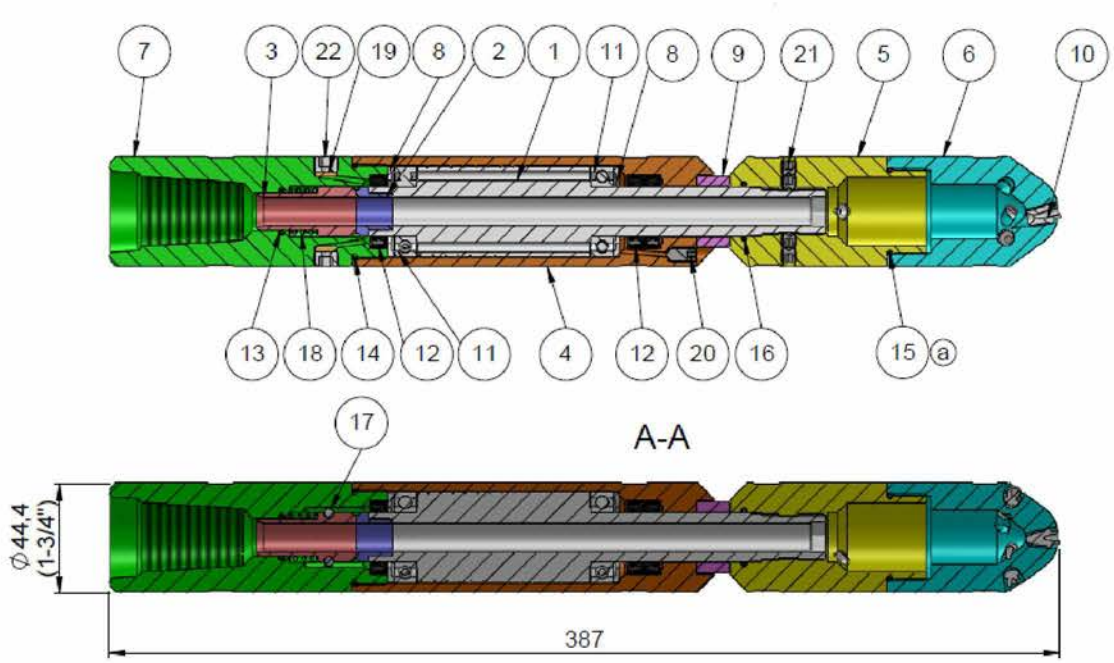
Equipment Dimensions			
Tool OD	Ø63,5mm	**Effective Length**	491mm
Tool ID	N/A (Flow Path only)	**Weight**	8,05kg
Connection	1,5" AMT Box		

Yield Specifications	
Tensile Yield	30000 lbs
Torsional Yield	350ft-lbs

Make-up Torque Specifications	
Top Sub / Stator	350ft-lbs
Noz Carrier / Adapter	350ft-lbs
Adapter / Rotor	Set Screw

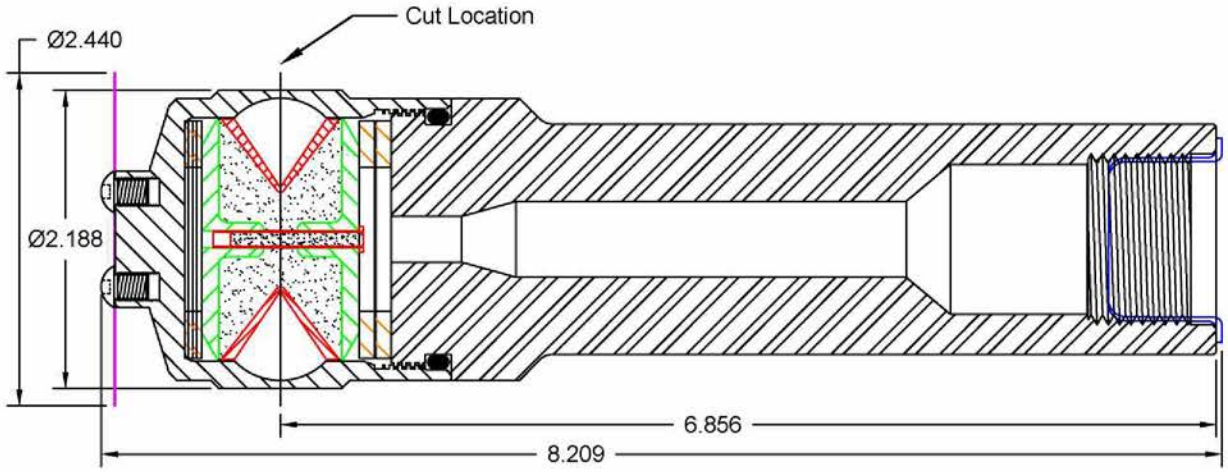
Operational Specifications	
Number of Nozzles	Up to 7
Casing Size	Up to 9-5/8"
Operating Pressure	350bar

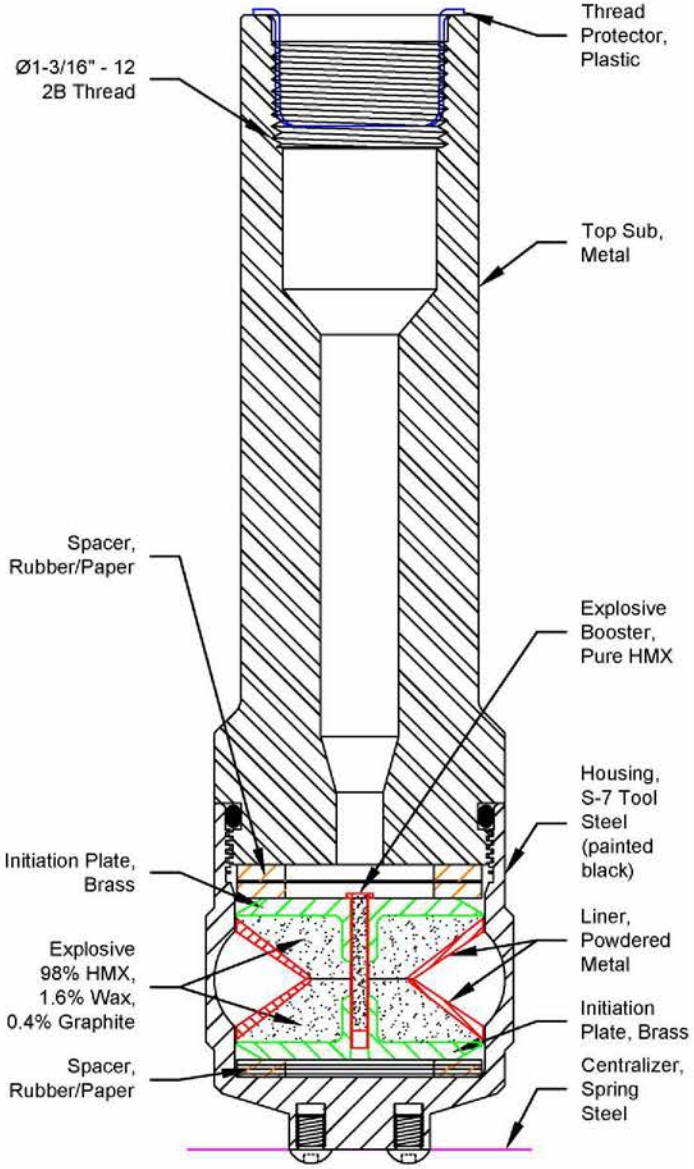
InWaTec Rotating Jetting Tool IWT-13015



POS-NR.	MENGE	BENENNUNG	ARTIKELNUMMER	Werkstoff	GEWICHT
1	1	IWT 13015-1_Rotor_Rotasweep Tool 1-3-4 Zoll OD	IWT 13015-1	1.7225 (42CrMo4) AISI 4140	0.63 kg
2	1	IWT 13015-2_Bottom hp Seal_Rotasweep Tool 1-3-4 Zoll OD	IWT 13015-2	GT30	0.01 kg
3	1	IWT 13015-3_Top hp Seal_Rotasweep Tool 1-3-4 Zoll OD	IWT 13015-3	GT30	0.04 kg
4	1	IWT 13015-4_Stator_Rotasweep Tool 1-3-4 Zoll OD	IWT 13015-4	1.7225 (42CrMo4) AISI 4140	0.62 kg
5	1	IWT 13015-5_Adapter_Rotasweep Tool 1-3-4 Zoll OD	IWT 13015-5	1.7225 (42CrMo4) AISI 4140	0.55 kg
6	1	IWT 13015-6_Nozzle Carrier_Rotasweep Tool 1-3-4 Zoll OD	IWT 13015-6	1.7225 (42CrMo4) AISI 4140	0.43 kg
7	1	IWT 13015-7_Top Sub_Rotasweep Tool 1-3-4 Zoll OD	IWT 13015-7	1.7225 (42CrMo4) AISI 4140	0.82 kg
8	2	IWT 13015-8_Bottom Spacer_Rotasweep Tool 1-3-4 Zoll OD	IWT 13015-8	1.7225 (42CrMo4) AISI 4140	8.18 g
9	1	IWT13015-9_Anti Buckling Ring_Rotasweep Tool 1-3-4 Zoll OD	IWT 13015-9	1.7225 (42CrMo4) AISI 4140	0.03 kg
10	7	Nozzle M8 ID3	M8 ID3		3.4 g
11	2	Rillenkugellager DIN 625-1_D37-d20-B9	61904	Stahl	0.04 kg
12	3	Wellendichtring DIN 3760-A_d20-D30-B7	DIN 3760-A	VITON	2.8 g
13	1	O-Ring_BS016_15.6x1.78	BS016	VITON	0.3 g
14	1	O-Ring_BS028_34.65x1.78	BS028	VITON	0.6 g
15	1	O-Ring_BS026_31.47x1.78	BS026	VITON	0.5 g
16	1	O-Ring_BS019_20.35x1.78	BS019	VITON	0.3 g
17	2	Kugel D4	Ø4 mm	1.7225 (42CrMo4) AISI 4140	0.2 g
18	1	Drukfeder VD-207JV_1,5x18,5x25,6	VD-207JV	VD-207JV	3 g
19	4	Sinter-Filterscheibe D9x2			
20	1	Gewindestift DIN 914 - M6 x 12	DIN 914-8.8	Stahl	2.1 g
21	4	Gewindestift DIN 916 - M6 x 6	DIN 916-8.8	Stahl	0.9g
22	4	Gewindestift DIN 913 M10x1 mit Nacharbeit	DIN 913-8.8	Stahl	2.7g
23	1	IWT 13013-5_Assembly Tool_Rotasweep Tool 1-11-16 Zoll OD T	IWT 13013-5	4	2.18g

WTBI Part #	2188T101 (RED)
Description	Shaped charge used in oil and gas wells to sever tubing
Gross Weight	5.55 lbs / 2.52 kgs
Net Weight	4.30 lbs / 1.95 kgs
Max NEC	36 grams HMX
Packaging Specifications	4.375" x 4.375" x 13.5" Fiberboard Combination Packaging
Hazard Class	1.4D
UN ID No	0440
US DOT EX No	2000090138
EC Cert No	09.0016
ECCN No	1C992
HTS No	3602.00.0060
Pressure Rating	22,000 psi
Temperature Rating	400°F
Application	Tubing 3.125" OD x 0.435" wall Drill Pipe 3.5" OD x 0.375" wall
Shot centralized with two bowspring centralizers or equivalent. For more information please visit our website at wtbell.com.	





W. T. Bell International
an explosives specialty group

Scale:	Original Draw Date: 10/5/18	Revision Date: 10/18/19
UNLESS OTHERWISE SPECIFIED		
LINEAR TOLERANCE: .XX ±.02 / .XXX ±.005	Drawn By: TY	App. By: JR
ANGULAR TOLERANCE: ±1/2°		

Nomenclature: 2.188" RED Premium Tubing Cutter Regulatory / Technical Data

Drawing No. DS-2188T101RED

Rev B

8.6. Tally VE-5

8.6.1. 2 7/8" casing

2 7/8" casing tally

Rig : Deutag T-700 | Well : VE-5 | DSV: 5.1.2.e | Date: 18/12/2023

Depth reference :	HOP	TD :	2.711,57 m	Buoyancy :	0,83
Rotary-GL :	9,32 m	Rat hole :	270,87 m	Block weight :	25 metric Tons
Rotary-HOP :	8,49 m	Shoe depth :	2440,70 m	PUW :	metric Tons
		Mud weight :	1,31 sg	SOW :	metric Tons

Casing or DP data (DP used as running string)

Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Optimum	Max	MU Loss (m)
1	2-7/8"	2,441	L80	6,40	3,02	1,17	VAM TOP	1.870	1.850	2.030	0,064
2											
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.)
					y		2.440,70	25			
1	20	3	12,67	12,67	y	12,67	2428,03	25	0,0	VAM TOP	including wireline entry guide (15 cm)
2	26	2	12,49	12,49	y	25,16	2415,54	25	0,0	VAM TOP	
3	27	2	12,31	12,31	y	37,47	2403,23	25	0,0	VAM TOP	
4	21	2	12,50	12,50	y	49,97	2390,73	25	0,0	VAM TOP	
5	22	2	12,30	12,30	y	62,28	2378,42	25	0,0	VAM TOP	
6	23	2	12,29	12,29	y	74,57	2366,13	25	0,0	VAM TOP	
7	24	2	12,51	12,51	y	87,07	2353,63	25	0,0	VAM TOP	
8	25	2	12,29	12,29	y	99,36	2341,34	25	0,0	VAM TOP	
9	12	2	12,49	12,49	y	111,85	2328,84	25	0,0	VAM TOP	
10	13	2	12,30	12,30	y	124,15	2316,55	25	0,0	VAM TOP	
11	14	2	12,47	12,47	y	136,63	2304,08	25	0,0	VAM TOP	
12	15	2	12,28	12,28	y	148,90	2291,80	25	0,0	VAM TOP	
13	16	2	12,24	12,24	y	161,15	2279,55	25	0,0	VAM TOP	
14	17	2	12,46	12,46	y	173,62	2267,08	25	0,0	VAM TOP	
15	18	2	12,46	12,46	y	186,09	2254,62	25	0,0	VAM TOP	
16	19	1	12,50	12,44	y	198,52	2242,18	25	0,0	VAM TOP	
17	1	1	12,49	12,43	y	210,95	2229,75	25	0,0	VAM TOP	
18	2	1	12,29	12,23	y	223,18	2217,52	25	0,0	VAM TOP	
19	3	1	12,49	12,42	y	235,60	2205,10	25	0,1	VAM TOP	
20	4	1	12,50	12,43	y	248,03	2192,67	25	0,1	VAM TOP	
21	5	1	12,21	12,14	y	260,18	2180,52	26	0,1	VAM TOP	
22	6	1	12,49	12,42	y	272,60	2168,10	26	0,1	VAM TOP	
23	7	1	12,27	12,20	y	284,80	2155,90	26	0,1	VAM TOP	
24	8	1	12,51	12,44	y	297,24	2143,46	26	0,1	VAM TOP	
25	9	1	12,29	12,23	y	309,47	2131,23	26	0,1	VAM TOP	
26	10	1	12,28	12,22	y	321,69	2119,01	26	0,2	VAM TOP	
27	11	1	12,50	12,44	y	334,13	2106,57	26	0,2	VAM TOP	Pipe bin 1st row
28	38	1	12,29	12,23	y	346,35	2094,35	26	0,2	VAM TOP	
29	39	1	12,47	12,41	y	358,76	2081,94	26	0,2	VAM TOP	
30	40	1	12,43	12,37	y	371,13	2069,57	26	0,2	VAM TOP	
31	41	1	12,29	12,23	y	383,35	2057,35	27	0,2	VAM TOP	
32	42	1	12,30	12,24	y	395,59	2045,11	27	0,2	VAM TOP	
33	43	1	12,48	12,42	y	408,01	2032,69	27	0,3	VAM TOP	
34	54	1	12,28	12,19	y	420,20	2020,50	27	0,3	VAM TOP	
35	28	1	12,51	12,45	y	432,65	2008,05	27	0,3	VAM TOP	
36	29	1	12,52	12,45	y	445,10	1995,60	27	0,3	VAM TOP	
37	30	1	12,30	12,23	y	457,33	1983,37	27	0,3	VAM TOP	
38	31	1	12,43	12,36	y	469,70	1971,00	27	0,3	VAM TOP	
39	32	1	12,47	12,41	y	482,11	1958,59	27	0,3	VAM TOP	
40	33	1	12,25	12,21	y	494,32	1946,38	27	0,4	VAM TOP	
41	34	1	12,49	12,43	y	506,74	1933,95	28	0,4	VAM TOP	
42	35	1	12,30	12,24	y	518,98	1921,72	28	0,4	VAM TOP	
43	36	1	12,48	12,41	y	531,39	1909,31	28	0,4	VAM TOP	
44	37	1	12,48	12,42	y	543,81	1896,89	28	0,4	VAM TOP	
45	56	1	12,50	12,44	y	556,25	1884,45	28	0,4	VAM TOP	
46	55	1	12,26	12,22	y	568,47	1872,23	28	0,4	VAM TOP	
47	45	1	12,50	12,44	y	580,90	1859,80	28	0,5	VAM TOP	
48	46	1	12,48	12,42	y	593,32	1847,38	28	0,5	VAM TOP	
49	44	1	11,84	11,78	y	605,10	1835,60	28	0,5	VAM TOP	
50	47	1	12,47	12,41	y	617,51	1823,19	28	0,5	VAM TOP	
51	48	1	12,48	12,42	y	629,93	1810,77	29	0,5	VAM TOP	
52	49	1	12,49	12,42	y	642,35	1798,35	29	0,5	VAM TOP	
53	50	1	12,48	12,42	y	654,77	1785,93	29	0,5	VAM TOP	
54	51	1	12,30	12,23	y	667,00	1773,70	29	0,6	VAM TOP	
55	52	1	12,26	12,20	y	679,20	1761,50	29	0,6	VAM TOP	
56	53	1	12,30	12,23	y	691,43	1749,27	29	0,6	VAM TOP	
57	62	1	12,04	11,98	y	703,41	1737,29	29	0,6	VAM TOP	
58	63	1	12,36	12,29	y	715,70	1725,00	29	0,6	VAM TOP	
59	64	1	12,39	12,32	y	728,03	1712,67	29	0,6	VAM TOP	
60	65	1	12,51	12,45	n	740,48	1700,22	29	0,6	VAM TOP	Rejected
61	66	1	12,21	12,14	y	752,62	1688,08	30	0,7	VAM TOP	
62	67	1	12,50	12,44	y	765,06	1675,64	30	0,7	VAM TOP	
63	68	1	12,27	12,21	y	777,27	1663,43	30	0,7	VAM TOP	
64	78	1	12,36	12,29	y	789,56	1651,14	30	0,7	VAM TOP	
65	79	1	12,45	12,38	y	801,94	1638,76	30	0,7	VAM TOP	
66	80	1	12,46	12,39	y	814,33	1626,37	30	0,7	VAM TOP	
67	81	1	12,29	12,23	y	826,56	1614,14	30	0,7	VAM TOP	
68	57	1	11,79	11,73	y	838,29	1602,41	30	0,8	VAM TOP	

VE-5 2.875 Dilution string_FINAL.xlsx page 1 of 3 11:55 18/12/2023

2 7/8" casing tally

Rig : Deutag T-700
DSV: [redacted]
Well : VE-5
Date: 18/12/2023

Depth reference :	HOP	TD :	2.711,57	m	Buoyancy :	0,85	
Rotary-GL :	9,32 m	Rat hole :	270,87	m	Block weight :	25	metric Tons
Rotary-HOP :	8,49 m	Shoe depth :	2440,70	m	PUW :		metric Tons
		Mud weight :	1,31	sg	SOW :		metric Tons

Casing or DP data (DP used as running string)

Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Optimum	Max	MU Loss (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											
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.)
58	58	1	12,31	12,24	y	838,08	2602,62	30	0,8	VAM TOP	
59	59	1	12,28	12,19	y	850,27	1500,43	30	0,8	VAM TOP	
60	60	1	12,30	12,04	y	862,51	1575,39	30	0,8	VAM TOP	
61	61	1	12,18	12,11	y	874,42	1568,28	31	0,8	VAM TOP	
62	62	1	12,50	12,44	y	886,86	1553,84	31	0,8	VAM TOP	
63	63	1	12,52	12,45	y	899,31	1541,39	31	0,8	VAM TOP	
64	64	1	12,51	12,44	y	911,76	1528,94	31	0,9	VAM TOP	
65	65	1	12,49	12,43	y	924,18	1516,52	31	0,9	VAM TOP	
66	66	1	12,20	12,14	y	936,32	1504,38	31	0,9	VAM TOP	
67	67	1	12,50	12,44	y	948,76	1491,94	31	0,9	VAM TOP	
68	68	1	12,41	12,34	y	961,11	1479,59	31	0,9	VAM TOP	
69	69	1	12,49	12,43	y	973,53	1467,17	31	0,9	VAM TOP	
70	70	1	12,36	12,29	y	985,83	1454,87	31	1,0	VAM TOP	
71	71	1	12,36	12,29	y	998,12	1442,58	32	1,0	VAM TOP	
72	72	1	12,19	12,13	y	1010,25	1430,45	32	1,0	VAM TOP	
73	73	1	12,26	12,20	y	1022,45	1418,25	32	1,0	VAM TOP	
74	74	1	12,21	12,14	y	1034,59	1406,11	32	1,0	VAM TOP	
75	75	1	12,39	12,33	y	1046,92	1393,78	32	1,0	VAM TOP	
76	76	1	12,51	12,45	y	1059,36	1381,34	32	1,0	VAM TOP	
77	77	1	12,53	12,46	y	1071,83	1368,87	32	1,1	VAM TOP	
78	78	1	12,06	11,99	y	1083,80	1356,88	32	1,1	VAM TOP	
79	79	1	12,53	12,46	y	1096,26	1344,42	32	1,1	VAM TOP	
80	80	1	12,30	12,24	y	1108,52	1332,18	32	1,1	VAM TOP	
81	81	1	12,36	12,30	y	1120,81	1319,89	33	1,1	VAM TOP	
82	82	1	12,26	12,20	y	1133,01	1307,69	33	1,1	VAM TOP	
83	83	1	12,38	12,31	y	1145,32	1295,38	33	1,1	VAM TOP	
84	84	1	12,17	12,11	y	1157,43	1283,27	33	1,2	VAM TOP	
85	85	1	12,39	12,33	y	1169,76	1270,94	33	1,2	VAM TOP	
86	86	1	12,39	12,32	y	1182,08	1258,62	33	1,2	VAM TOP	
87	87	1	12,28	12,22	y	1194,30	1246,40	33	1,2	VAM TOP	
88	88	1	12,48	12,42	y	1206,72	1233,98	33	1,2	VAM TOP	
89	89	1	12,50	12,43	y	1219,15	1221,55	33	1,2	VAM TOP	
90	90	1	12,48	12,42	y	1231,57	1209,13	33	1,2	VAM TOP	
91	91	1	12,34	12,27	y	1243,84	1196,86	33	1,3	VAM TOP	
92	92	1	12,46	12,39	y	1256,23	1184,47	34	1,3	VAM TOP	
93	93	1	12,50	12,43	y	1268,66	1172,04	34	1,3	VAM TOP	
94	94	1	12,54	12,47	y	1281,13	1159,57	34	1,3	VAM TOP	
95	95	1	12,44	12,38	y	1293,51	1147,19	34	1,3	VAM TOP	
96	96	1	12,48	12,42	y	1305,93	1134,77	34	1,3	VAM TOP	
97	97	1	12,37	12,30	y	1318,23	1122,47	34	1,3	VAM TOP	
98	98	1	12,50	12,43	y	1330,66	1110,04	34	1,4	VAM TOP	
99	99	1	12,29	12,23	y	1342,89	1097,81	34	1,4	VAM TOP	
100	100	1	12,31	12,24	y	1355,13	1085,57	34	1,4	VAM TOP	
101	101	1	12,41	12,35	y	1367,48	1073,22	34	1,4	VAM TOP	
102	102	1	12,38	12,32	y	1379,80	1060,90	35	1,4	VAM TOP	
103	103	1	12,44	12,38	y	1392,18	1048,52	35	1,4	VAM TOP	
104	123	1	12,45	12,38	y	1404,56	1036,14	35	1,4	VAM TOP	
105	121	1	12,44	12,37	y	1416,93	1023,77	35	1,5	VAM TOP	
106	120	1	12,44	12,37	y	1429,31	1011,39	35	1,5	VAM TOP	Pipe bin 2nd row
107	124	1	12,36	12,30	y	1441,80	999,10	35	1,5	VAM TOP	
108	125	1	12,30	12,24	y	1453,84	986,86	35	1,5	VAM TOP	
109	126	1	12,29	12,22	y	1466,06	974,84	35	1,5	VAM TOP	
110	122	1	12,44	12,38	y	1478,44	962,76	35	1,5	VAM TOP	
111	127	1	12,51	12,44	y	1490,88	949,82	35	1,5	VAM TOP	
112	116	1	12,45	12,39	y	1503,27	937,43	36	1,6	VAM TOP	
113	117	1	12,52	12,46	y	1515,73	924,97	36	1,6	VAM TOP	
114	118	1	12,51	12,45	y	1528,18	912,52	36	1,6	VAM TOP	
115	119	1	12,50	12,43	y	1540,61	900,09	36	1,6	VAM TOP	Pipe bin 3nd row
116	128	1	12,48	12,42	y	1553,02	887,68	36	1,6	VAM TOP	
117	129	1	12,29	12,22	y	1565,25	875,45	36	1,6	VAM TOP	
118	130	1	12,51	12,45	y	1577,69	863,01	36	1,6	VAM TOP	
119	133	1	12,23	12,16	y	1589,86	850,84	36	1,7	VAM TOP	
120	135	1	12,45	12,38	y	1602,24	838,46	36	1,7	VAM TOP	
121	134	1	12,48	12,42	y	1614,66	826,04	36	1,7	VAM TOP	
122	131	1	12,45	12,39	y	1627,04	813,66	37	1,7	VAM TOP	
123	132	1	12,47	12,41	y	1639,45	801,25	37	1,7	VAM TOP	
124	115	1	12,43	12,37	y	1651,82	788,88	37	1,7	VAM TOP	
125	140	1	12,45	12,38	y	1664,20	776,50	37	1,7	VAM TOP	
126	141	1	12,45	12,39	y	1676,59	764,11	37	1,8	VAM TOP	
127	142	1	12,44	12,38	y	1688,97	751,73	37	1,8	VAM TOP	

VE-5 2.875 Dilution string_FINAL.xlsx page 2 of 3 11:55 18/12/2023

2 7/8" casing tally

Rig : Deutag T-700 | Well : VE-5 | DSV: [illegible] | Date: 18/12/2023

Depth reference :	HOP	TD :	2.711,57	m	Buoyancy :	0,85	
Rotary-GL :	9,32 m	Rat hole :	270,87	m	Block weight :	25	metric Tons
Rotary-HOP :	8,49 m	Shoe depth :	2440,70	m	PUW :		metric Tons
		Mud weight :	1,31	sg	SOW :		metric Tons

Casing or DP data (DP used as running string)

Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Optimum	Max	MU Loss (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											
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.)
139	143	1	12,55	12,49	y	1701,46	739,24	37	1,8	VAM TOP	
140	138	1	12,39	12,32	y	1713,78	726,92	37	1,8	VAM TOP	
141	137	1	12,51	12,44	y	1726,23	714,47	37	1,8	VAM TOP	
142	136	1	12,52	12,45	y	1738,68	702,02	37	1,8	VAM TOP	
143	139	1	12,45	12,39	y	1751,07	689,63	38	1,8	VAM TOP	
144	146	1	12,44	12,37	y	1763,44	677,26	38	1,9	VAM TOP	
145	149	1	12,45	12,38	y	1775,82	664,88	38	1,9	VAM TOP	
146	150	1	12,54	12,47	y	1788,30	652,40	38	1,9	VAM TOP	
147	151	1	12,54	12,47	y	1800,77	639,93	38	1,9	VAM TOP	
148	152	1	12,54	12,48	y	1813,25	627,45	38	1,9	VAM TOP	
149	153	1	12,54	12,47	y	1825,72	614,98	38	1,9	VAM TOP	
150	154	1	12,44	12,37	y	1838,09	602,61	38	1,9	VAM TOP	
151	155	1	12,43	12,37	y	1850,46	590,24	38	2,0	VAM TOP	
152	183	1	12,29	12,23	y	1862,69	578,01	38	2,0	VAM TOP	
153	182	1	12,31	12,25	y	1874,93	565,77	39	2,0	VAM TOP	
154	181	1	12,50	12,44	y	1887,37	553,33	39	2,0	VAM TOP	
155	184	1	12,30	12,23	y	1899,60	541,10	39	2,0	VAM TOP	
156	185	1	12,31	12,25	y	1911,85	528,85	39	2,0	VAM TOP	
157	186	1	12,32	12,26	y	1924,11	516,59	39	2,0	VAM TOP	
158	144	1	12,45	12,39	y	1936,49	504,21	39	2,1	VAM TOP	
159	145	1	12,45	12,39	y	1948,88	491,82	39	2,1	VAM TOP	
160	148	1	12,45	12,39	y	1961,26	479,44	39	2,1	VAM TOP	
161	147	1	12,54	12,48	y	1973,74	466,96	39	2,1	VAM TOP	
162	187	1	12,53	12,46	y	1986,20	454,50	39	2,1	VAM TOP	
163	188	1	12,30	12,24	y	1998,44	442,26	39	2,1	VAM TOP	
164	189	1	12,32	12,25	y	2010,70	430,00	40	2,1	VAM TOP	
165	156	1	12,45	12,38	y	2023,08	417,62	40	2,2	VAM TOP	
166	170	1	12,52	12,46	y	2035,54	405,16	40	2,2	VAM TOP	
167	157	1	12,48	12,42	y	2047,96	392,75	40	2,2	VAM TOP	
168	158	1	12,44	12,38	y	2060,33	380,37	40	2,2	VAM TOP	
169	159	1	12,32	12,25	y	2072,58	368,12	40	2,2	VAM TOP	
170	160	1	12,29	12,23	y	2084,81	355,89	40	2,2	VAM TOP	
171	177	1	12,44	12,38	y	2097,19	343,51	40	2,2	VAM TOP	
172	176	1	12,49	12,42	y	2109,61	331,09	40	2,3	VAM TOP	
173	179	1	12,44	12,37	y	2121,99	318,71	40	2,3	VAM TOP	
174	180	1	12,34	12,27	y	2134,26	306,44	41	2,3	VAM TOP	
175	181	1	12,53	12,47	y	2146,73	293,97	41	2,3	VAM TOP	
176	182	1	12,45	12,38	y	2159,11	281,59	41	2,3	VAM TOP	
177	193	1	12,44	12,38	y	2171,49	269,21	41	2,3	VAM TOP	
178	171	1	12,51	12,45	y	2183,94	256,76	41	2,4	VAM TOP	
179	172	1	12,45	12,39	y	2196,32	244,38	41	2,4	VAM TOP	
180	173	1	12,45	12,39	y	2208,71	231,99	41	2,4	VAM TOP	
181	174	1	12,45	12,38	y	2221,09	219,61	41	2,4	VAM TOP	
182	175	1	12,44	12,38	y	2233,47	207,23	41	2,4	VAM TOP	
183	178	1	12,46	12,39	y	2245,86	194,84	41	2,4	VAM TOP	
184	194	1	12,55	12,48	y	2258,35	182,35	42	2,4	VAM TOP	
185	197	1	12,48	12,42	y	2270,77	169,93	42	2,5	VAM TOP	
186	195	1	12,45	12,38	y	2283,15	157,55	42	2,5	VAM TOP	
187	183	1	12,45	12,38	y	2295,53	145,17	42	2,5	VAM TOP	
188	184	1	12,45	12,39	y	2307,92	132,78	42	2,5	VAM TOP	
189	185	1	12,45	12,38	y	2320,30	120,40	42	2,5	VAM TOP	
190	186	1	12,45	12,39	y	2332,69	108,01	42	2,5	VAM TOP	
191	187	1	12,53	12,46	y	2345,15	95,55	42	2,5	VAM TOP	
192	188	1	12,57	12,51	y	2357,66	83,04	42	2,6	VAM TOP	
193	189	1	12,45	12,39	y	2370,05	70,65	42	2,6	VAM TOP	
194	190	1	12,45	12,39	y	2382,43	58,27	43	2,6	VAM TOP	
195	191	1	12,51	12,44	y	2394,86	45,82	43	2,6	VAM TOP	
196	192	1	12,44	12,38	y	2407,25	33,45	43	2,6	VAM TOP	
197	201	1	12,47	12,40	y	2419,66	21,04	43	2,6	VAM TOP	
Hanger Joint	222	1	12,65	12,59	y	2432,25	8,45	49	3,8	VAM TOP	
		1	0,00	0,00	y	2432,25	8,45	49	3,8	VAM TOP	
		1	0,00	0,00	y	2432,25	8,45	49	3,8	VAM TOP	HOP is 8,49below RT
Landing Joint 1	221	1	8,45	8,39	y	2440,63	0,07	49	3,8	VAM TOP	

VE-5 2.875 Dilution string_FINAL.xlsx | page 3 of 3 | 11:55 18/12/2023

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" casing tally

Rig : Deutag T-700
DSV:
Well : VE-5
Date : 18/12/2023

Depth reference :	HOP	TD :	2.710,87	m	Buoyancy :	0,79	
Rotary-GL :	9,32 m	Rat hole :	74,83	m	Block weight :	25	metric Tons
Rotary-HOP :	9,13 m	Shoe depth :	2636,04	m	PUW :		metric Tons
		Mud weight :	1,65	sg	SOW :		metric Tons

Casing or DP data (DP used as running string)

Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Make up torque ft.lb Optimum	Make up torque ft.lb Max	MU Loss (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 BRT	Hook load	Mud gain	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
					y		2.645,17	25			
1	1	5	12,37	12,37	y	12,37	2632,80	25	0,0	0	PBP (cut 1.09 m)
2	12	2	11,75	11,67	y	24,04	2621,13	25	0,0	VAM FJL	
3	13	2	12,26	12,20	y	36,24	2608,93	25	0,0	VAM FJL	
4	14	2	12,30	12,22	y	48,46	2596,71	25	0,1	VAM FJL	
5	15	2	12,03	11,94	y	60,40	2584,77	26	0,1	VAM FJL	
6	16	2	12,37	12,29	y	72,69	2572,48	26	0,1	VAM FJL	
7	17	2	12,28	12,20	y	84,89	2560,28	26	0,1	VAM FJL	
8	18	2	12,02	11,93	y	96,82	2548,35	26	0,2	VAM FJL	
9	1	2	12,28	12,20	y	109,02	2536,15	26	0,2	VAM FJL	
10	2	2	12,08	12,00	y	121,01	2524,16	26	0,2	VAM FJL	
11	10	2	12,03	11,95	y	132,96	2512,21	26	0,2	VAM FJL	
12	4	2	12,36	12,30	y	145,26	2499,91	27	0,3	VAM FJL	
13	5	2	12,02	11,94	y	157,20	2487,97	27	0,3	VAM FJL	
14	6	2	12,45	12,37	y	169,57	2475,60	27	0,3	VAM FJL	
15	7	2	12,13	12,05	y	181,62	2463,55	27	0,3	VAM FJL	
X/O 5"(5MP)x3.5"10.2#5	1	1	1,02	0,91	y	182,53	2462,64	28	0,4	VAM TOP HC	X/O
Pup Joint 1	3	1	6,07	5,97	y	188,49	2456,68	28	0,4	VAM TOP HC	
21	86	1	13,22	13,11	y	201,60	2443,57	28	0,5	VAM TOP HC	Pipe bin 1st row
22	87	1	13,31	13,21	y	214,81	2430,36	28	0,5	VAM TOP HC	
23	88	1	13,10	12,99	y	227,80	2417,37	28	0,5	VAM TOP HC	
24	89	1	13,15	13,02	y	240,82	2404,35	29	0,6	VAM TOP HC	
25	90	1	13,27	13,17	y	253,99	2391,18	29	0,6	VAM TOP HC	
26	83	1	13,31	13,20	y	267,19	2377,98	29	0,7	VAM TOP HC	
27	84	1	13,12	13,01	y	280,21	2364,96	29	0,7	VAM TOP HC	
28	85	1	13,31	13,21	y	293,41	2351,76	30	0,7	VAM TOP HC	
29	94	1	13,31	13,20	y	306,61	2338,56	30	0,8	VAM TOP HC	
30	81	1	13,13	13,03	y	319,64	2325,53	30	0,8	VAM TOP HC	
31	95	1	13,31	13,20	y	332,84	2312,33	30	0,8	VAM TOP HC	
32	82	1	13,25	13,14	y	345,98	2299,19	31	0,9	VAM TOP HC	
33	80	1	13,31	13,20	y	359,19	2285,98	31	0,9	VAM TOP HC	
34	91	1	13,31	13,20	y	372,39	2272,78	31	1,0	VAM TOP HC	
35	92	1	13,24	13,13	y	385,52	2259,65	31	1,0	VAM TOP HC	
36	93	1	13,12	13,02	y	398,54	2246,63	31	1,0	VAM TOP HC	
37	112	1	13,25	13,12	y	411,66	2233,51	32	1,1	VAM TOP HC	
38	101	1	13,02	12,91	y	424,58	2220,59	32	1,1	VAM TOP HC	
39	102	1	13,31	13,21	y	437,78	2207,39	32	1,1	VAM TOP HC	
40	103	1	12,99	12,89	y	450,67	2194,50	32	1,2	VAM TOP HC	
41	104	1	13,31	13,20	y	463,87	2181,30	33	1,2	VAM TOP HC	
42	105	1	13,10	12,99	y	476,86	2168,31	33	1,2	VAM TOP HC	
43	110	1	13,12	13,02	y	489,88	2155,29	33	1,3	VAM TOP HC	
44	98	1	13,31	13,20	y	503,08	2142,09	33	1,3	VAM TOP HC	
45	99	1	13,23	13,13	y	516,21	2128,96	34	1,4	VAM TOP HC	
46	111	1	13,31	13,20	y	529,41	2115,76	34	1,4	VAM TOP HC	
47	100	1	13,30	13,19	y	542,61	2102,56	34	1,4	VAM TOP HC	
48	109	1	12,75	12,64	y	555,25	2089,92	34	1,5	VAM TOP HC	
49	107	1	13,23	13,12	y	568,37	2076,80	34	1,5	VAM TOP HC	
50	108	1	12,86	12,75	y	581,12	2064,05	35	1,5	VAM TOP HC	
51	106	1	13,31	13,21	y	594,33	2050,84	35	1,6	VAM TOP HC	
52	97	1	13,14	13,04	y	607,37	2037,80	35	1,6	VAM TOP HC	
53	127	1	13,23	13,13	y	620,49	2024,68	35	1,6	VAM TOP HC	
54	122	1	13,23	13,12	y	633,62	2011,55	36	1,7	VAM TOP HC	
55	117	1	13,11	13,00	y	646,62	1998,55	36	1,7	VAM TOP HC	
56	116	1	12,76	12,65	y	659,27	1985,90	36	1,8	VAM TOP HC	
57	119	1	13,17	13,07	y	672,34	1972,83	36	1,8	VAM TOP HC	
58	120	1	13,14	13,04	y	685,37	1959,80	37	1,8	VAM TOP HC	
59	121	1	12,93	12,82	y	698,19	1946,98	37	1,9	VAM TOP HC	
60	126	1	13,06	12,95	y	711,15	1934,02	37	1,9	VAM TOP HC	
61	113	1	13,19	13,09	y	724,23	1920,94	37	1,9	VAM TOP HC	
62	114	1	13,14	13,04	y	737,27	1907,90	37	2,0	VAM TOP HC	
63	115	1	13,30	13,20	y	750,47	1894,70	38	2,0	VAM TOP HC	
64	118	1	13,31	13,20	y	763,67	1881,50	38	2,0	VAM TOP HC	
65	123	1	13,30	13,19	y	776,86	1868,31	38	2,1	VAM TOP HC	
66	124	1	13,30	13,19	y	790,06	1855,11	38	2,1	VAM TOP HC	
67	125	1	13,31	13,20	y	803,26	1841,91	39	2,2	VAM TOP HC	
68	128	1	13,31	13,20	y	816,46	1828,71	39	2,2	VAM TOP HC	
69	138	1	13,31	13,21	y	829,67	1815,50	39	2,2	VAM TOP HC	Pipe bin 2nd row
70	134	1	13,31	13,21	y	842,88	1802,29	39	2,3	VAM TOP HC	
71	135	1	13,31	13,20	y	856,08	1789,09	40	2,3	VAM TOP HC	

VE-5 5x3.5 inch Casing Tally - Final.xlsx page 1 of 3 11:58 18/12/2023

5" x 3.5" casing tally

Rig : Deutag T-700
DSV: [redacted]
Well : VE-5
Date: 18/12/2023

Depth reference :	HOP	TD :	2.710,87 m	Buoyancy :	0,79
Rotary-GL :	9,32 m	Rat hole :	74,83 m	Block weight :	25 metric Tons
Rotary-HOP :	9,13 m	Shoe depth :	2636,04 m	PUW :	metric Tons
		Mud weight :	1,85 sg	SOW :	metric Tons

Casing or DP data (DP used as running string)

Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Optimum	Max	MU Loss (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 BRT	Hook load	Mud gain	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
72	136	1	13,30	13,20	y	889,28	1775,89	40	2,3	VAM TOP HC	
73	137	1	13,31	13,21	y	882,48	1762,59	40	2,4	VAM TOP HC	
74	129	1	13,18	13,07	y	895,55	1749,87	40	2,4	VAM TOP HC	
75	130	1	13,31	13,20	y	908,76	1736,41	40	2,5	VAM TOP HC	
76	131	1	13,12	13,01	y	921,77	1723,40	41	2,5	VAM TOP HC	
77	132	1	13,31	13,20	y	934,97	1710,20	41	2,5	VAM TOP HC	
78	133	1	13,32	13,21	y	948,18	1696,99	41	2,6	VAM TOP HC	
79	139	1	13,18	13,07	y	961,26	1683,91	41	2,6	VAM TOP HC	
80	140	1	13,23	13,12	y	974,38	1670,79	42	2,6	VAM TOP HC	
81	141	1	13,31	13,20	y	987,58	1657,59	42	2,7	VAM TOP HC	
82	142	1	13,27	13,16	y	1000,74	1644,43	42	2,7	VAM TOP HC	
83	143	1	13,31	13,20	y	1013,95	1631,22	42	2,7	VAM TOP HC	
84	144	1	13,28	13,18	y	1027,13	1618,04	43	2,8	VAM TOP HC	
85	147	1	13,13	13,02	y	1040,15	1605,02	43	2,8	VAM TOP HC	
86	148	1	13,31	13,20	y	1053,35	1591,82	43	2,9	VAM TOP HC	
87	149	1	13,30	13,19	y	1066,54	1578,63	43	2,9	VAM TOP HC	
88	150	1	12,82	12,72	y	1079,26	1565,91	43	2,9	VAM TOP HC	
89	151	1	13,31	13,20	y	1092,46	1552,71	44	3,0	VAM TOP HC	
90	152	1	13,13	13,03	y	1105,49	1539,68	44	3,0	VAM TOP HC	
91	156	1	13,31	13,21	y	1118,70	1526,47	44	3,0	VAM TOP HC	
92	159	1	13,25	13,14	y	1131,84	1513,33	44	3,1	VAM TOP HC	
93	160	1	13,14	13,03	y	1144,87	1500,30	45	3,1	VAM TOP HC	
94	145	1	13,15	13,04	y	1157,91	1487,29	45	3,2	VAM TOP HC	
95	146	1	13,32	13,21	y	1171,12	1474,05	45	3,2	VAM TOP HC	
96	153	1	13,31	13,20	y	1184,32	1460,85	45	3,2	VAM TOP HC	
97	154	1	13,23	13,12	y	1197,45	1447,72	46	3,3	VAM TOP HC	
98	155	1	13,19	13,09	y	1210,53	1434,64	46	3,3	VAM TOP HC	
99	158	1	13,31	13,21	y	1223,74	1421,43	46	3,3	VAM TOP HC	
100	157	1	13,14	13,04	y	1236,78	1408,39	46	3,4	VAM TOP HC	
101	14	1	13,31	13,20	y	1249,98	1395,19	46	3,4	VAM TOP HC	
102	11	1	12,92	12,81	y	1262,79	1382,38	47	3,4	VAM TOP HC	
103	15	1	13,19	13,08	y	1275,88	1369,29	47	3,5	VAM TOP HC	
104	12	1	13,30	13,19	y	1289,07	1356,11	47	3,5	VAM TOP HC	
105	16	1	12,88	12,77	y	1301,84	1343,33	47	3,6	VAM TOP HC	
106	1	1	13,20	13,09	y	1314,93	1330,24	48	3,6	VAM TOP HC	
107	2	1	13,15	13,04	y	1327,97	1317,20	48	3,6	VAM TOP HC	
108	3	1	13,31	13,20	y	1341,17	1304,00	48	3,7	VAM TOP HC	
109	4	1	13,24	13,14	y	1354,31	1290,86	48	3,7	VAM TOP HC	
110	5	1	13,12	13,02	y	1367,32	1277,85	49	3,7	VAM TOP HC	
111	13	1	13,31	13,20	y	1380,52	1264,65	49	3,8	VAM TOP HC	
112	6	1	13,31	13,20	y	1393,73	1251,44	49	3,8	VAM TOP HC	
113	7	1	13,31	13,21	y	1406,93	1238,24	49	3,8	VAM TOP HC	
114	8	1	13,14	13,04	y	1419,97	1225,20	49	3,9	VAM TOP HC	
115	9	1	13,15	13,04	y	1433,01	1212,16	50	3,9	VAM TOP HC	
116	10	1	13,12	13,01	y	1446,02	1199,15	50	4,0	VAM TOP HC	
117	22	1	13,24	13,13	y	1459,16	1186,01	50	4,0	VAM TOP HC	
118	23	1	13,12	13,01	y	1472,17	1173,00	50	4,0	VAM TOP HC	
119	24	1	13,18	13,08	y	1485,24	1159,93	51	4,1	VAM TOP HC	
120	25	1	13,31	13,20	y	1498,45	1146,72	51	4,1	VAM TOP HC	
121	26	1	13,15	13,04	y	1511,49	1133,68	51	4,1	VAM TOP HC	
122	27	1	13,25	13,14	y	1524,63	1120,54	51	4,2	VAM TOP HC	
123	32	1	13,31	13,20	y	1537,83	1107,34	52	4,2	VAM TOP HC	
124	17	1	13,31	13,20	y	1551,04	1094,13	52	4,3	VAM TOP HC	
125	18	1	13,31	13,20	y	1564,24	1080,93	52	4,3	VAM TOP HC	
126	19	1	13,31	13,20	y	1577,44	1067,73	52	4,3	VAM TOP HC	
127	20	1	13,14	13,04	y	1590,48	1054,69	52	4,4	VAM TOP HC	
128	21	1	13,31	13,20	y	1603,68	1041,49	53	4,4	VAM TOP HC	
129	28	1	13,31	13,20	y	1616,89	1028,28	53	4,4	VAM TOP HC	Pipe bin 2nd row
130	29	1	12,81	12,71	y	1629,59	1015,58	53	4,5	VAM TOP HC	
131	30	1	13,24	13,13	y	1642,72	1002,45	53	4,5	VAM TOP HC	
132	31	1	13,19	13,08	y	1655,81	989,36	54	4,5	VAM TOP HC	
133	48	1	13,31	13,20	y	1669,01	976,16	54	4,6	VAM TOP HC	
134	36	1	13,31	13,20	y	1682,22	962,95	54	4,6	VAM TOP HC	
135	37	1	13,30	13,19	y	1695,41	949,76	54	4,7	VAM TOP HC	
136	38	1	13,18	13,07	y	1708,48	936,69	55	4,7	VAM TOP HC	
137	45	1	13,31	13,20	y	1721,69	923,48	55	4,7	VAM TOP HC	
138	33	1	13,31	13,20	y	1734,89	910,28	55	4,8	VAM TOP HC	
139	46	1	13,31	13,21	y	1748,09	897,08	55	4,8	VAM TOP HC	
140	34	1	13,31	13,20	y	1761,30	883,87	55	4,8	VAM TOP HC	
141	47	1	12,78	12,68	y	1773,97	871,20	56	4,9	VAM TOP HC	

VE-5 5x3.5 Inch Casing Tally - Final.xlsx page 2 of 3 11:59 18/12/2023

5" x 3.5" casing tally

Rig : Deutag T-700 | DSV: [illegible] | Well : VE-5 | Date: 18/12/2023

Depth reference :	HOP	TD :	2.710,87 m	Buoyancy :	0,79
Rotary-GL :	9,32 m	Rat hole :	74,83 m	Block weight :	25 metric Tons
Rotary-HOP :	9,13 m	Shoe depth :	2696,04 m	PUW :	metric Tons
		Mud weight :	1,85 sg	SOW :	metric Tons

Casing or DP data (DP used as running string)

Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Optimum	Max	MU Loss (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 BRT	Hook load	Mud gain	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
142	39	1	13,31	13,20	y	1787,17	858,00	56	4,9	VAM TOP HC	
143	40	1	13,31	13,20	y	1800,38	844,79	56	5,0	VAM TOP HC	
144	41	1	13,20	13,09	y	1813,47	831,70	56	5,0	VAM TOP HC	
145	42	1	13,31	13,20	y	1826,67	818,50	57	5,0	VAM TOP HC	
146	44	1	13,31	13,21	y	1839,87	805,30	57	5,1	VAM TOP HC	
147	43	1	13,31	13,20	y	1853,07	792,10	57	5,1	VAM TOP HC	
148	50	1	13,09	12,99	y	1866,06	779,11	57	5,1	VAM TOP HC	
149	51	1	13,31	13,20	y	1879,26	765,91	58	5,2	VAM TOP HC	
150	35	1	13,24	13,13	y	1892,39	752,78	58	5,2	VAM TOP HC	
151	52	1	13,31	13,20	y	1905,59	739,58	58	5,2	VAM TOP HC	
152	53	1	13,02	12,91	y	1918,50	726,67	58	5,3	VAM TOP HC	
153	54	1	13,12	13,01	y	1931,52	713,65	58	5,3	VAM TOP HC	
154	55	1	12,85	12,54	y	1944,06	701,11	59	5,4	VAM TOP HC	
155	57	1	13,12	13,02	y	1957,08	688,09	59	5,4	VAM TOP HC	
156	58	1	13,18	13,07	y	1970,15	675,02	59	5,4	VAM TOP HC	
157	59	1	12,87	12,77	y	1982,92	662,25	59	5,5	VAM TOP HC	
158	49	1	13,23	13,12	y	1996,04	649,13	60	5,5	VAM TOP HC	
159	60	1	12,76	12,66	y	2008,70	636,47	60	5,5	VAM TOP HC	
160	61	1	13,30	13,20	y	2021,89	623,28	60	5,6	VAM TOP HC	
161	62	1	13,24	13,13	y	2035,03	610,14	60	5,6	VAM TOP HC	
162	63	1	13,15	13,02	y	2048,05	597,12	61	5,6	VAM TOP HC	
163	64	1	13,19	13,09	y	2061,13	584,04	61	5,7	VAM TOP HC	
164	56	1	13,12	13,02	y	2074,15	571,02	61	5,7	VAM TOP HC	
165	67	1	13,12	13,02	y	2087,17	556,00	61	5,8	VAM TOP HC	
166	69	1	13,13	13,02	y	2100,19	544,98	61	5,8	VAM TOP HC	
167	70	1	12,82	12,71	y	2112,90	532,27	62	5,8	VAM TOP HC	
168	71	1	13,31	13,20	y	2126,10	519,07	62	5,9	VAM TOP HC	
169	65	1	13,31	13,20	y	2139,30	505,87	62	5,9	VAM TOP HC	
170	76	1	13,31	13,20	y	2152,50	492,67	62	5,9	VAM TOP HC	
171	78	1	13,31	13,20	y	2165,70	479,47	63	6,0	VAM TOP HC	
172	77	1	13,31	13,20	y	2178,90	466,27	63	6,0	VAM TOP HC	
173	68	1	13,31	13,20	y	2192,10	453,07	63	6,0	VAM TOP HC	
174	66	1	13,31	13,20	y	2205,30	439,87	63	6,1	VAM TOP HC	
175	72	1	13,00	12,89	y	2218,20	426,97	64	6,1	VAM TOP HC	
176	73	1	12,80	12,69	y	2230,89	414,28	64	6,2	VAM TOP HC	
177	79	1	13,25	13,14	y	2244,03	401,14	64	6,2	VAM TOP HC	
178	74	1	13,13	13,03	y	2257,06	388,11	64	6,2	VAM TOP HC	
179	80	1	12,80	12,70	y	2269,76	375,41	64	6,3	VAM TOP HC	
180	75	1	13,31	13,20	y	2282,96	362,21	65	6,3	VAM TOP HC	
181	164	1	13,31	13,20	y	2296,17	349,00	65	6,3	VAM TOP HC	
182	165	1	13,14	13,03	y	2309,19	335,98	65	6,4	VAM TOP HC	
183	166	1	12,99	12,89	y	2322,08	323,09	65	6,4	VAM TOP HC	
184	167	1	13,31	13,20	y	2335,29	309,88	66	6,4	VAM TOP HC	
185	168	1	13,31	13,20	y	2348,49	296,68	66	6,5	VAM TOP HC	
186	169	1	13,31	13,20	y	2361,69	283,48	66	6,5	VAM TOP HC	
187	161	1	13,22	13,12	y	2374,81	270,36	66	6,6	VAM TOP HC	Pipe bin 4th row
188	162	1	13,30	13,19	y	2388,00	257,17	67	6,6	VAM TOP HC	
189	163	1	13,14	13,03	y	2401,04	244,13	67	6,6	VAM TOP HC	
190	174	1	13,23	13,12	y	2414,16	231,01	67	6,7	VAM TOP HC	
191	175	1	13,24	13,14	y	2427,30	217,87	67	6,7	VAM TOP HC	
192	170	1	13,31	13,21	y	2440,51	204,66	67	6,7	VAM TOP HC	
193	171	1	13,31	13,21	y	2453,71	191,46	68	6,8	VAM TOP HC	
194	176	1	13,12	13,01	y	2466,73	178,44	68	6,8	VAM TOP HC	
195	172	1	13,31	13,20	y	2479,93	165,24	68	6,9	VAM TOP HC	
196	173	1	13,15	13,04	y	2493,07	152,20	68	6,9	VAM TOP HC	
197	184	1	13,18	13,07	y	2506,25	139,12	69	6,9	VAM TOP HC	
198	185	1	13,14	13,04	y	2519,29	126,09	69	7,0	VAM TOP HC	
199	186	1	12,90	12,79	y	2532,07	113,30	69	7,0	VAM TOP HC	
200	190	1	13,15	13,05	y	2544,92	100,25	69	7,0	VAM TOP HC	
201	181	1	12,87	12,76	y	2557,68	87,49	70	7,1	VAM TOP HC	
202	182	1	13,31	13,21	y	2570,89	74,28	70	7,1	VAM TOP HC	
203	183	1	13,12	13,02	y	2583,90	61,27	70	7,1	VAM TOP HC	
204	192	1	13,15	13,04	y	2596,95	48,22	70	7,2	VAM TOP HC	
205	178	1	13,23	13,12	y	2610,07	35,10	70	7,2	VAM TOP HC	
206	179	1	13,14	13,04	y	2623,11	22,06	71	7,3	VAM TOP HC	
Hanger Joint	227	1	13,03	12,92	y	2636,03	9,14	80	8,7	VAM TOP HC	
	Hanger to HOP	1	0,02	0,02	y	2636,04	9,13	80	8,7	VAM TOP HC	
	HOP to top hanger	1	0,38	0,38	y	2636,42	8,75	80	8,7	VAM TOP HC	HOP is 8.48 below RT
Landing Joint 1	225	1	9,19	9,09	y	2645,51	-0,34	80	8,7	VAM TOP HC	

VE-5 5x3.5 Inch Casing Tally - Final.xlsx page 3 of 3 11:59 18/12/2023

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

8.6.3. 7" casing

7" casing tally

Rig : Deutag T-700
DSV:
Well : VE-5
Date: 18/12/2023

Depth reference :	HOP	TD :	2.710,14 m	Buoyancy :	0,79
Rotary-GL :	9,32 m	Rat hole :	104,00 m	Block weight :	25 metric Tons
Rotary-HOP :	9,86 m	Shoe depth :	2606,14 m	PUW :	metric Tons
		Mud weight :	1,85 sg	SOW :	metric Tons

Casing or DP data (DP used as running string)

Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Optimum	Max	MU Loss (m)
1	7"	6,184	L80	29,00	19,40	5,40	VAM TOP	8.460	9.400	10.340	0,121
2	7"	5,828	L80	46,40	16,00	8,80	VAM SLUI-II	20.080	23.100	25.400	0,164
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.)
					y		2.616,00	25			
2	1	2	12,05	11,89	y	11,89	2604,11	26	0,2	VAM SLUI-II	
3	6	2	11,99	11,83	y	23,72	2592,28	27	0,3	VAM SLUI-II	
4	5	2	11,67	11,51	y	35,22	2580,78	28	0,4	VAM SLUI-II	
5	4	2	12,05	11,88	y	47,11	2568,89	28	0,5	VAM SLUI-II	
6	3	2	11,99	11,83	y	58,94	2557,06	29	0,6	VAM SLUI-II	
7	10	2	11,84	11,68	y	70,62	2545,38	29	0,7	VAM SLUI-II	
8	9	2	12,03	11,86	y	82,48	2533,52	30	0,8	VAM SLUI-II	
9	8	2	11,87	11,70	y	94,18	2521,82	31	0,9	VAM SLUI-II	
10	7	2	11,81	11,64	y	105,82	2510,18	31	1,0	VAM SLUI-II	
11	14	2	12,31	12,15	y	117,97	2498,03	32	1,1	VAM SLUI-II	
12	13	2	11,55	11,38	y	129,35	2486,65	33	1,2	VAM SLUI-II	
13	12	2	11,69	11,53	y	140,88	2475,12	33	1,3	VAM SLUI-II	
XO 7"48.44#P x 7"29#B	19	1	1,02	0,90	y	141,77	2474,23	37	1,9	VAM TOP	XO
20	214	1	10,91	10,79	y	152,57	2463,43	37	1,9	VAM TOP	WRSP #1
21	215	1	11,15	11,03	y	163,60	2452,40	37	2,0	VAM TOP	
22	216	1	11,52	11,40	y	175,00	2441,00	38	2,0	VAM TOP	
23	209	1	12,71	12,59	y	187,59	2428,41	38	2,1	VAM TOP	
24	210	1	12,73	12,60	y	200,19	2415,81	39	2,2	VAM TOP	
25	211	1	12,72	12,60	y	212,79	2403,21	39	2,2	VAM TOP	
26	212	1	12,71	12,59	y	225,38	2390,62	39	2,3	VAM TOP	
27	205	1	12,71	12,59	y	237,97	2378,03	40	2,4	VAM TOP	
28	206	1	12,72	12,60	y	250,57	2365,43	40	2,5	VAM TOP	
29	207	1	12,71	12,59	y	263,16	2352,84	41	2,5	VAM TOP	
30	208	1	12,74	12,62	y	275,78	2340,22	41	2,6	VAM TOP	
31	201	1	12,71	12,59	y	288,37	2327,63	42	2,7	VAM TOP	
32	202	1	13,32	13,20	y	301,57	2314,43	42	2,7	VAM TOP	
33	203	1	12,72	12,60	y	314,17	2301,83	42	2,8	VAM TOP	
34	204	1	13,32	13,20	y	327,37	2288,63	43	2,9	VAM TOP	
35	197	1	11,89	11,77	y	339,14	2276,86	43	2,9	VAM TOP	
36	198	1	11,36	11,24	y	350,37	2265,63	44	3,0	VAM TOP	
37	199	1	11,44	11,32	y	361,69	2254,31	44	3,1	VAM TOP	
38	200	1	12,72	12,60	y	374,29	2241,71	44	3,1	VAM TOP	
39	193	1	11,95	11,83	y	386,12	2229,88	45	3,2	VAM TOP	
40	144	1	13,32	13,20	y	399,32	2216,68	45	3,3	VAM TOP	
41	195	1	12,04	11,92	y	411,24	2204,76	46	3,3	VAM TOP	
42	196	1	11,94	11,82	y	423,06	2192,94	46	3,4	VAM TOP	
43	6	1	12,74	12,62	y	435,67	2180,33	47	3,5	VAM TOP	
44	1	1	12,71	12,58	y	448,26	2167,74	47	3,5	VAM TOP	
45	2	1	12,72	12,60	y	460,86	2155,14	47	3,6	VAM TOP	
46	3	1	12,73	12,61	y	473,47	2142,53	48	3,7	VAM TOP	
47	7	1	12,74	12,62	y	486,08	2129,92	48	3,7	VAM TOP	
48	8	1	12,70	12,58	y	498,66	2117,34	49	3,8	VAM TOP	
49	4	1	12,73	12,61	y	511,27	2104,73	49	3,9	VAM TOP	
50	5	1	12,72	12,60	y	523,87	2092,13	50	3,9	VAM TOP	
51	138	1	12,60	12,48	y	536,35	2079,65	50	4,0	VAM TOP	
52	139	1	13,33	13,20	y	549,55	2066,45	50	4,1	VAM TOP	
53	140	1	12,71	12,59	y	562,14	2053,86	51	4,1	VAM TOP	
54	142	1	11,74	11,62	y	573,76	2042,24	51	4,2	VAM TOP	
55	143	1	12,72	12,60	y	586,35	2029,65	52	4,3	VAM TOP	
56	144	1	13,32	13,20	y	599,55	2016,45	52	4,3	VAM TOP	
57	137	1	12,40	12,28	y	611,83	2004,17	53	4,4	VAM TOP	
58	189	1	13,32	13,20	y	625,03	1990,97	53	4,5	VAM TOP	
59	190	1	12,76	12,64	y	637,67	1978,33	53	4,5	VAM TOP	
60	191	1	10,93	10,81	y	648,48	1967,52	54	4,6	VAM TOP	
61	192	1	10,83	10,71	y	659,19	1956,81	54	4,7	VAM TOP	
62	185	1	13,32	13,20	y	672,39	1943,61	55	4,7	VAM TOP	
63	186	1	12,67	12,55	y	684,94	1931,06	55	4,8	VAM TOP	
64	187	1	12,74	12,62	y	697,56	1918,44	55	4,9	VAM TOP	
65	188	1	13,04	12,92	y	710,48	1905,52	56	4,9	VAM TOP	
66	181	1	12,84	12,53	y	723,00	1893,00	56	5,0	VAM TOP	
67	182	1	11,07	10,94	y	733,95	1882,05	57	5,1	VAM TOP	
68	183	1	13,32	13,20	y	747,15	1868,85	57	5,1	VAM TOP	
69	184	1	12,66	12,53	y	759,68	1856,32	58	5,2	VAM TOP	
70	177	1	12,76	12,64	y	772,32	1843,68	58	5,3	VAM TOP	
71	178	1	12,79	12,67	y	784,99	1831,01	58	5,3	VAM TOP	
72	179	1	12,78	12,66	y	797,65	1818,35	59	5,4	VAM TOP	
73	180	1	13,27	13,15	y	810,80	1805,20	59	5,5	VAM TOP	
74	175	1	12,99	12,87	y	823,67	1792,33	60	5,5	VAM TOP	WRSP #2

VE-5 7 Inch Casing Tally - Final.xlsx page 1 of 5 12:00 18/12/2023

7" casing tally

Rig : Deutag T-700
DSV: [redacted]
Well : VE-5
Date: 18/12/2023

Depth reference :	HOP	TD :	2.710,14 m	Buoyancy :	0,79
Rotary-GL :	9,32 m	Rat hole :	104,00 m	Block weight :	25 metric Tons
Rotary-HOP :	9,86 m	Shoe depth :	2606,14 m	PUW :	metric Tons
		Mud weight :	1,65 sg	SOW :	metric Tons

Casing or DP data (DP used as running string)

Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Optimum	Max	MU Loss (m)
1	7"	6,184	L80	29,00	19,40	5,40	VAM TOP	8.460	9.400	10.340	0,121
2	7"	5,828	L80	46,40	16,00	8,80	VAM SLIJH	20.080	23.100	25.400	0,164
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.)
75	174	1	12,80	12,67	y	836,34	1779,66	80	5,6	VAM TOP	1st P-test w/WRBP on 1st jt
76	175	1	12,57	12,45	y	848,79	1767,21	81	5,7	VAM TOP	
77	176	1	12,77	12,64	y	861,43	1754,57	81	5,7	VAM TOP	
78	169	1	13,32	13,20	y	874,63	1741,37	82	5,8	VAM TOP	
79	170	1	12,01	11,89	y	886,52	1729,48	82	5,9	VAM TOP	
80	171	1	13,23	13,11	y	899,63	1716,37	82	6,0	VAM TOP	
81	172	1	13,33	13,20	y	912,84	1703,16	83	6,0	VAM TOP	
82	165	1	12,93	12,81	y	925,65	1690,35	83	6,1	VAM TOP	
83	166	1	12,51	12,39	y	938,03	1677,97	84	6,2	VAM TOP	
84	167	1	13,32	13,20	y	951,24	1664,76	84	6,2	VAM TOP	
85	168	1	13,32	13,20	y	964,43	1651,57	85	6,3	VAM TOP	
86	161	1	13,32	13,20	y	977,63	1638,37	85	6,4	VAM TOP	
87	162	1	13,32	13,20	y	990,84	1625,16	85	6,4	VAM TOP	
88	163	1	13,32	13,20	y	1004,04	1611,96	86	6,5	VAM TOP	
89	164	1	13,32	13,20	y	1017,24	1598,76	86	6,6	VAM TOP	
90	157	1	12,83	12,71	y	1029,95	1586,05	87	6,7	VAM TOP	
91	158	1	12,78	12,66	y	1042,61	1573,39	87	6,7	VAM TOP	
92	159	1	12,78	12,65	y	1055,26	1560,74	88	6,8	VAM TOP	
93	160	1	11,27	11,14	y	1066,40	1549,60	88	6,9	VAM TOP	
94	153	1	11,00	10,88	y	1077,29	1538,72	88	6,9	VAM TOP	
95	154	1	11,76	11,63	y	1088,92	1527,08	89	7,0	VAM TOP	
96	155	1	11,18	11,06	y	1099,98	1516,02	89	7,0	VAM TOP	
97	156	1	12,64	12,52	y	1112,50	1503,50	70	7,1	VAM TOP	
98	149	1	12,64	12,52	y	1125,01	1490,99	70	7,2	VAM TOP	
99	150	1	12,61	12,49	y	1137,50	1478,50	70	7,2	VAM TOP	
100	151	1	12,65	12,53	y	1150,03	1465,97	71	7,3	VAM TOP	
101	152	1	12,78	12,66	y	1162,69	1453,31	71	7,4	VAM TOP	
102	146	1	13,05	12,93	y	1175,62	1440,38	72	7,5	VAM TOP	
103	147	1	13,17	13,05	y	1188,67	1427,33	73	7,6	VAM TOP	
104	148	1	13,32	13,20	y	1201,87	1414,13	73	7,6	VAM TOP	
105	141	1	11,95	11,83	y	1213,70	1402,30	73	7,7	VAM TOP	
106	133	1	12,83	12,51	y	1226,21	1389,79	74	7,8	VAM TOP	
107	134	1	12,77	12,65	y	1238,86	1377,14	74	7,8	VAM TOP	
108	135	1	12,77	12,65	y	1251,51	1364,49	75	7,9	VAM TOP	
109	138	1	12,81	12,69	y	1264,20	1351,80	75	8,0	VAM TOP	
110	129	1	12,72	12,60	y	1276,80	1339,20	76	8,1	VAM TOP	
111	130	1	12,73	12,61	y	1289,41	1326,59	76	8,1	VAM TOP	
112	131	1	12,81	12,49	y	1301,90	1314,10	76	8,2	VAM TOP	
113	132	1	12,64	12,52	y	1314,42	1301,58	77	8,3	VAM TOP	
114	125	1	12,72	12,60	y	1327,02	1288,98	77	8,3	VAM TOP	
115	126	1	12,72	12,60	y	1339,62	1276,38	78	8,4	VAM TOP	
116	127	1	12,54	12,42	y	1352,04	1263,96	78	8,5	VAM TOP	
117	128	1	12,17	12,04	y	1364,08	1251,92	79	8,5	VAM TOP	
118	121	1	12,72	12,60	y	1376,68	1239,32	79	8,6	VAM TOP	
119	122	1	12,50	12,38	y	1389,07	1226,93	79	8,7	VAM TOP	
120	123	1	12,72	12,60	y	1401,67	1214,33	80	8,7	VAM TOP	
121	124	1	12,72	12,60	y	1414,26	1201,74	80	8,8	VAM TOP	
122	117	1	12,72	12,59	y	1426,86	1189,14	81	8,9	VAM TOP	
123	118	1	12,37	12,25	y	1439,10	1176,90	81	8,9	VAM TOP	
124	119	1	12,39	12,27	y	1451,37	1164,63	82	9,0	VAM TOP	
125	120	1	12,74	12,62	y	1463,99	1152,01	82	9,1	VAM TOP	
Pup Joint 1	225	1	6,07	5,95	y	1469,94	1146,06	82	9,1	VAM TOP	insert PJ 1 just after jt 126
126	113	1	12,74	12,62	y	1482,55	1133,45	83	9,2	VAM TOP	so all depth will remain the same
127	114	1	12,32	12,20	y	1494,76	1121,24	83	9,2	VAM TOP	
128	115	1	12,44	12,32	y	1507,08	1108,92	83	9,3	VAM TOP	
129	116	1	12,72	12,60	y	1519,67	1096,33	84	9,4	VAM TOP	
130	109	1	12,72	12,60	y	1532,27	1083,73	84	9,4	VAM TOP	
131	110	1	12,72	12,60	y	1544,87	1071,13	85	9,5	VAM TOP	
132	111	1	12,72	12,60	y	1557,47	1058,53	85	9,6	VAM TOP	
133	112	1	12,71	12,59	y	1570,06	1045,94	86	9,6	VAM TOP	
134	108	1	11,32	11,20	y	1581,26	1034,74	86	9,7	VAM TOP	
135	103	1	11,51	11,39	y	1592,65	1023,35	86	9,8	VAM TOP	
136	104	1	11,60	11,48	y	1604,13	1011,87	87	9,8	VAM TOP	
137	105	1	11,92	11,80	y	1615,93	1000,07	87	9,9	VAM TOP	
138	106	1	12,72	12,60	y	1628,53	987,47	88	10,0	VAM TOP	
139	107	1	12,20	12,08	y	1640,61	975,39	88	10,0	VAM TOP	
140	97	1	13,32	13,20	y	1653,81	962,19	88	10,1	VAM TOP	
141	98	1	13,32	13,20	y	1667,01	948,99	89	10,2	VAM TOP	
142	99	1	11,33	11,21	y	1678,22	937,78	89	10,2	VAM TOP	
143	100	1	12,79	12,67	y	1690,88	925,12	90	10,3	VAM TOP	

7" casing tally

Rig : Deutag T-700 | Well : VE-5
DSV: [redacted] | Date: 18/12/2023

Depth reference :	HOP	TD :	2.710,14	m	Buoyancy :	0,79	
Rotary-GL :	9,32 m	Rat hole :	104,00	m	Block weight :	25	metric Tons
Rotary-HOP :	9,86 m	Shoe depth :	2606,14	m	PUW :		metric Tons
		Mud weight :	1,65	sg	SOW :		metric Tons

Casing or DP data (DP used as running string)

Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Optimum	Max	MU Loss (m)
1	7"	6,184	L80	29,00	19,40	5,40	VAM TOP	8.460	9.400	10.340	0,121
2	7"	5,626	L80	46,40	16,00	8,80	VAM SLIJ-II	20.080	23.100	25.400	0,164
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.)
146	101	1	11,69	11,57	y	1702,45	913,55	90	10,4	VAM TOP	[redacted]
147	102	1	11,97	11,85	y	1714,30	901,70	91	10,4	VAM TOP	[redacted]
148	95	1	12,36	12,24	y	1726,54	889,46	91	10,5	VAM TOP	
149	96	1	12,73	12,61	y	1739,15	876,85	91	10,5	VAM TOP	
150	93	1	12,71	12,59	y	1751,74	864,26	92	10,6	VAM TOP	

Casing	*Capacity [l/m]*	*Closed end displacement [l/m]*	*Metal displacement [l/m]*	*Collapse load [bar]*	*Burst load [bar]*
7" 29# L80	19.38	24.83	5.45	485	563
7" 46.4# L80	16.04	24.83	8.79	947	967

8.6.4. 10 ¾" x 9 5/8" casing

10-3/4" x 9-5/8" casing tally

Rig : Deutag T-700 | DSV: [illegible] | Well : VE-5 | Date: 12/06/2022

Depth reference :	HOP	TD :	2.506,60 m	Buoyancy :	0,82
Rotary-GL :	9,32 m	Rat hole :	11,50 m	Block weight :	25 metric Tons
Rotary-HOP :	10,50 m	Shoe depth :	2495,10 m	PUW :	metric Tons
		Mud weight :	1,45 sg	SOW :	metric Tons

Casing or DP data (DP used as running string)

Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Optimum	Max	MU Loss (m)
1	10-3/4"	8,68	L80	109,00	38,21	20,30	VAM MUST	31.500	35.000	38.500	0,160
2	9-5/8"	8,54	L80	53,50	36,91	10,00	VAM TOP	20.850	23.150	25.450	0,142
3	9-5/8"	8,68	L80	47,00	38,19	8,70	VAM TOP	14.400	15.900	17.400	0,142
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 spikes, floats etc.)
					y		2.495,10	25			
Shoe Joint A	1	1	12,45	12,29	y	12,29	2482,81	27	0,2	VAM MUST	SHOE on pin 0,6m
Shoe Track Joint B	4	1	12,18	12,02	y	24,31	2470,79	28	0,5	VAM MUST	SHOE TRACK joint
Float Joint C	2	1	12,55	12,39	y	36,70	2458,40	30	0,7	VAM MUST	FLOAT on Pin, 0,8m
4	5	1	12,22	12,06	y	48,76	2446,34	31	1,0	VAM MUST	Single piece Slip on Bow Spring - set screws
5	7	1	12,15	11,99	y	60,75	2434,35	33	1,2	VAM MUST	Single piece Slip on Bow Spring - set screws
6	8	1	12,20	12,04	y	72,79	2422,32	35	1,5	VAM MUST	Single piece Slip on Bow Spring - set screws
7	9	1	11,29	11,13	y	83,92	2411,18	36	1,7	VAM MUST	Single piece Slip on Bow Spring - set screws
8	3	1	12,14	11,98	y	95,90	2399,20	38	1,9	VAM MUST	Single piece Slip on Bow Spring - set screws
9	10	1	12,15	11,97	y	107,87	2387,23	39	2,2	VAM MUST	Single piece Slip on Bow Spring - set screws
10	11	1	12,19	12,03	y	119,90	2375,20	41	2,4	VAM MUST	Single piece Slip on Bow Spring - set screws
11	12	1	12,00	11,84	y	131,74	2363,36	42	2,7	VAM MUST	Single piece Slip on Bow Spring - set screws
12	6	1	12,21	12,05	y	143,79	2351,31	44	2,9	VAM MUST	Single piece Slip on Bow Spring - set screws
13	17	1	12,12	11,96	y	155,75	2339,36	46	3,2	VAM MUST	Single piece Slip on Bow Spring - set screws
XO 10 3/4-P x 9 5/8 B	1	1	1,01	0,85	y	156,60	2338,51	61	5,6	VAM MUST	xo
25	214	2	12,18	12,02	y	168,61	2326,49	62	5,7	VAM TOP	Single piece Slip on Bow Spring
26	213	2	12,18	12,02	y	180,63	2314,47	63	5,8	VAM TOP	Single piece Slip on Bow Spring
27	215 / 212	2	12,18	12,02	y	192,65	2302,45	64	5,9	VAM TOP	Single piece Slip on Bow Spring
28	211	2	12,15	12,01	y	204,66	2290,44	64	6,0	VAM TOP	Single piece Slip on Bow Spring
29	210	2	12,14	11,99	y	216,65	2278,45	65	6,2	VAM TOP	Single piece Slip on Bow Spring
30	209	2	12,11	11,97	y	228,62	2266,48	66	6,3	VAM TOP	Single piece Slip on Bow Spring
31	208	2	12,12	11,96	y	240,60	2254,50	67	6,4	VAM TOP	Single piece Slip on Bow Spring
32	207	2	12,14	11,99	y	252,60	2242,50	67	6,5	VAM TOP	Single piece Slip on Bow Spring
33	206	2	12,15	12,00	y	264,60	2230,50	68	6,6	VAM TOP	Single piece Slip on Bow Spring
39	3	3	12,37	12,22	y	276,82	2218,28	73	7,3	VAM TOP	Single piece Slip on Bow Spring
40	2	3	12,10	11,95	y	288,78	2206,32	74	7,5	VAM TOP	Single piece Slip on Bow Spring
41	1	3	12,51	12,37	y	301,15	2193,95	74	7,6	VAM TOP	Single piece Slip on Bow Spring
42	6	3	12,51	12,37	y	313,52	2181,59	75	7,7	VAM TOP	Single piece Slip on Bow Spring
43	5	3	11,82	11,68	y	325,19	2169,91	76	7,8	VAM TOP	Single piece Slip on Bow Spring
44	4	3	11,97	11,83	y	337,02	2158,08	76	7,9	VAM TOP	Single piece Slip on Bow Spring
45	8	3	12,32	12,17	y	349,20	2145,90	77	8,0	VAM TOP	Single piece Slip on Bow Spring
46	7	3	12,35	12,21	y	361,40	2133,70	78	8,1	VAM TOP	Single piece Slip on Bow Spring
47	11	3	12,12	11,98	y	373,38	2121,72	78	8,2	VAM TOP	Single piece Slip on Bow Spring
48	10	3	12,39	12,25	y	385,63	2109,47	79	8,3	VAM TOP	Single piece Slip on Bow Spring
49	12	3	12,51	12,37	y	398,00	2097,10	80	8,4	VAM TOP	Single piece Slip on Bow Spring
50	52	3	12,57	12,43	y	410,42	2084,68	80	8,5	VAM TOP	Single piece Slip on Bow Spring
51	51	3	12,51	12,37	y	422,79	2072,31	81	8,6	VAM TOP	Single piece Slip on Bow Spring
52	54	3	12,31	12,17	y	434,96	2060,14	82	8,7	VAM TOP	Single piece Slip on Bow Spring
53	53	3	12,26	12,12	y	447,08	2048,02	83	8,8	VAM TOP	Single piece Slip on Bow Spring
54	50	3	13,36	13,22	y	460,29	2034,81	83	8,9	VAM TOP	Single piece Slip on Bow Spring
55	49	3	13,37	13,23	y	473,52	2021,58	84	9,1	VAM TOP	Single piece Slip on Bow Spring
56	48	3	13,37	13,22	y	486,74	2008,36	85	9,2	VAM TOP	Single piece Slip on Bow Spring
57	47	3	13,37	13,23	y	499,97	1995,13	86	9,3	VAM TOP	Single piece Slip on Bow Spring
58	46	3	12,32	12,18	y	512,15	1982,95	86	9,4	VAM TOP	Single piece Slip on Bow Spring
59	45	3	13,36	13,22	y	525,37	1969,73	87	9,5	VAM TOP	Single piece Slip on Bow Spring
60	44	3	12,65	12,51	y	537,88	1957,23	88	9,6	VAM TOP	Single piece Slip on Bow Spring
61	43	3	13,19	13,05	y	550,93	1944,18	88	9,7	VAM TOP	Single piece Slip on Bow Spring
62	42	3	13,36	13,22	y	564,14	1930,96	89	9,8	VAM TOP	Single piece Slip on Bow Spring
63	41	3	13,34	13,20	y	577,34	1917,76	90	10,0	VAM TOP	Single piece Slip on Bow Spring
64	40	3	12,72	12,58	y	589,92	1905,18	91	10,1	VAM TOP	Single piece Slip on Bow Spring
65	39	3	13,37	13,23	y	603,15	1891,96	91	10,2	VAM TOP	Single piece Slip on Bow Spring
66	38	3	13,37	13,23	y	616,37	1878,73	92	10,3	VAM TOP	Single piece Slip on Bow Spring
67	37	3	13,36	13,22	y	629,60	1865,51	93	10,4	VAM TOP	Single piece Slip on Bow Spring
68	36	3	13,24	13,10	y	642,69	1852,41	94	10,5	VAM TOP	Single piece Slip on Bow Spring
69	35	3	12,72	12,58	y	655,27	1839,83	94	10,6	VAM TOP	Single piece Slip on Bow Spring
70	34	3	12,56	12,42	y	667,69	1827,91	95	10,7	VAM TOP	Single piece Slip on Bow Spring
71	33	3	13,37	13,23	y	680,42	1814,68	96	10,9	VAM TOP	Single piece Slip on Bow Spring
72	32	3	13,36	13,22	y	693,64	1801,46	97	11,0	VAM TOP	Single piece Slip on Bow Spring
73	31	3	13,37	13,22	y	706,86	1788,24	97	11,1	VAM TOP	Single piece Slip on Bow Spring
74	30	3	12,42	12,27	y	719,14	1775,96	98	11,2	VAM TOP	Single piece Slip on Bow Spring
75	29	3	12,53	12,39	y	731,52	1763,58	99	11,3	VAM TOP	Single piece Slip on Bow Spring
76	28	3	12,47	12,33	y	743,75	1751,36	99	11,4	VAM TOP	Single piece Slip on Bow Spring
77	75	3	12,64	12,50	y	756,25	1738,85	100	11,5	VAM TOP	Single piece Slip on Bow Spring
78	74	3	12,27	12,12	y	768,37	1726,73	101	11,6	VAM TOP	Single piece Slip on Bow Spring
79	73	3	11,98	11,84	y	780,21	1714,89	102	11,7	VAM TOP	Single piece Slip on Bow Spring
80	78	3	12,25	12,11	y	792,32	1702,78	102	11,8	VAM TOP	Single piece Slip on Bow Spring
81	70	3	12,25	12,11	y	804,43	1690,68	103	11,9	VAM TOP	Single piece Slip on Bow Spring
82	69	3	12,35	12,21	y	816,63	1678,47	104	12,0	VAM TOP	Single piece Slip on Bow Spring
83	77	3	12,05	11,91	y	828,54	1666,56	104	12,1	VAM TOP	Single piece Slip on Bow Spring

VE-5 10_75 x 9_625 Casing Tally_FINAL.xlsx page 1 of 3 11:50 18/12/2023

10-3/4" x 9-5/8" casing tally

Rig : Deutag T-700 | Well : VE-5 | DSV: [redacted] | Date: 12/06/2022

Depth reference :	HOP	TD :	2.506,60	m	Buoyancy :	0,82	
Rotary-GL :	9,32 m	Rat hole :	11,50	m	Block weight :	25	metric Tons
Rotary-HOP :	10,50 m	Shoe depth :	2495,10	m	PUW :		metric Tons
		Mud weight :	1,45	sg	SOW :		metric Tons

Casing or DP data (DP used as running string)

Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Optimum	Max	MU Loss (m)
1	10-3/4"	8,68	L80	109,00	38,21	20,30	VAM MUST	31.500	35.000	38.500	0,160
2	9-5/8"	8,54	L80	53,50	36,91	10,00	VAM TOP	20.850	23.150	25.450	0,142
3	9-5/8"	8,68	L80	47,00	38,19	8,70	VAM TOP	14.400	15.900	17.400	0,142
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.)
84	78	3	12,36	12,21	y	840,75	1654,95	105	12,3	VAM TOP	Single piece Slip on Bow Spring
85	64	3	12,28	12,14	y	852,89	1642,21	106	12,4	VAM TOP	Single piece Slip on Bow Spring
86	65	3	13,37	11,23	y	864,12	1630,08	106	12,5	VAM TOP	Single piece Slip on Bow Spring
87	71	3	11,98	11,83	y	875,95	1619,15	107	12,6	VAM TOP	Single piece Slip on Bow Spring
88	72	3	12,35	12,21	y	888,16	1606,95	108	12,7	VAM TOP	Single piece Slip on Bow Spring
89	68	3	12,57	12,43	y	900,59	1594,51	108	12,8	VAM TOP	Single piece Slip on Bow Spring
90	60	3	12,50	12,36	y	912,95	1582,16	109	12,9	VAM TOP	Single piece Slip on Bow Spring
91	66	3	11,98	11,84	y	924,78	1570,32	110	13,0	VAM TOP	Single piece Slip on Bow Spring
92	67	3	12,36	12,22	y	937,00	1558,10	110	13,1	VAM TOP	Single piece Slip on Bow Spring
93	63	3	12,74	12,59	y	949,60	1545,50	111	13,2	VAM TOP	Single piece Slip on Bow Spring
94	55	3	12,37	12,23	y	961,83	1533,27	112	13,3	VAM TOP	Single piece Slip on Bow Spring
95	61	3	12,61	12,46	y	974,29	1520,81	113	13,4	VAM TOP	Single piece Slip on Bow Spring
96	62	3	12,53	12,39	y	986,68	1508,42	113	13,5	VAM TOP	Single piece Slip on Bow Spring
97	58	3	12,53	12,39	y	999,07	1496,03	114	13,6	VAM TOP	Single piece Slip on Bow Spring
98	59	3	12,73	12,59	y	1011,66	1483,44	115	13,7	VAM TOP	Single piece Slip on Bow Spring
99	56	3	12,17	12,03	y	1023,68	1471,42	115	13,8	VAM TOP	Single piece Slip on Bow Spring
100	57	3	12,36	12,22	y	1035,90	1459,20	116	14,0	VAM TOP	Single piece Slip on Bow Spring
101	27	3	11,44	11,29	y	1047,20	1447,90	117	14,1	VAM TOP	Single piece Slip on Bow Spring
102	25	3	12,26	12,12	y	1059,32	1435,78	117	14,2	VAM TOP	Single piece Slip on Bow Spring
103	26	3	12,00	11,84	y	1071,26	1423,84	118	14,3	VAM TOP	Single piece Slip on Bow Spring
104	23	3	12,25	12,13	y	1083,37	1411,73	119	14,4	VAM TOP	Single piece Slip on Bow Spring
105	24	3	12,60	12,46	y	1095,83	1399,27	120	14,5	VAM TOP	Single piece Slip on Bow Spring
106	21	3	12,45	12,30	y	1108,13	1386,97	120	14,6	VAM TOP	Single piece Slip on Bow Spring
107	22	3	12,04	11,90	y	1120,03	1375,07	121	14,7	VAM TOP	Single piece Slip on Bow Spring
108	19	3	12,25	12,11	y	1132,14	1362,96	122	14,8	VAM TOP	Single piece Slip on Bow Spring
109	20	3	12,51	12,37	y	1144,51	1350,60	122	14,9	VAM TOP	Single piece Slip on Bow Spring
110	17	3	12,51	12,37	y	1156,88	1338,22	123	15,0	VAM TOP	Single piece Slip on Bow Spring
111	18	3	12,60	12,46	y	1169,33	1325,77	124	15,1	VAM TOP	Single piece Slip on Bow Spring
112	15	3	12,60	12,46	y	1181,80	1313,31	124	15,2	VAM TOP	Single piece Slip on Bow Spring
113	16	3	11,74	11,60	y	1193,40	1301,70	125	15,3	VAM TOP	Single piece Slip on Bow Spring
114	13	3	12,39	12,25	y	1205,65	1289,45	126	15,4	VAM TOP	Single piece Slip on Bow Spring
115	14	3	12,52	12,38	y	1218,03	1277,07	127	15,5	VAM TOP	Single piece Slip on Bow Spring
116	79	3	12,06	11,92	y	1229,94	1265,16	127	15,6	VAM TOP	Single piece Slip on Bow Spring
117	80	3	12,34	12,20	y	1242,14	1252,96	128	15,7	VAM TOP	Hinged Nce-Welded Rigid
118	81	3	12,59	12,45	y	1254,59	1240,51	129	15,8	VAM TOP	Hinged Nce-Welded Rigid
119	179	3	11,33	11,18	y	1265,78	1229,32	129	16,0	VAM TOP	Hinged Nce-Welded Rigid
120	180	3	12,74	12,60	y	1278,38	1216,72	130	16,1	VAM TOP	Hinged Nce-Welded Rigid
121	172	3	12,80	12,66	y	1291,04	1204,06	131	16,2	VAM TOP	Hinged Nce-Welded Rigid
122	175	3	12,91	12,76	y	1303,80	1191,30	131	16,3	VAM TOP	Hinged Nce-Welded Rigid
123	177	3	12,47	12,33	y	1316,13	1178,97	132	16,4	VAM TOP	Hinged Nce-Welded Rigid
124	178	3	12,39	12,25	y	1328,38	1166,72	133	16,5	VAM TOP	Hinged Nce-Welded Rigid
125	169	3	12,18	12,04	y	1340,42	1154,68	133	16,6	VAM TOP	
126	176	3	12,47	12,33	y	1352,75	1142,35	134	16,7	VAM TOP	
127	168	3	10,79	10,65	y	1363,40	1131,70	135	16,8	VAM TOP	
128	164	3	12,72	12,58	y	1375,98	1119,12	136	16,9	VAM TOP	
129	174	3	12,94	12,80	y	1388,78	1106,32	136	17,0	VAM TOP	
130	175	3	12,53	12,39	y	1401,17	1093,94	137	17,1	VAM TOP	
131	170	3	12,56	12,42	y	1413,58	1081,52	138	17,2	VAM TOP	
132	171	3	12,57	12,43	y	1426,01	1069,09	138	17,3	VAM TOP	
133	163	3	12,66	12,51	y	1438,52	1056,58	139	17,5	VAM TOP	
134	165	3	12,89	12,75	y	1451,27	1043,83	140	17,6	VAM TOP	
135	166	3	12,44	12,30	y	1463,57	1031,53	141	17,7	VAM TOP	
136	167	3	12,86	12,72	y	1476,29	1018,81	141	17,8	VAM TOP	
137	133	3	13,33	13,19	y	1489,48	1005,62	142	17,9	VAM TOP	
138	134	3	13,37	13,22	y	1502,70	992,40	143	18,0	VAM TOP	
139	135	3	13,37	13,23	y	1515,93	979,17	144	18,1	VAM TOP	
140	130	3	13,38	13,23	y	1529,17	965,94	144	18,2	VAM TOP	
141	131	3	13,38	13,23	y	1542,40	952,70	145	18,4	VAM TOP	
142	132	3	12,51	12,37	y	1554,77	940,33	146	18,5	VAM TOP	
143	127	3	13,36	13,22	y	1567,99	927,11	146	18,6	VAM TOP	
144	128	3	12,83	12,69	y	1580,68	914,42	147	18,7	VAM TOP	
145	129	3	12,56	12,42	y	1593,10	902,00	148	18,8	VAM TOP	
146	124	3	12,59	12,45	y	1605,55	889,55	149	18,9	VAM TOP	
147	125	3	12,70	12,56	y	1618,11	877,00	149	19,0	VAM TOP	
148	126	3	12,62	12,48	y	1630,58	864,52	150	19,1	VAM TOP	
149	121	3	12,95	12,81	y	1643,39	851,71	151	19,2	VAM TOP	
150	122	3	12,71	12,57	y	1655,96	839,14	151	19,3	VAM TOP	
151	123	3	12,76	12,62	y	1668,58	826,52	152	19,5	VAM TOP	
152	118	3	12,90	12,75	y	1681,33	813,77	153	19,6	VAM TOP	
153	119	3	13,38	13,23	y	1694,56	800,55	154	19,7	VAM TOP	

10-3/4" x 9-5/8" casing tally

Rig : Deutag T-700 | Well : VE-5 | DSV: [redacted] | Date: 12/06/2022

Depth reference :	HOP	TD :	2.506,60	m	Buoyancy :	0,82	
Rotary-GL :	9,32 m	Rat hole :	11,50	m	Block weight :	25	metric Tons
Rotary-HOP :	10,50 m	Shoe depth :	2495,10	m	PUW :		metric Tons
		Mud weight :	1,45	sg	SOW :		metric Tons

Casing or DP data (DP used as running string)

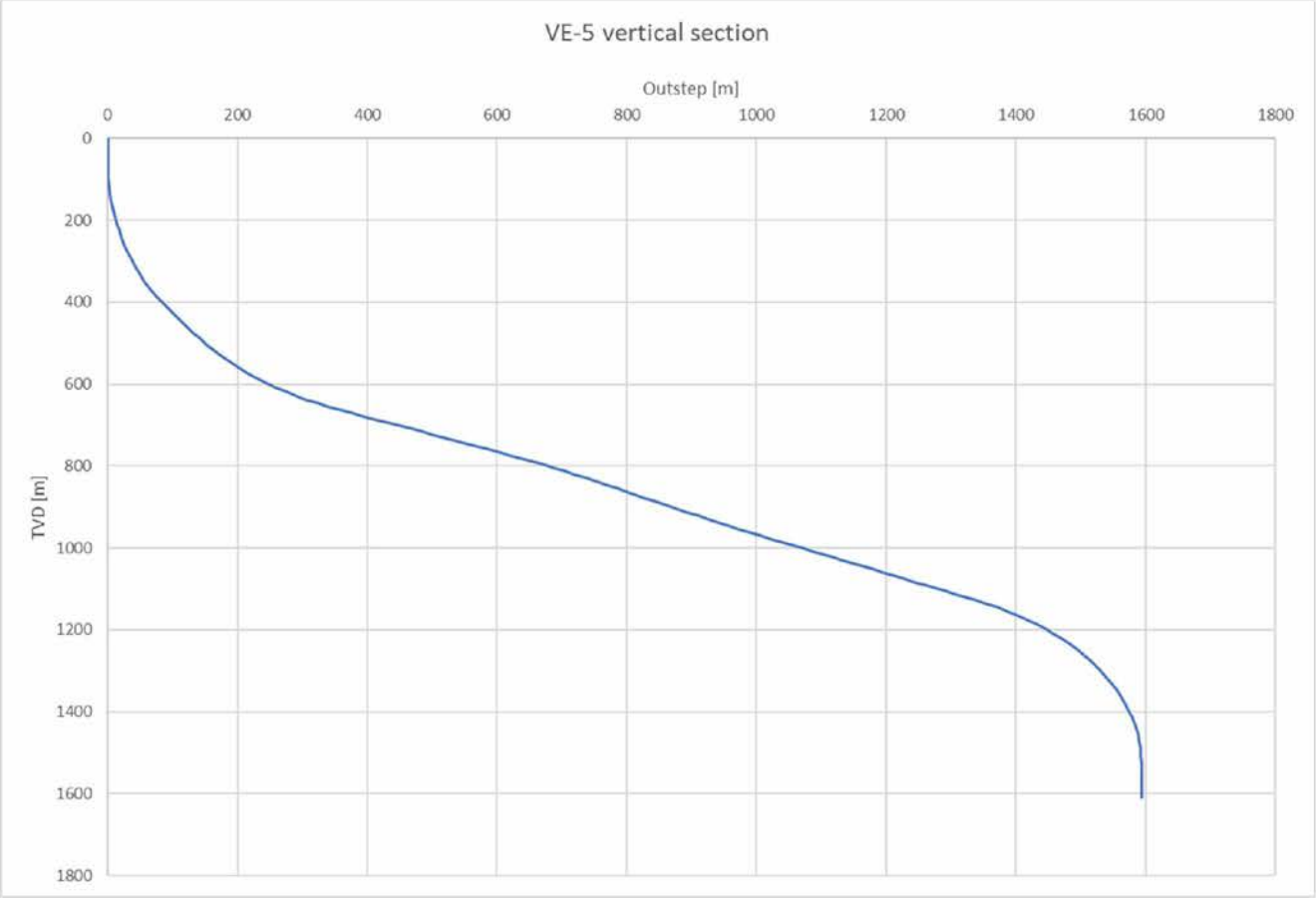
Type	OD (inch)	ID (inch)	Grade	Weight (lb/ft)	Capacity (l/m)	Metal displ. (l/m)	Thread	Make up torque ft.lb Min	Optimum	Max	MU Loss (m)
1	10-3/4"	8,68	L80	109,00	38,21	20,30	VAM MUST	31.500	35.000	38.500	0,160
2	9-5/8"	8,54	L80	53,50	36,91	10,00	VAM TOP	20.850	23.150	25.450	0,142
3	9-5/8"	8,68	L80	47,00	38,19	8,70	VAM TOP	14.400	15.900	17.400	0,142
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.)
154	120	3	12,90	12,78	y	1707,31	787,80	154	19,8	VAM TOP	
155	115	3	11,54	11,40	y	1718,70	776,40	155	19,9	VAM TOP	
156	116	3	13,36	13,22	y	1731,92	763,18	156	20,0	VAM TOP	
157	117	3	12,83	12,49	y	1744,41	750,69	157	20,1	VAM TOP	
158	112	3	13,36	13,22	y	1757,63	737,47	157	20,2	VAM TOP	
159	113	3	12,83	12,68	y	1770,32	724,78	158	20,3	VAM TOP	
160	114	3	11,38	11,24	y	1781,56	713,55	159	20,4	VAM TOP	
161	109	3	13,37	13,22	y	1794,78	700,32	159	20,5	VAM TOP	
162	110	3	13,36	13,22	y	1808,00	687,11	160	20,7	VAM TOP	
163	111	3	13,37	13,22	y	1821,22	673,88	161	20,8	VAM TOP	
164	106	3	12,40	12,26	y	1833,48	661,63	162	20,9	VAM TOP	
165	108	3	12,16	12,02	y	1845,50	649,61	162	21,0	VAM TOP	
166	107	3	12,38	12,24	y	1857,73	637,37	163	21,1	VAM TOP	
167	103	3	12,19	12,05	y	1869,78	625,32	164	21,2	VAM TOP	
168	105	3	12,49	12,35	y	1882,13	612,97	165	21,4	VAM TOP	
170	100	3	12,58	12,43	y	1894,57	600,53	166	21,5	VAM TOP	
171	101	3	12,55	12,41	y	1906,98	588,13	166	21,6	VAM TOP	
172	102	3	12,45	12,31	y	1919,28	575,82	167	21,7	VAM TOP	
173	97	3	12,33	12,19	y	1931,47	563,63	168	21,8	VAM TOP	
174	98	3	12,56	12,42	y	1943,88	551,22	169	21,9	VAM TOP	
175	99	3	12,55	12,41	y	1956,29	538,81	169	22,1	VAM TOP	
176	94	3	12,39	12,25	y	1968,54	526,56	170	22,2	VAM TOP	
177	95	3	12,60	12,46	y	1981,00	514,10	171	22,3	VAM TOP	
178	96	3	12,70	12,56	y	1993,56	501,54	171	22,4	VAM TOP	
179	91	3	12,51	12,37	y	2005,92	489,18	172	22,5	VAM TOP	
180	92	3	12,62	12,48	y	2018,41	476,70	173	22,6	VAM TOP	
181	93	3	12,59	12,45	y	2030,86	464,24	174	22,7	VAM TOP	
182	88	3	12,60	12,46	y	2043,31	451,79	174	22,8	VAM TOP	
183	89	3	12,56	12,41	y	2055,73	439,37	175	22,9	VAM TOP	
184	90	3	12,60	12,46	y	2068,18	426,92	176	23,0	VAM TOP	
185	85	3	12,33	12,19	y	2080,37	414,73	176	23,1	VAM TOP	
186	86	3	12,50	12,36	y	2092,73	402,37	177	23,2	VAM TOP	
187	87	3	12,61	12,47	y	2105,20	389,90	178	23,4	VAM TOP	
188	82	3	12,70	12,56	y	2117,76	377,34	178	23,5	VAM TOP	
189	83	3	12,72	12,58	y	2130,34	364,77	179	23,6	VAM TOP	
190	84	3	12,72	12,58	y	2142,92	352,19	180	23,7	VAM TOP	
191	160	3	13,37	13,23	y	2156,14	338,96	181	23,8	VAM TOP	
192	161	3	13,16	13,02	y	2169,16	325,95	181	23,9	VAM TOP	
193	162	3	12,45	12,31	y	2181,47	313,63	182	24,0	VAM TOP	
194	157	3	13,37	13,23	y	2194,69	300,41	183	24,1	VAM TOP	
195	158	3	13,23	13,09	y	2207,78	287,32	184	24,2	VAM TOP	
196	159	3	13,36	13,22	y	2221,00	274,10	184	24,4	VAM TOP	
197	154	3	13,37	13,23	y	2234,23	260,87	185	24,5	VAM TOP	
198	155	3	13,27	13,13	y	2247,36	247,75	186	24,6	VAM TOP	
199	156	3	12,63	12,49	y	2259,84	235,26	187	24,7	VAM TOP	
200	152	3	13,34	13,20	y	2273,05	222,06	187	24,8	VAM TOP	
201	153	3	13,36	13,22	y	2286,26	208,84	188	24,9	VAM TOP	
202	151	3	13,36	13,22	y	2299,48	195,62	189	25,0	VAM TOP	
203	148	3	13,37	13,23	y	2312,71	182,39	190	25,2	VAM TOP	
204	149	3	13,37	13,23	y	2325,94	169,16	190	25,3	VAM TOP	
205	150	3	12,48	12,34	y	2338,27	156,83	191	25,4	VAM TOP	
206	145	3	13,21	13,07	y	2351,34	143,76	192	25,5	VAM TOP	
207	146	3	13,37	13,22	y	2364,57	130,53	193	25,6	VAM TOP	
210	142	3	13,37	13,22	y	2377,79	117,31	195	26,0	VAM TOP	
211	143	3	13,34	13,20	y	2390,99	104,11	196	26,1	VAM TOP	
212	139	3	12,47	12,32	y	2403,32	91,79	196	26,2	VAM TOP	
213	140	3	12,60	12,46	y	2415,77	79,33	197	26,3	VAM TOP	
214	141	3	13,33	13,19	y	2428,96	66,14	198	26,4	VAM TOP	
215	136	3	12,78	12,64	y	2441,60	53,50	198	26,5	VAM TOP	
216	137	3	12,39	12,25	y	2453,85	41,25	199	26,6	VAM TOP	
217	138	3	12,54	12,40	y	2466,25	28,85	200	26,7	VAM TOP	2 x Hinged Non-Welded Rigid
Pup Joint 5	5	3	6,08	5,94	y	2472,19	22,91	201	26,9	VAM TOP	
Hanger Joint	Hanger joint	3	12,53	12,39	y	2484,57	10,53	202	27,0	VAM TOP	
	Hanger to HOP	0	0,04	0,04	y	2484,61	10,49	#N/A	#N/A	#N/A	
	HOP to top hanger	0	0,31	0,31	y	2484,92	10,18	#N/A	#N/A	#N/A	HOP is 10,50 below RT
169	104	3	11,30	11,16	y	2496,08	-0,98	#N/A	#N/A	VAM TOP	

VE-5 10_75 x 9_625 Casing Tally_FINAL.xlsx page 3 of 3 11:50 18/12/2023

Casing	Capacity [l/m]	Closed end displacement [l/m]	Metal displacement [l/m]	Collapse load [bar]	Burst load [bar]
9 5/8" 47# L80	38.19	46.94	8.76	328	474
9 5/8" 53.5# L80	36.91	46.94	10.03	456	547
10 ¾" 109# L80	38.21	58.56	20.34	456	547

8.7. Well profile



Max. 68 degrees inclination between 821 m AH / 670 m TVD and 1052 m AH / 759 m TVD