REVISÕES

TE: TIPO EMISSÃO — A - PRELIMINAR; B - PARA APROVAÇÃO; C - PARA CONHECIMENTO; D - PARA COTAÇÃO; E - PARA CONSTRUÇÃO; F - CONFORME COMPRADO; G - CONFORME CONSTRUÍDO; H - CANCELADO

Rev	TE	Descrição	Por	Ver.	Apr.	Aut.	Dat.
A	B	Emissão inicial	DDF	DDF	AFMJ	AFMJ	15/10/15

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1.0 APRESENTAÇÃO

Apresentamos através deste, o relatório fotográfico das Investigações Geotécnicas executadas para a obra em epígrafe.

2.0 NATUREZA DOS SERVIÇOS EXECUTADOS E PERÍODO DE EXECUÇÃO

Este relatório compreende as fotografias dos testemunhos, devidamente identificados, conforme quadro resumo constante no relatório (ANEXO A).

As fotos estão dispostas em agrupamentos de 2 (duas) caixas. No caso de quantidade de fotos ímpares por furo de sondagem, a última foto (do furo) está disposta em uma única caixa de testemunho.

3.0 ACONDICIONAMENTO DAS CAIXAS DE TESTEMUNHOS

As caixas estão acondicionadas em local apropriado, na casa dos funcionários na cidade de Itaocara e após a conclusão do contrato, será entregue no canteiro de obras, ficando assim, sob responsabilidade do Consórcio CJC.

4.0 ESCLARECIMENTOS

Quaisquer dúvidas ou esclarecimentos sobre este relatório ou os serviços que o deram origem, devem ser aclarados por:

Engº Antônio Francisco Miranda Júnior Gerente de sondagem	Daniel Diniz França Geólogo

ANEXO A – QUADRO RESUMO DAS FOTOGRAFIAS

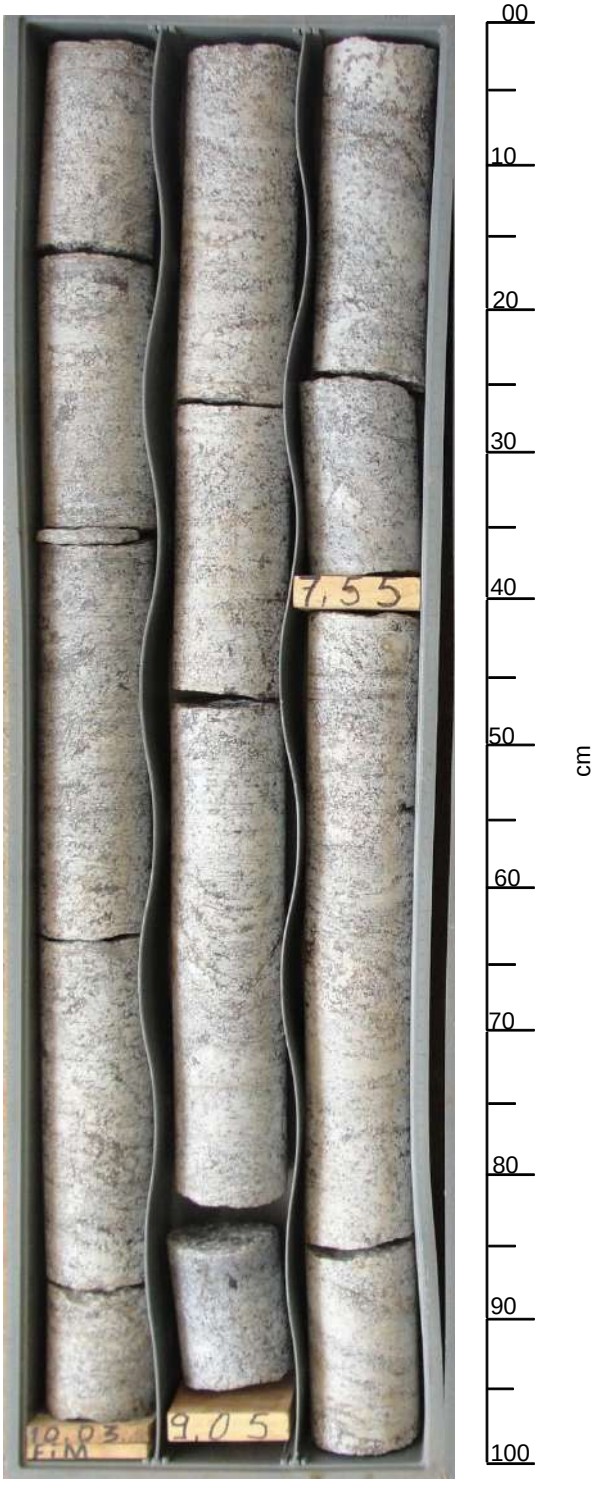
Nº FURO	CAIXAS	PÁG
SM-101	01,02	6
	03	7
SR-102	01,02	8
	03	9
SR-103	01,02	10
	03,04	11
SM-104	01,02	12
	03,04	13
SM-105	01,02	14
	03,04	15
	05	16
SM-106	01,02	17
	03,04	18
	05	19
SR-107	01,02	20
	03,04	21
	05	22
SR-110	01,02	23
	03,04	24
	05,06	25
	07	26
SM-111	01,02	27
	03,04	28
	05,06	29
	07,08	30
	09,10	31
	11,12	32
SR-112	01,02	33
	03,04	34
	05,06	35
	07,08	36
	09,10	37
	11	38
SR-113	01,02	39
	03,04	40
	05,06	41
	07	42

Nº FURO	CAIXAS	PÁG
SM-114	01,02	43
	03,04	44
	05	45
SM-115	01,02	46
	03,04	47
SM-116	01,02	48
	03,04	49
	05,06	50
SR-121	01,02	51
	03	52

ANEXO B – RELATÓRIO FOTOGRÁFICO

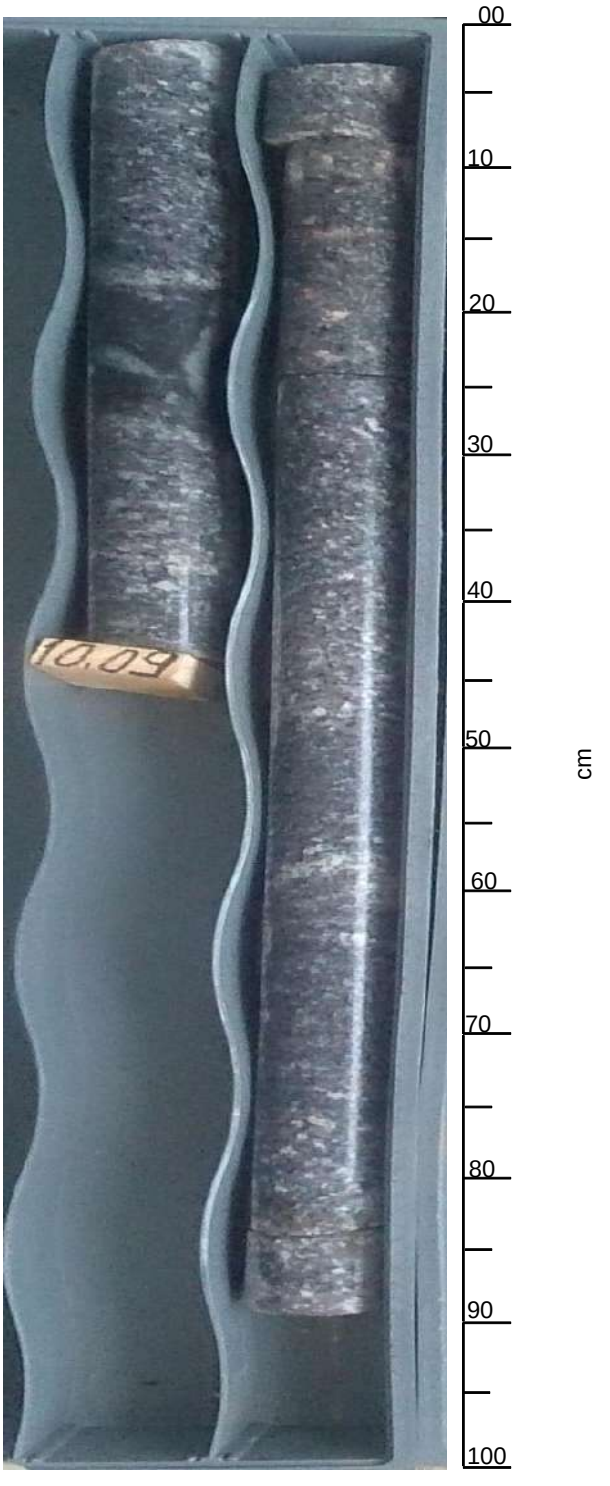
SONDAGEM Nº:	SM-101	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-101	CAIXAS:	3	-	-	-	-	-
DIR / INCL:	VERT							



SONDAGEM Nº:	SR-102	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SR-102	CAIXAS:	3	-	-	-	-	-
DIR / INCL:	VERT							



SONDAGEM Nº:	SR-103	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SR-103	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-104	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-104	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-105	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-105	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-105	CAIXAS:	5	-	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-106	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-106	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-106	CAIXAS:	5	-	-	-	-	-
DIR / INCL:	VERT							

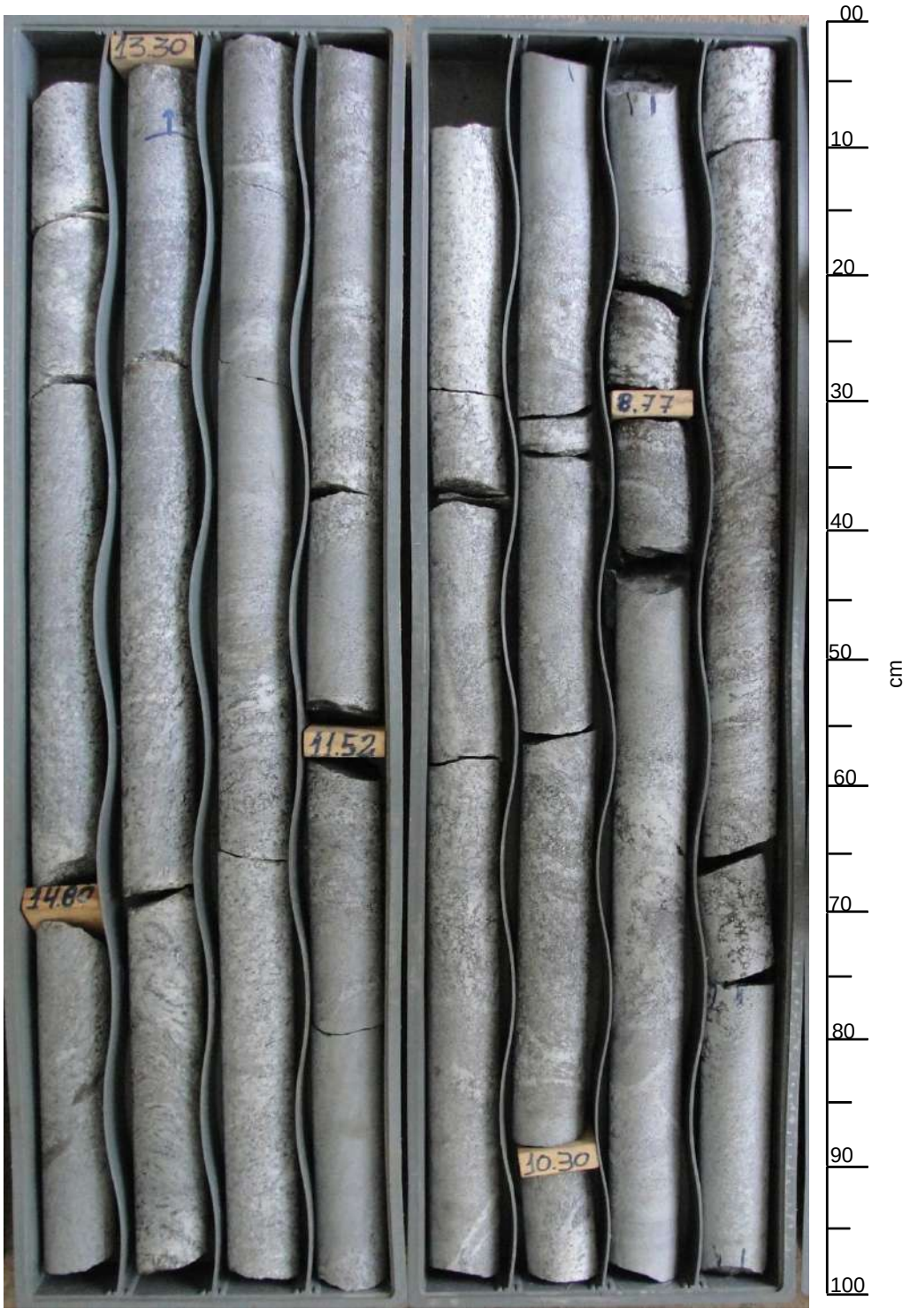
SONDAGEM Nº:	SR-107	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	310/30º							

SONDAGEM Nº:	SR-107	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	310/30º							

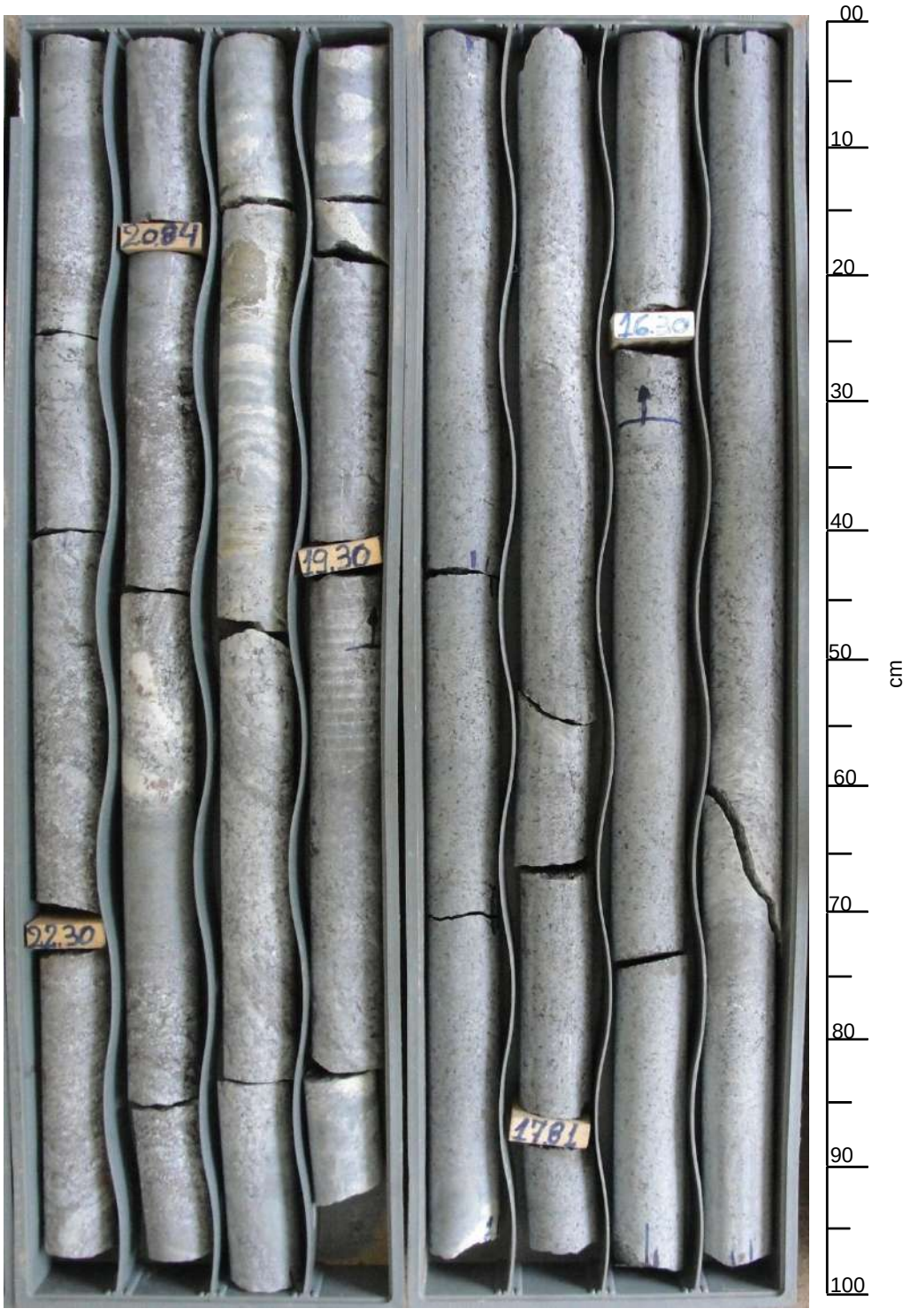
SONDAGEM Nº:	**SR-107**	**CAIXAS:**	**5**	-	-	-	-	-
DIR / INCL:	**310/30º**							

SONDAGEM Nº:	SR-110	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							

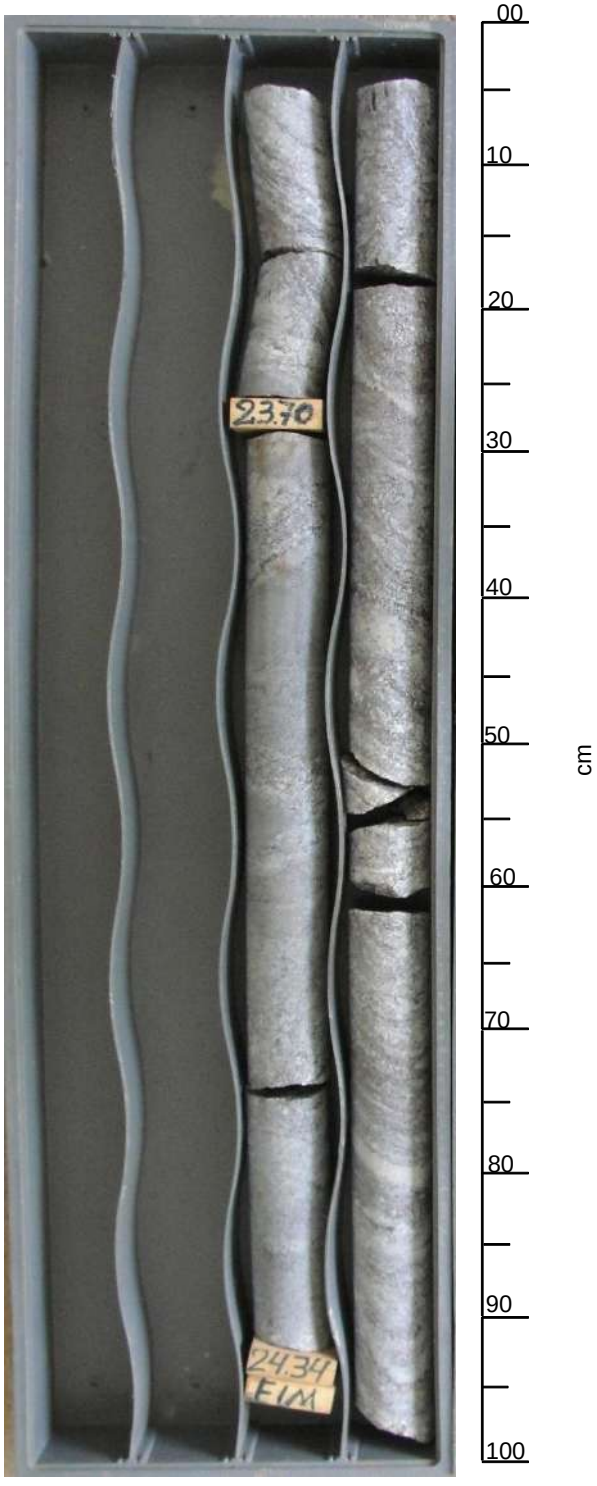
SONDAGEM Nº:	SR-110	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	VERT							



SONDAGEM Nº:	SR-110	CAIXAS:	5	6	-	-	-	-
DIR / INCL:	VERT							



SONDAGEM Nº:	SR-110	CAIXAS:	7	-	-	-	-	-
DIR / INCL:	VERT							



SONDAGEM Nº:	**SM-111**	**CAIXAS:**	**1**	**2**	**-**	**-**	**-**	**-**
DIR / INCL:	**VERT**							

SONDAGEM Nº:	SM-111	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	VERT							

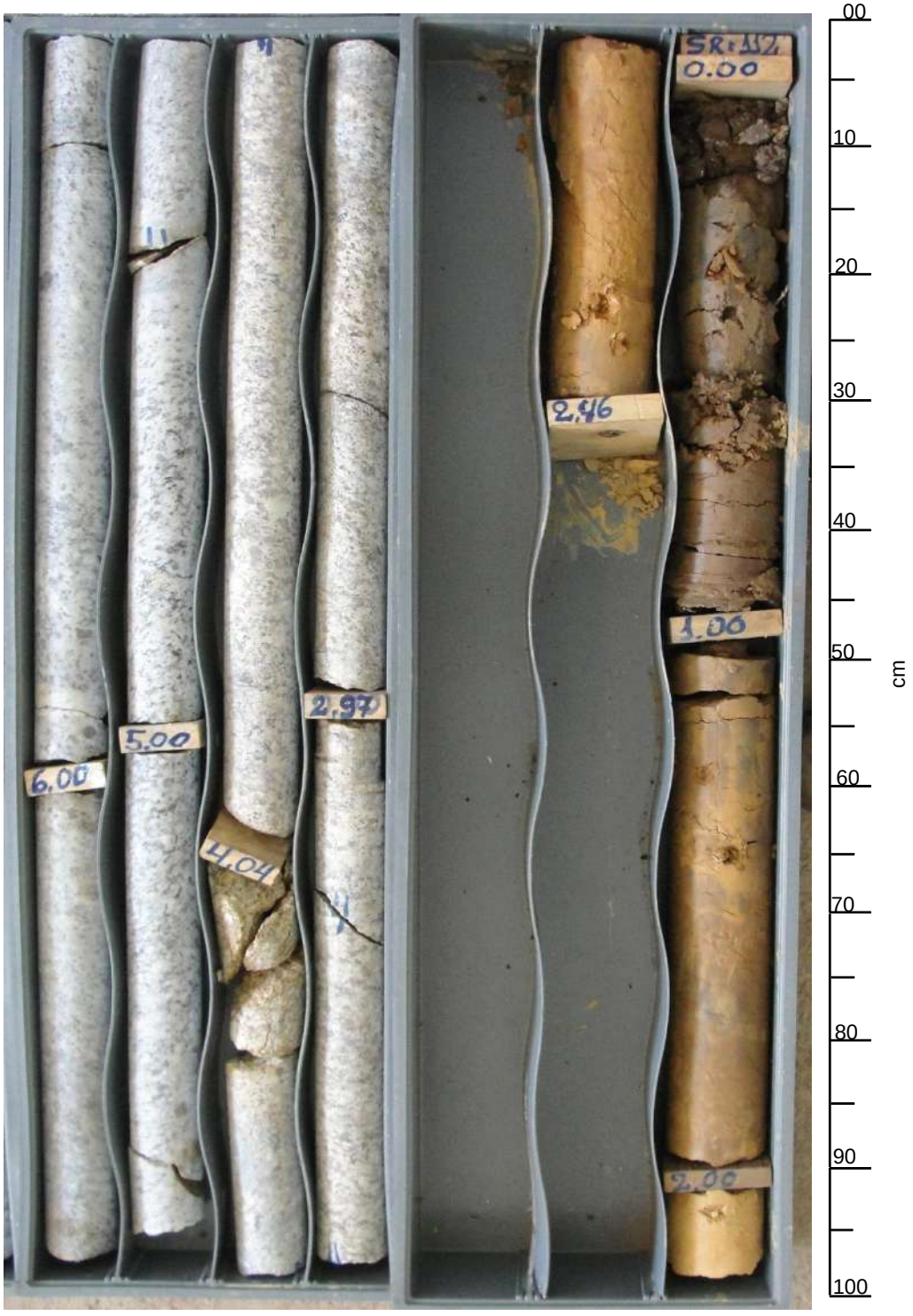
SONDAGEM Nº:	SM-111	CAIXAS:	5	6	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-111	CAIXAS:	7	8	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-111	CAIXAS:	9	10	-	-	-	-
DIR / INCL:	VERT							

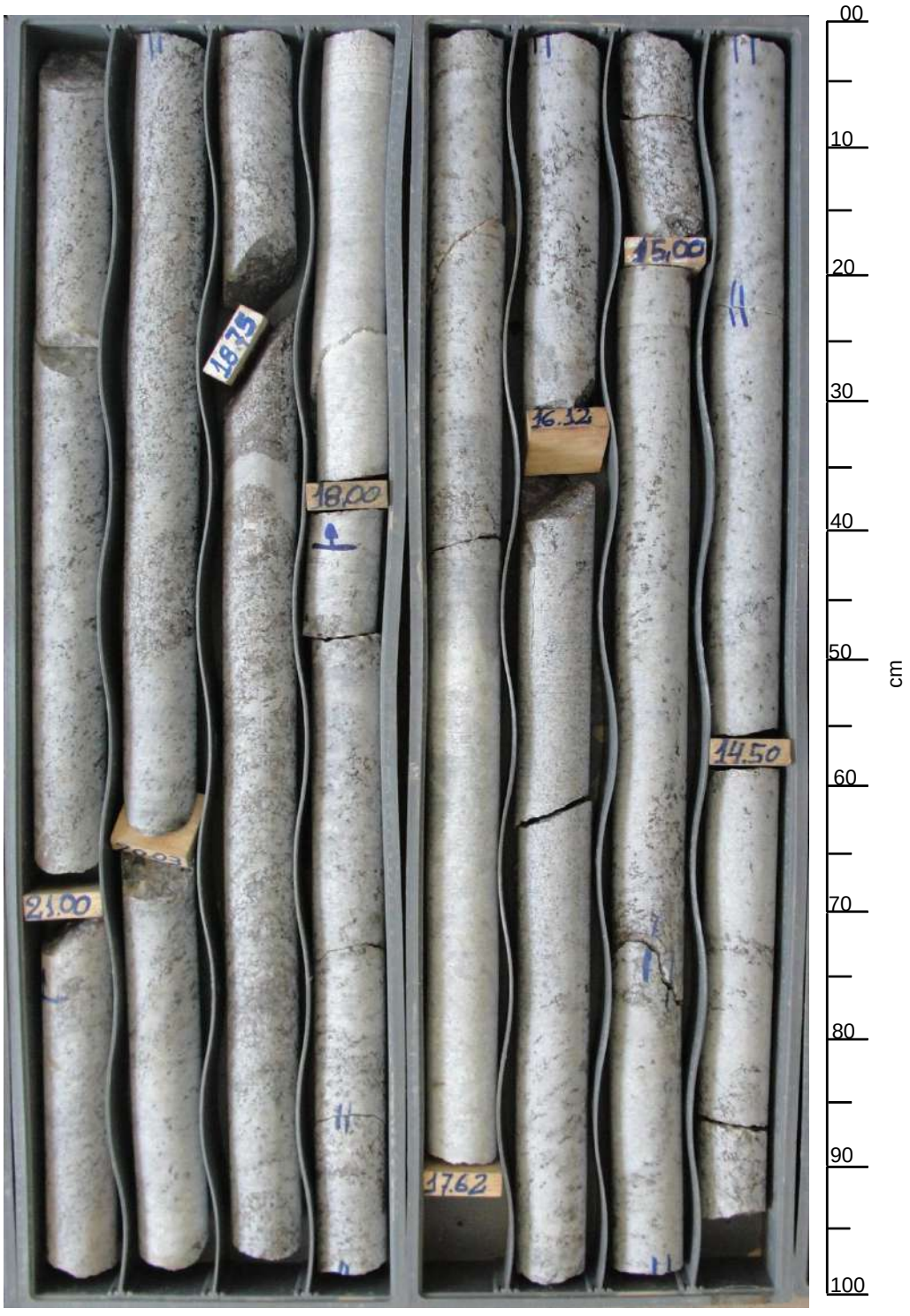
SONDAGEM Nº:	SM-111	CAIXAS:	11	12	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	**SR-112**	**CAIXAS:**	**1**	**2**	**-**	**-**	**-**	**-**
DIR / INCL:	**230/30º**							



SONDAGEM Nº:	SR-112	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	230/30º							

SONDAGEM Nº:	SR-112	CAIXAS:	5	6	-	-	-	-
DIR / INCL:	230/30º							



SONDAGEM Nº:	SR-112	CAIXAS:	7	8	-	-	-	-
DIR / INCL:	230/30º							

SONDAGEM Nº:	SR-112	CAIXAS:	9	10	-	-	-	-
DIR / INCL:	230/30º							

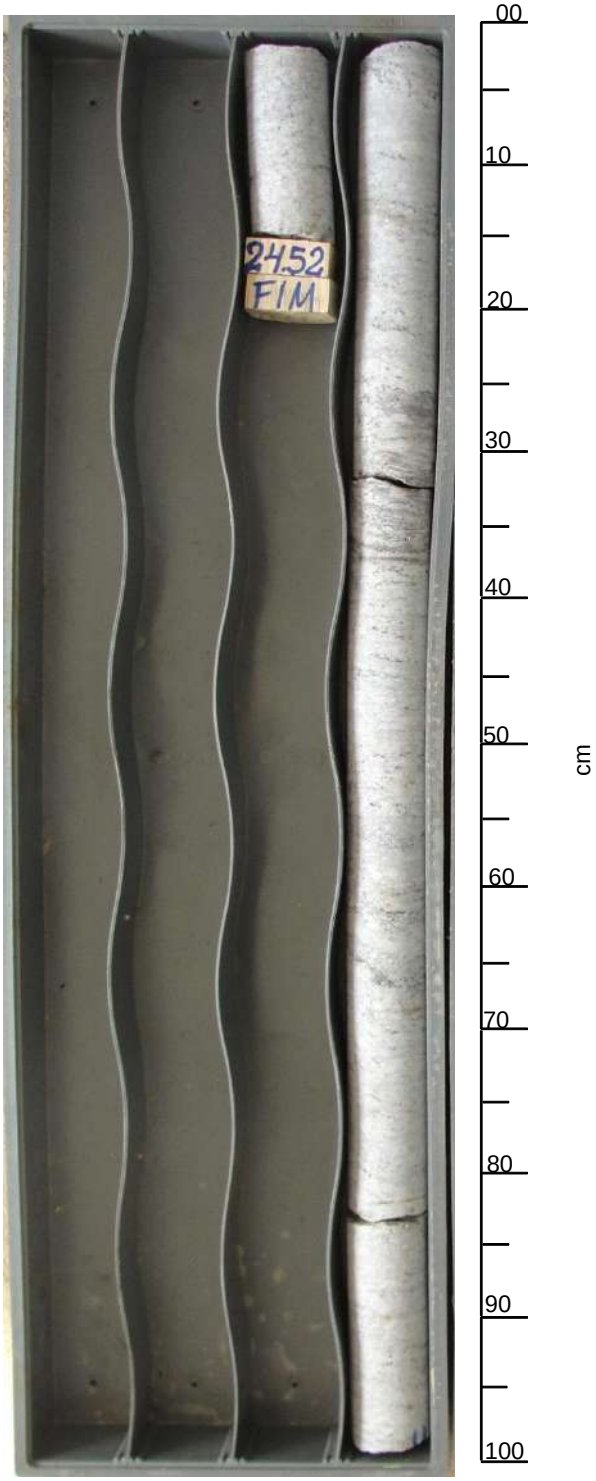
SONDAGEM Nº:	**SR-112**	**CAIXAS:**	**11**	-	-	-	-	-
DIR / INCL:	**230/30º**							

SONDAGEM Nº:	SR-113	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SR-113	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SR-113	CAIXAS:	5	6	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SR-113	CAIXAS:	7	-	-	-	-	-
DIR / INCL:	VERT							



SONDAGEM Nº:	SM-114	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-114	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-114	CAIXAS:	5	-	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-115	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							

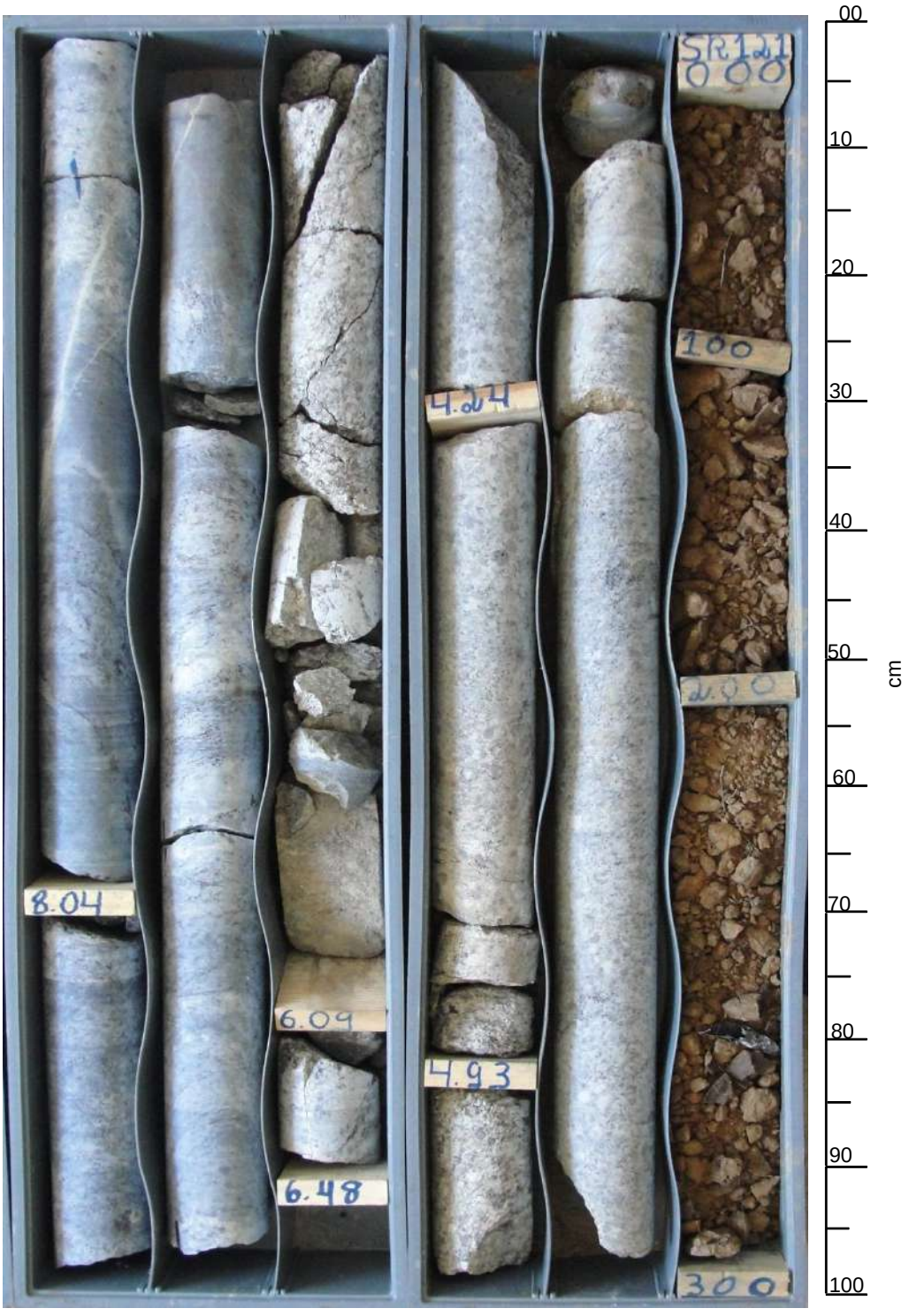
SONDAGEM Nº:	SM-115	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-116	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							

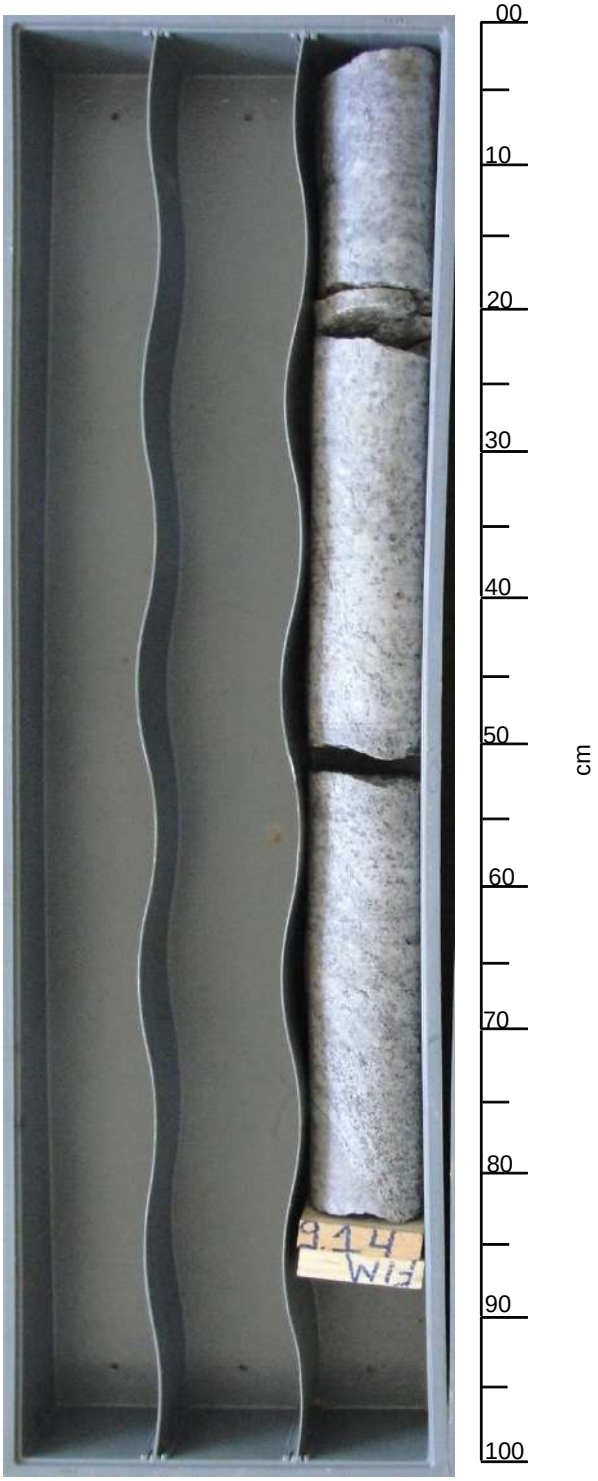
SONDAGEM Nº:	SM-116	CAIXAS:	3	4	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SM-116	CAIXAS:	5	6	-	-	-	-
DIR / INCL:	VERT							

SONDAGEM Nº:	SR-121	CAIXAS:	1	2	-	-	-	-
DIR / INCL:	VERT							



SONDAGEM Nº:	SR-121	CAIXAS:	3	-	-	-	-	-
DIR / INCL:	VERT							



RPS: XX/15

Belo Horizonte, 15 de outubro de 2015.

CLIENTE: CONSÓRCIO CJC

O B R A: UHE ITAOCARA

R E L A T Ó R I O P E R F I L A G E M Ó P T I C A

1 - INTRODUÇÃO

1.1 Objetivo

O presente trabalho tem como objetivo a caracterização das principais descontinuidades observadas nas sondagens executados no barramento da UHE ITAOCARA - RJ, através do método de perfilagem geofísica denominado televisamento (HI-OPTV).

1.2 Perfuração

As perfurações foram executadas por sistema de sondagem rotativa (HW), com diâmetro de 95,58 mm.

1.3 Ensaios desenvolvidos

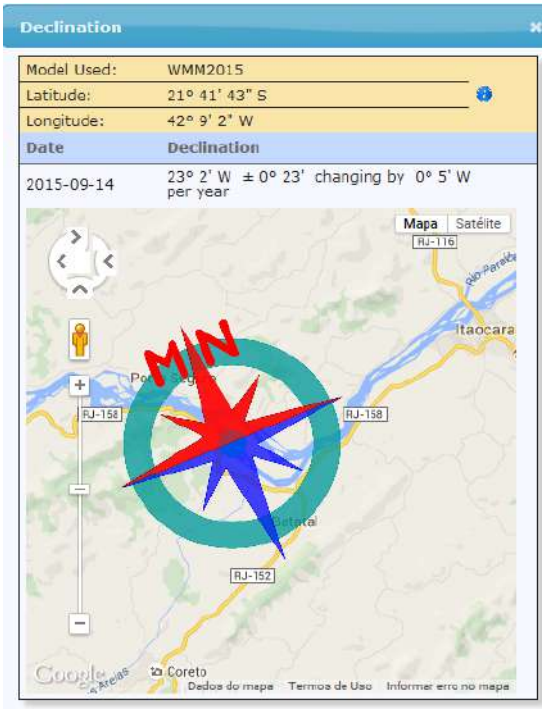
O televisamento foi realizado com a utilização da ferramenta HI-OPTV (High Resolution Optical Televiewer), sistema de perfilagem desenvolvido pela Robertson Geologging Ltd. A técnica realiza um imageamento em 360° das paredes do furo, identificando e definindo as descontinuidades interceptadas pela sondagem.

1.4 Processamento

Para o processamento das imagens obtidas através da perfilagem, foi utilizado o programa RGLDIP da Robertson Geologging. O programa permite a obtenção das atitudes das feições estruturais, bem como os dados de desvio da perfuração ao longo de todo o trecho perfilado.

1.5 Declinação Magnética

A declinação magnética utilizada no processamento: 23° 2’ W (http://www.ngdc.noaa.gov/geomag/).



2 – QUADRO RESUMO PERFILAGEM

FURO	LOCAL	PROFUNDIDADE
SM-101	BARRAMENTO M.D.	10,00 m
SM-104	BARRAMENTO ILHA	10,00 m
SM-105	BARRAMENTO ILHA	17,06 m
SM-111	CASA DE FORÇA	32,87 m
SM-116	BARRAMENTO M.E.	26,12 m

3 - APRESENTAÇÃO DOS RESULTADOS

A seguir, são apresentados separadamente para cada perfilagem:

- IMAGEM 2D: imageamento aberto das paredes do furo;
- TESTEMUNHO VIRTUAL: imageamento em 360° das paredes do furo, em 4 direções de visada (N, S, E, W);
- ATITUDES DAS DESCONTINUIDADES: Caracterização das descontinuidades (*DipDirection /Dip*), observadas ao longo do furo;
- DESVIO SONDAGEM: Diagramas / projeção do desvio do furo;

4 - CONSIDERAÇÕES FINAIS

I. O critério de paralisação da perfilagem foi determinado pela Progeo, para garantir a segurança da sonda;

II. Atentar para as descontinuidades na proximidade do revestimento (1,00m); que eventualmente podem sofrer interferência eletromagnética na bússola;

III. No tratamento das descontinuidades foram consideradas as principais feições estruturais: juntas abertas e fechadas.

À disposição para esclarecimentos adicionais, subscrevemo-nos.

Atenciosamente,

Geol. Pedro Paulo Freiheit Côrtes
CREA: 88400 D

SM-101

IMAGEM 2D

UHE ITAOCARA

Borehole: SM-101

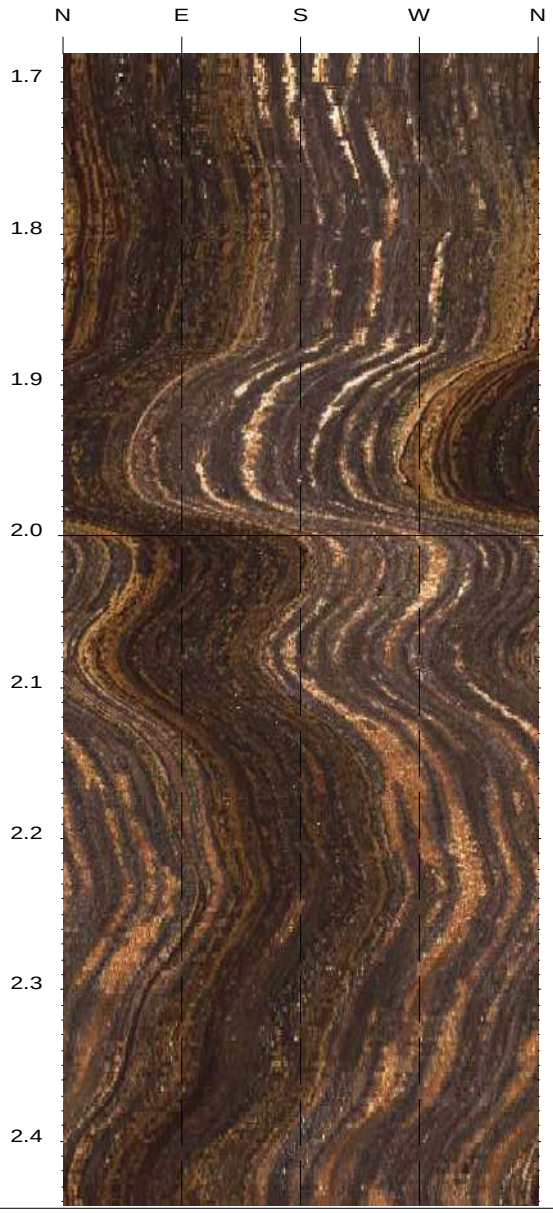
OMBREIRA DIREITA

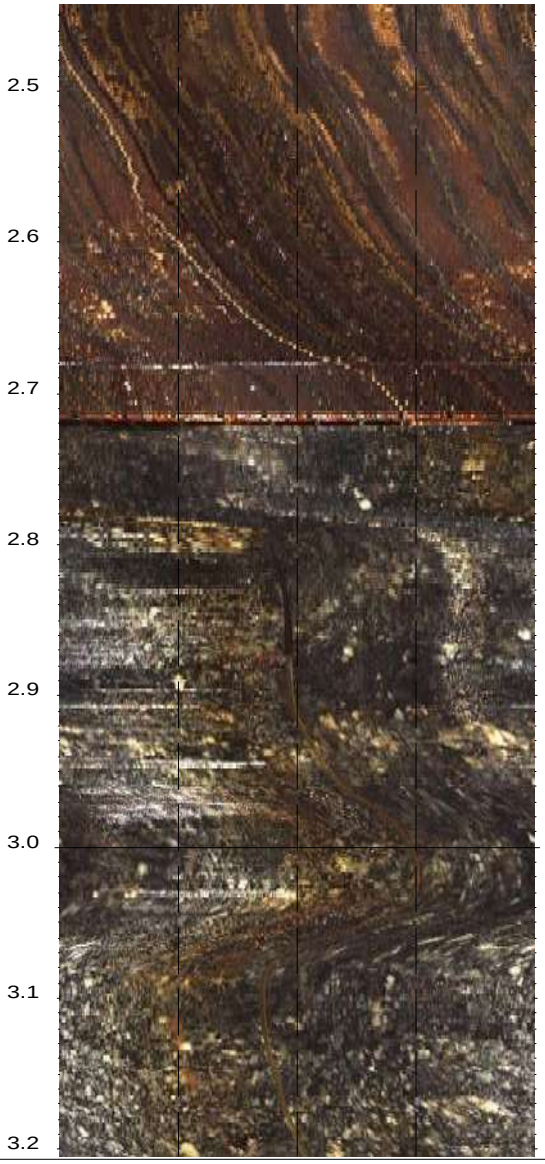
top of borehole.....
East:
North:
Elev:

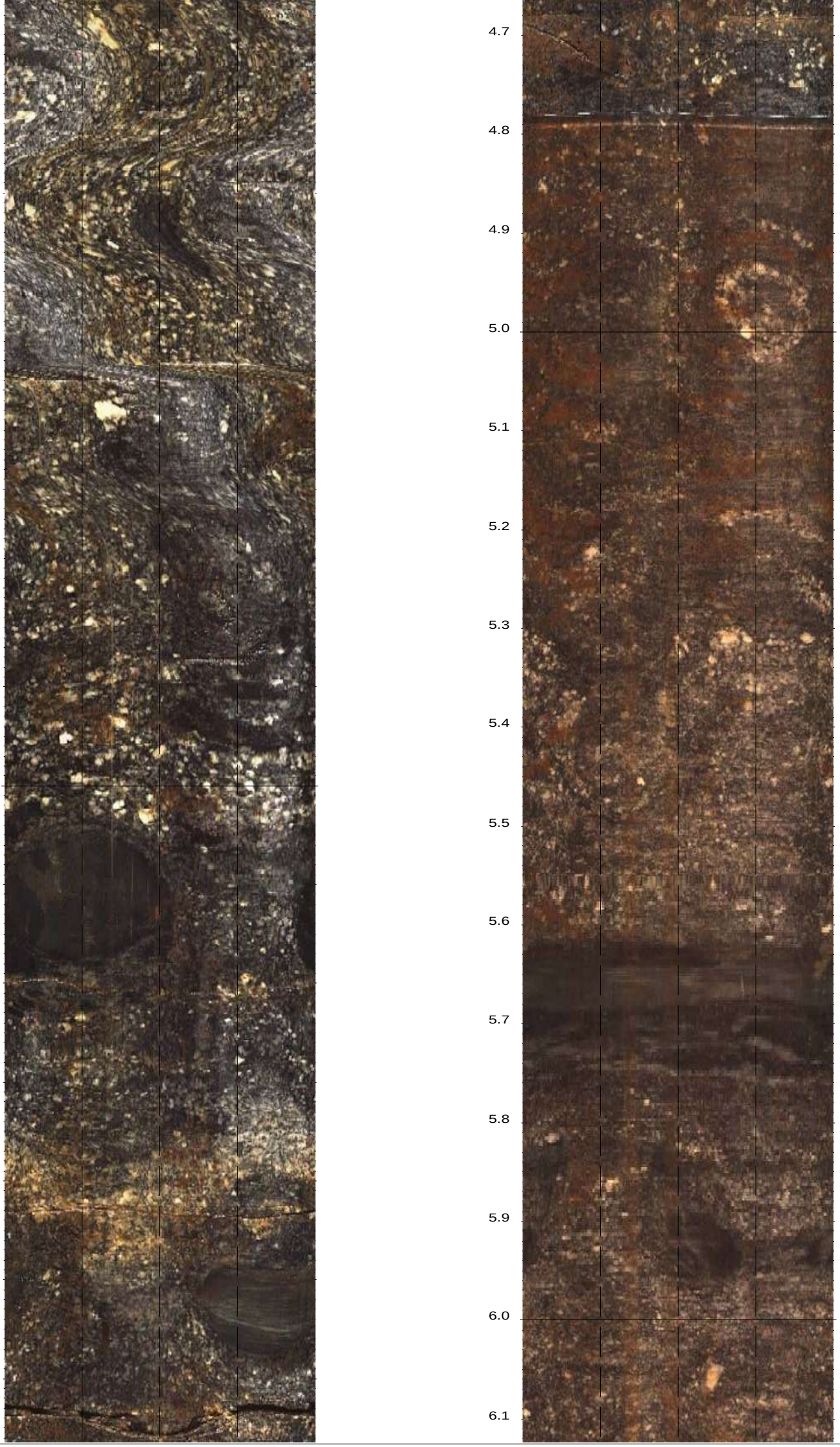
North ref. is magnetic
Depth units are metres
Vertical scale: 1/5
Horiz scale = vert scale

Zone from 10.0068 to 1.6800m
Format: BHTV NESWN

Borehole diam: 10.000cm
data intervals.....
Azimuth: 0.6667deg
Depth: 0.0012m



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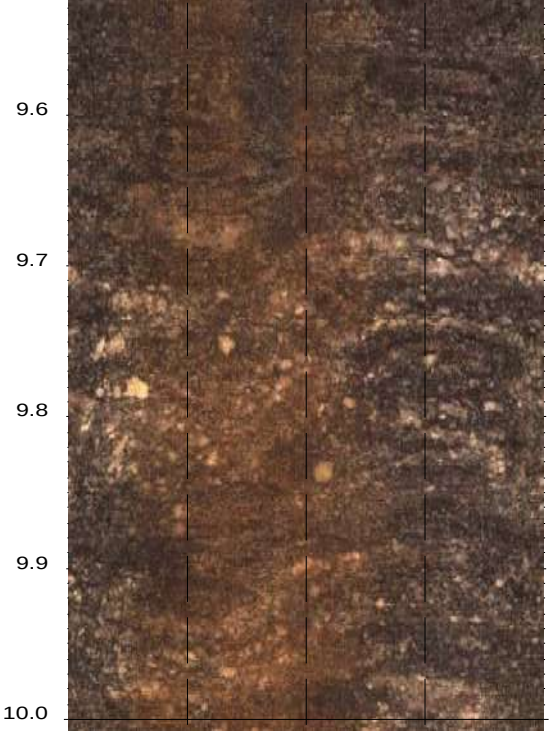
9.4
9.5


9.6
9.7
9.8
9.9
10.0

TESTEMUNHO VIRTUAL

OPTV DATA PROCESSING
RGLDIP vsn 6.2
CORE ORIENTATION LOG

25 Sep 2015

UHE ITAOCARA

Borehole: SM-101

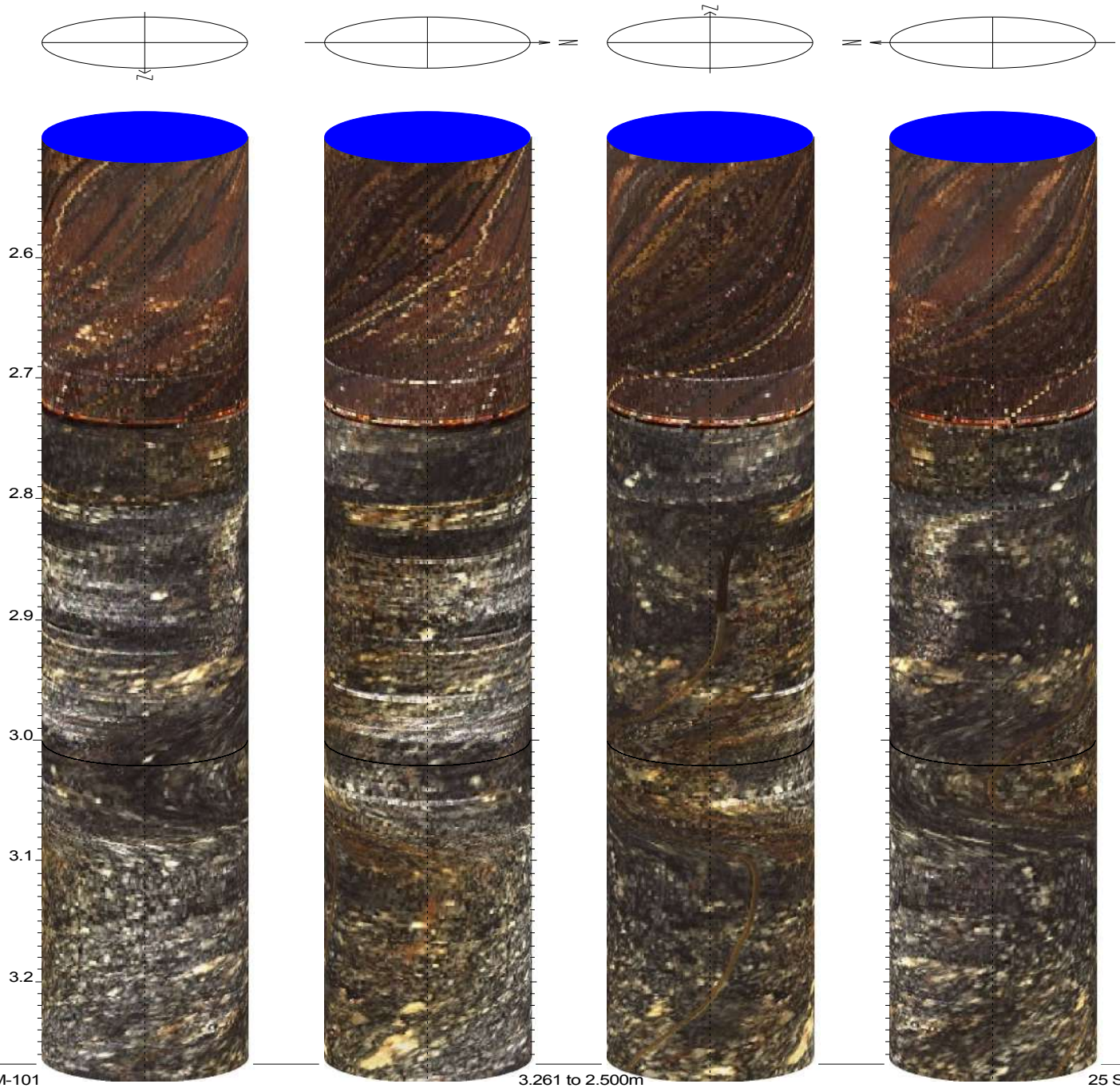
OMBREIRA DIREITA

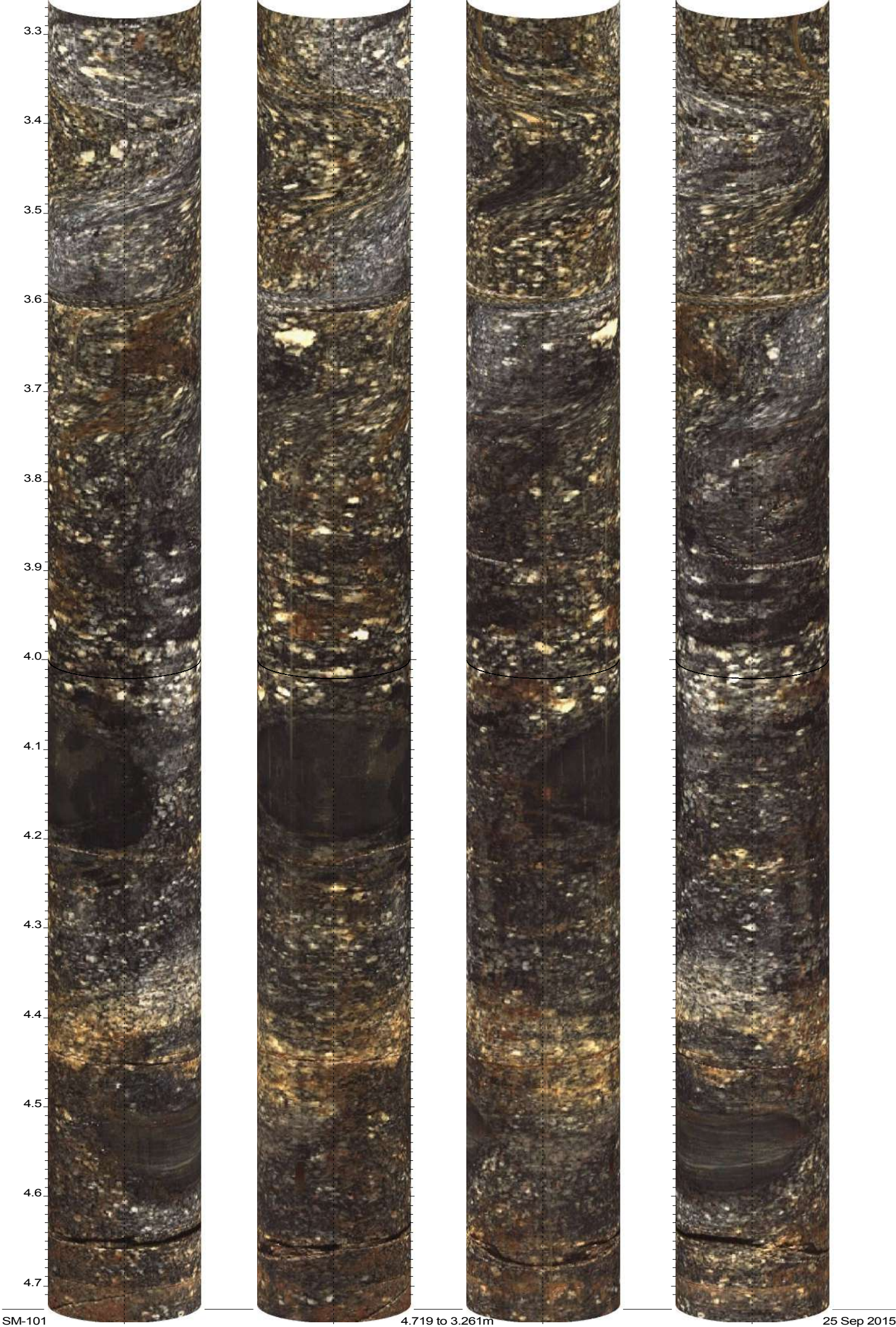
top of borehole.....
East:
North:
Elev:

North ref. is magnetic
Depth units are metres
Vertical scale: 1/5

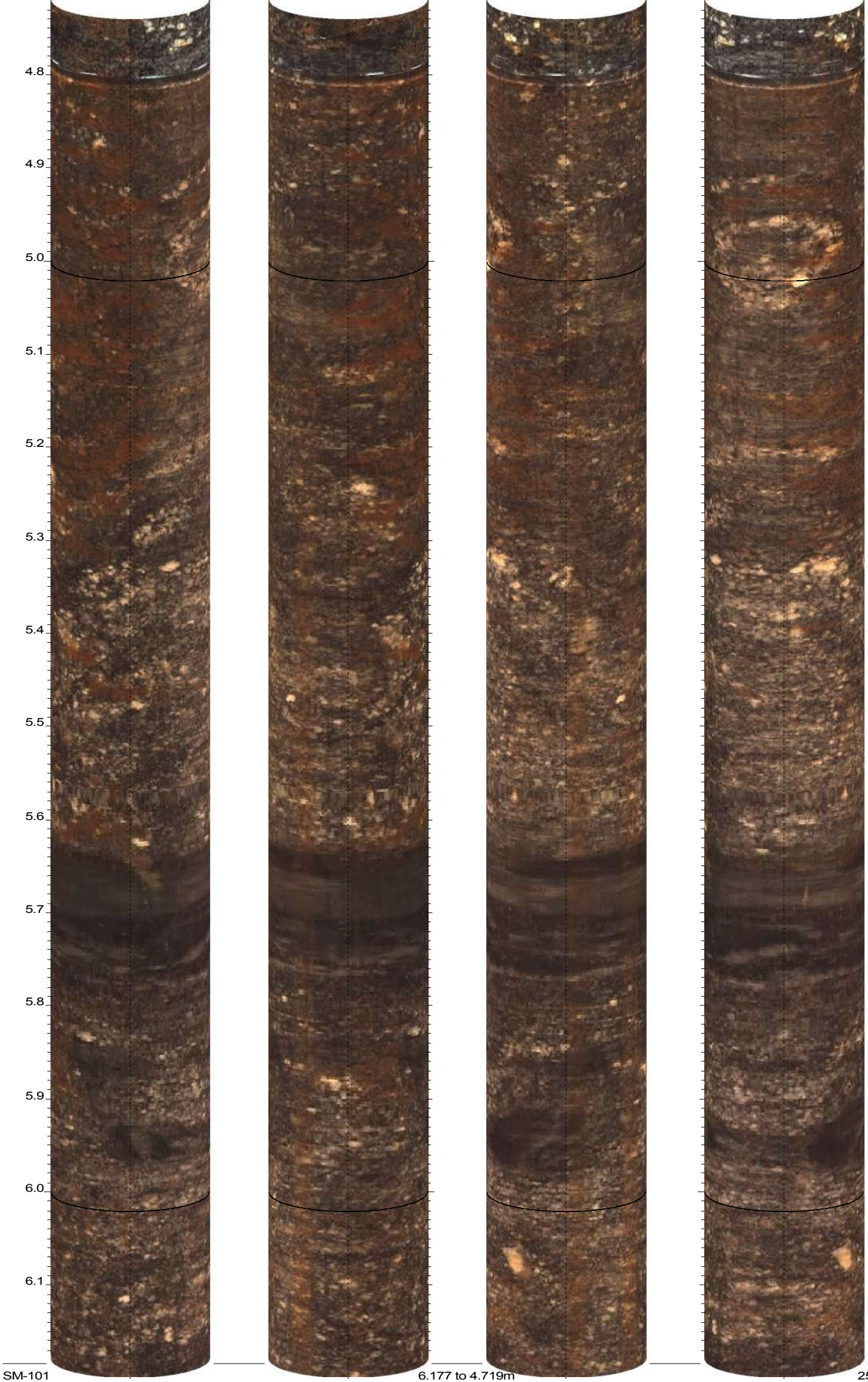
Zone from 10.008 to 2.500m
Cores oriented: N000 N090 N180 N270

Borehole diam: 10.000cm
data intervals .....
radial: 0.6667deg
axial: 0.0012m





SM-101 4.719 to 3.261m 25 Sep 2015



SM-101 6.177 to 4.719m 25 Sep 2015

SM-101 7.635 to 6.177m 25 Sep 2015

SM-101 9.093 to 7.635m 25 Sep 2015

9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10.0

ATITUDES

DESCONTINUIDADES

PROGEO

OPTV DATA PROCESSING
RGLDIP vsn 6.2
INTERPRETED OPTV DIPS LOG

15 Oct 2015

UHE ITAOCARA

Borehole: SM-101

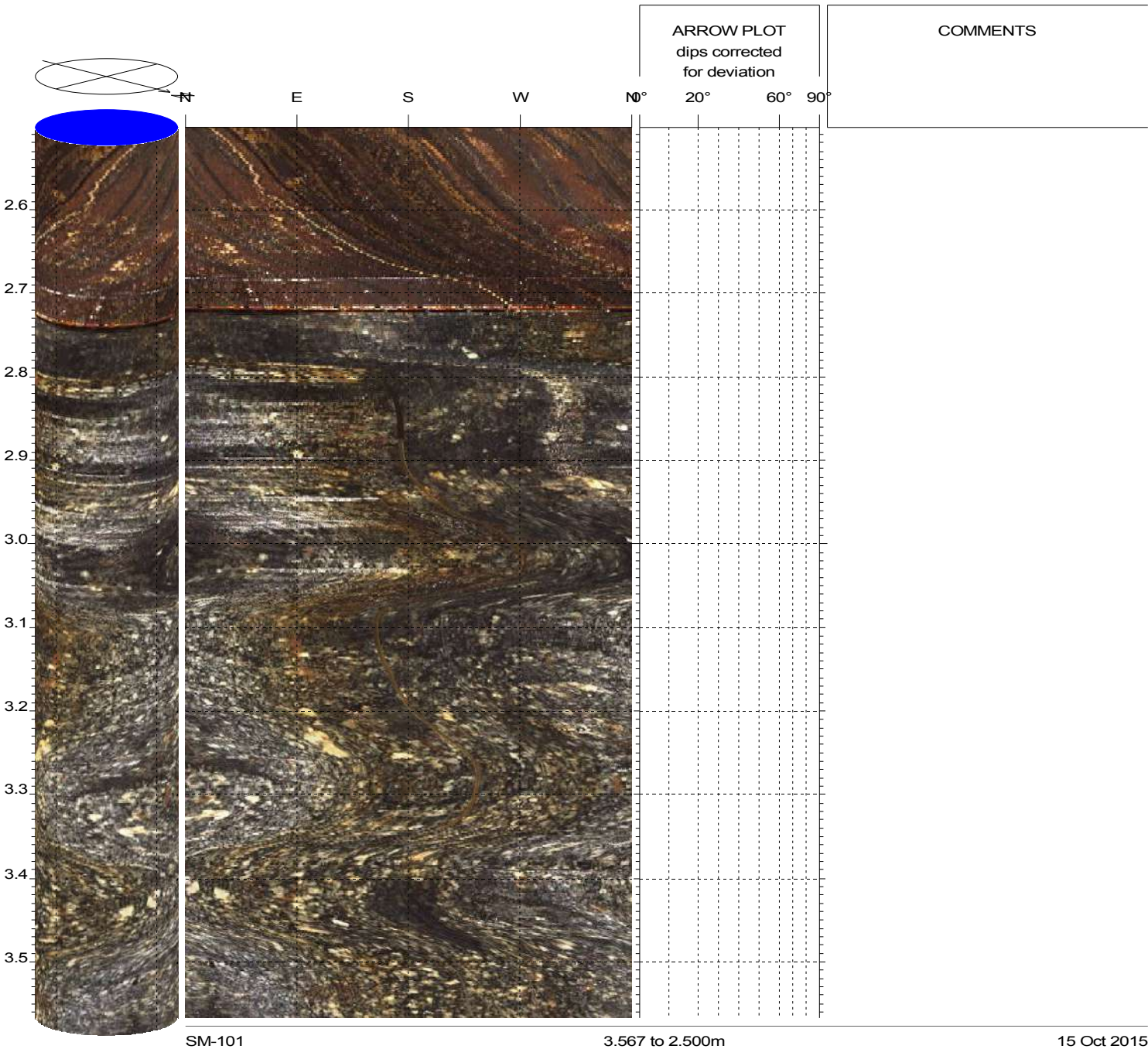
OMBREIRA DIREITA

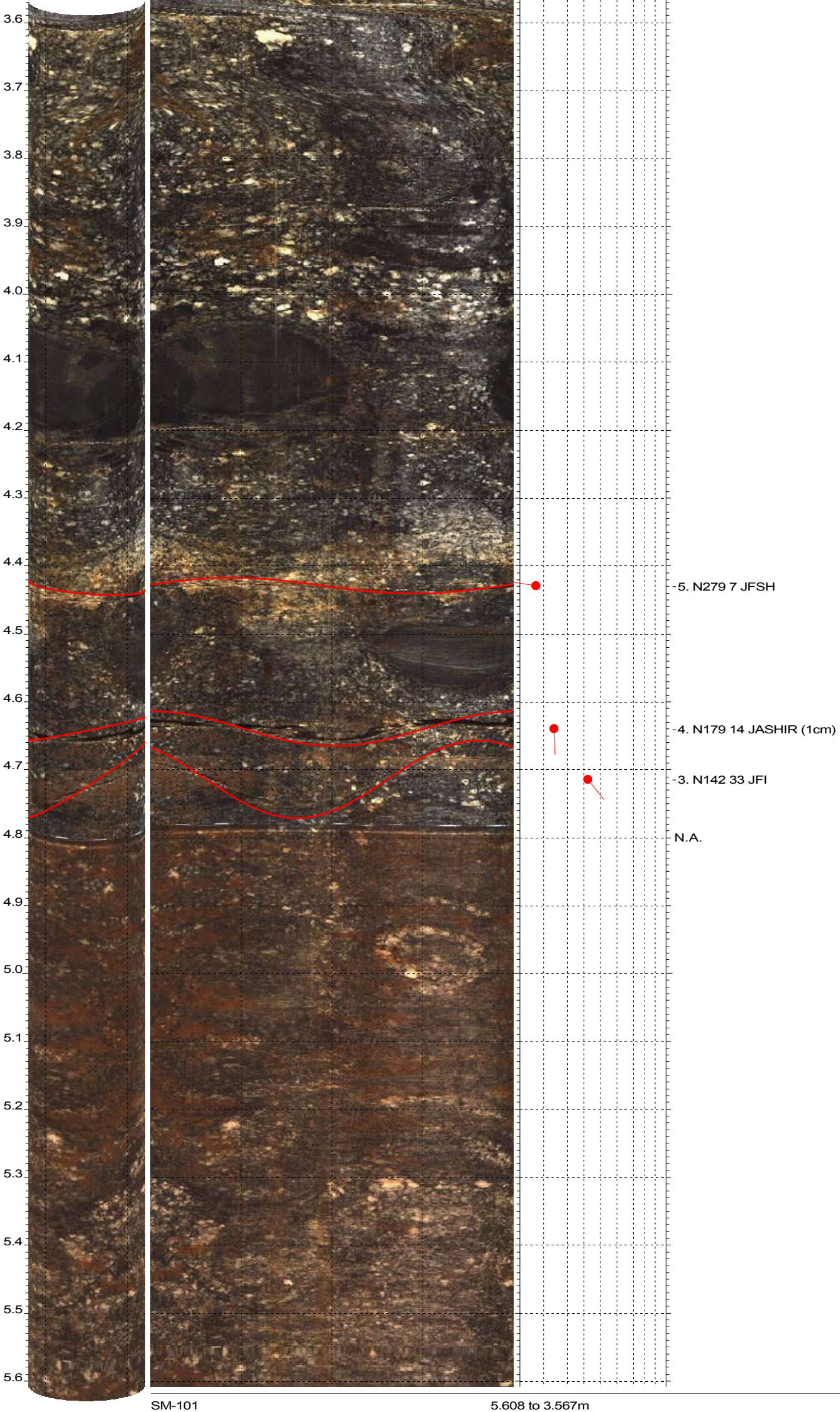
top of borehole.....
East:
North:
Elev:

North ref. is magnetic
Depth units are metres
Vertical scale: 1/7

Zone from 10.000 to 2.500m
Format: BHTV-NESWN

Borehole diam: 10.000cm
Vertical = borehole-axis




3.6
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4.0
4.1
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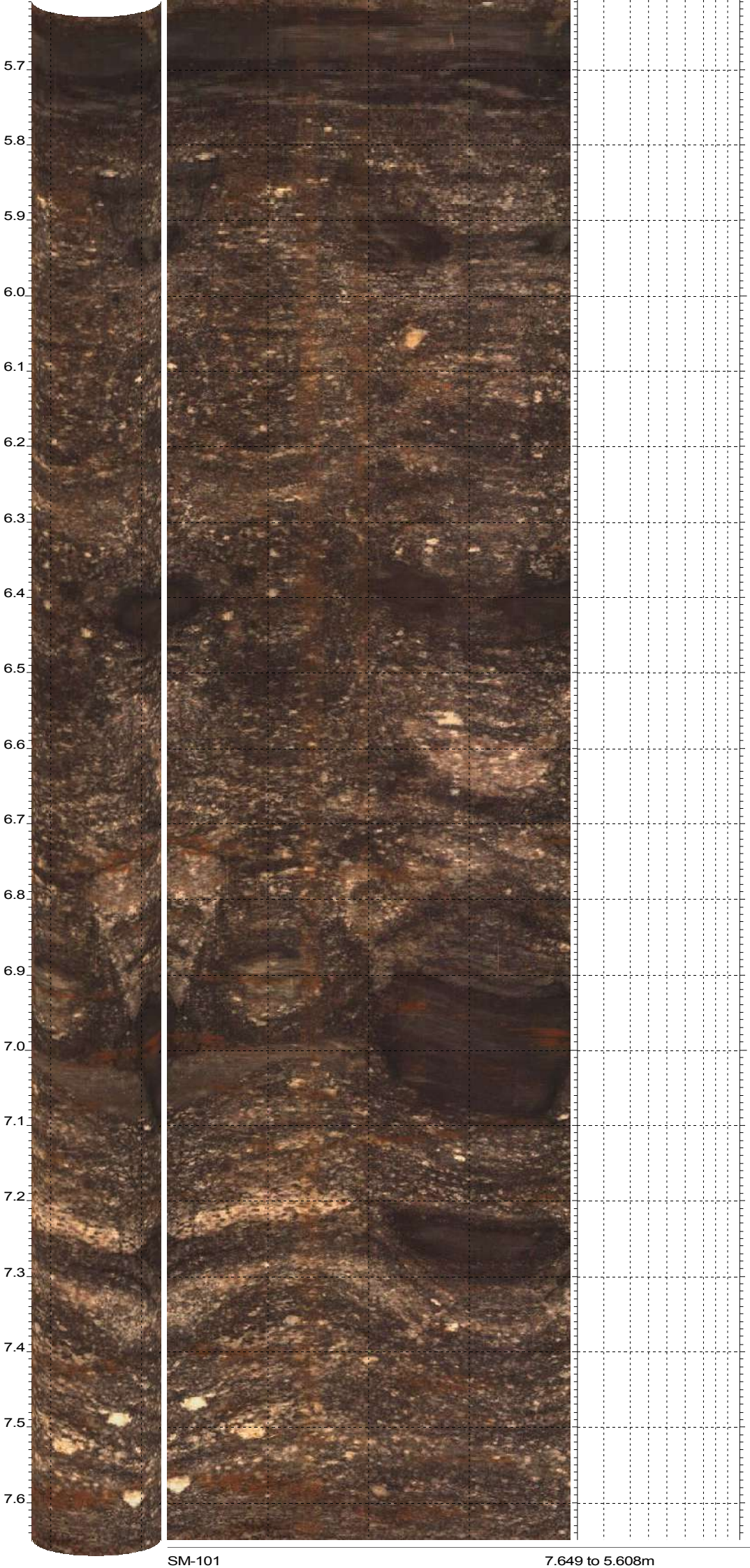
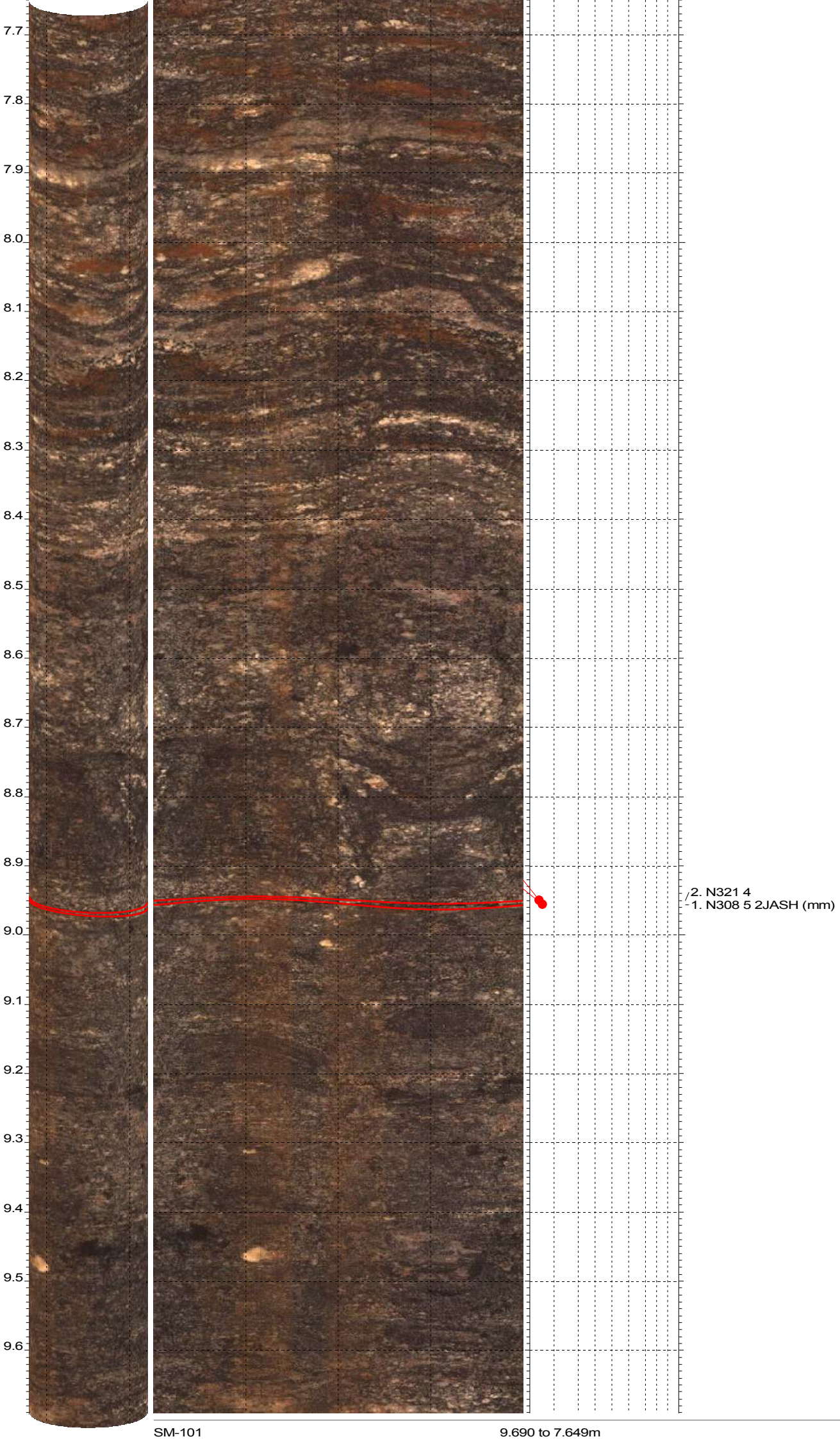
4.4
4.5
4.6
4.7
4.8
4.9
5.0
5.1
5.2
5.3
5.4
5.5
5.6
5. N279 7 JFSH
4. N179 14 JASHIR (1cm)
3. N142 33 JFI
N.A.

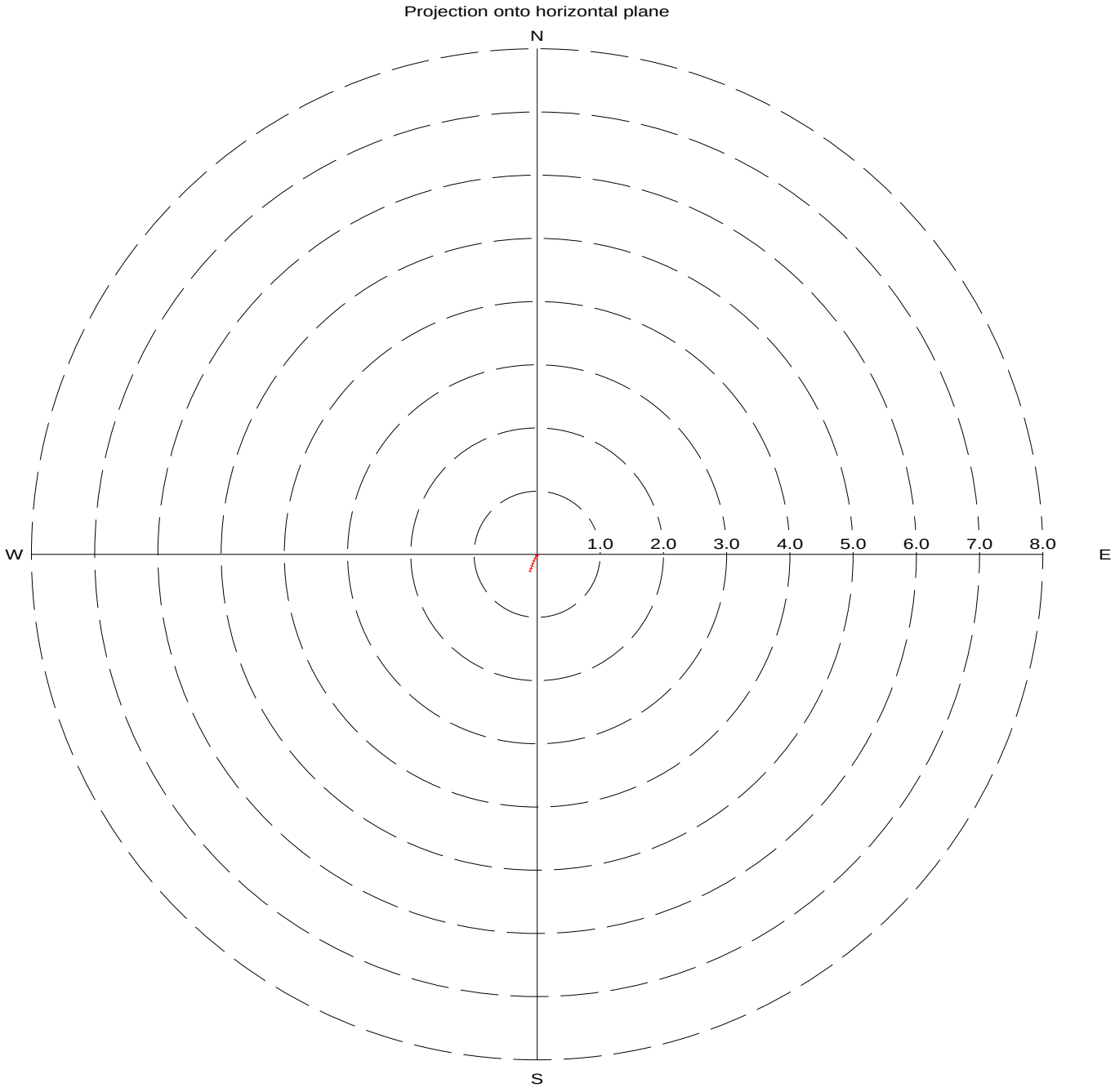

5.7
5.8
5.9
6.0
6.1
6.2
6.3
6.4
6.5
6.6
6.7
6.8
6.9
7.0
7.1
7.2
7.3
7.4
7.5
7.6


7.7
7.8
7.9
8.0
8.1
8.2
8.3
8.4
8.5
8.6
8.7
8.8
8.9
9.0
9.1
9.2
9.3
9.4
9.5
9.6
2. N321 4
1. N308 5 2JASH (mm)

9.7
9.8
9.9
10.0

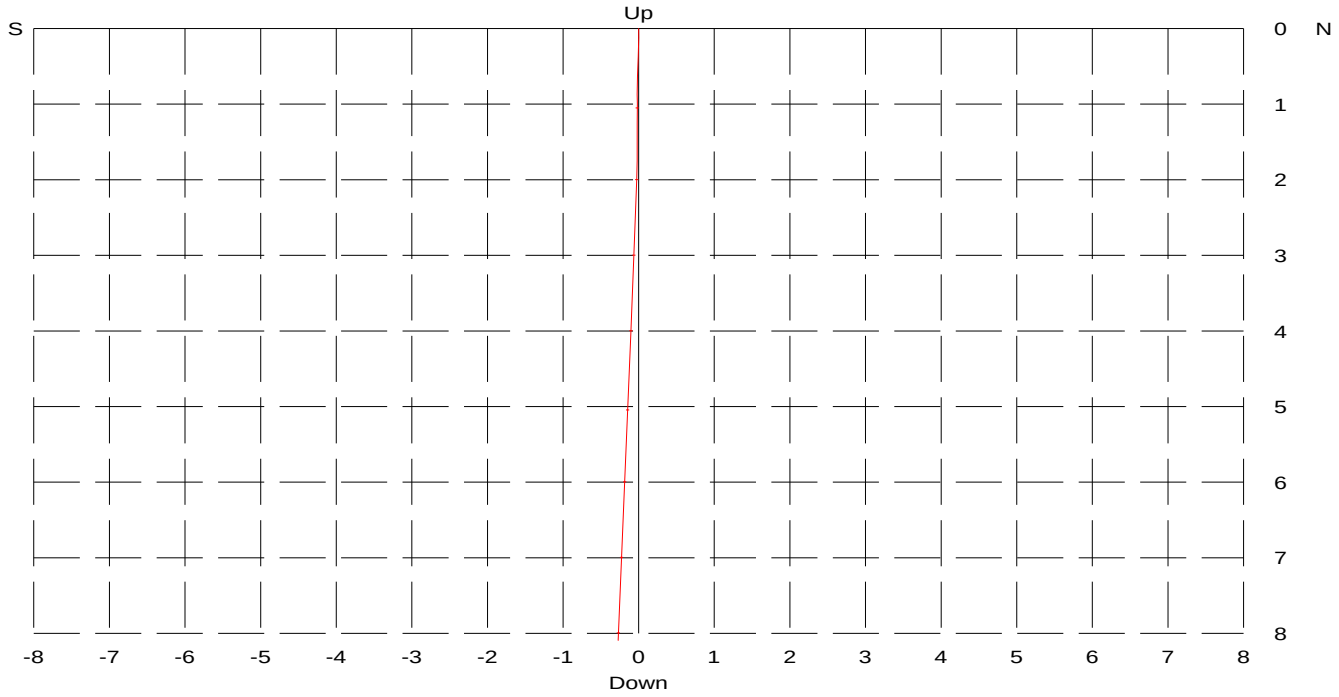
DESVIO SONDAGEM

Borehole: SM-101 Sonde: OPTV
Zone from: 1.754 to 9.950m
North ref is magnetic
Mean deviation: 2.10 to N202.70
End coordinates .....
North: -0.277
East : -0.118
Down : 8.188
Azimuth of end: N203.10
Distance start-end: 0.301m
Distance marks every 1m
25 Sep 2015

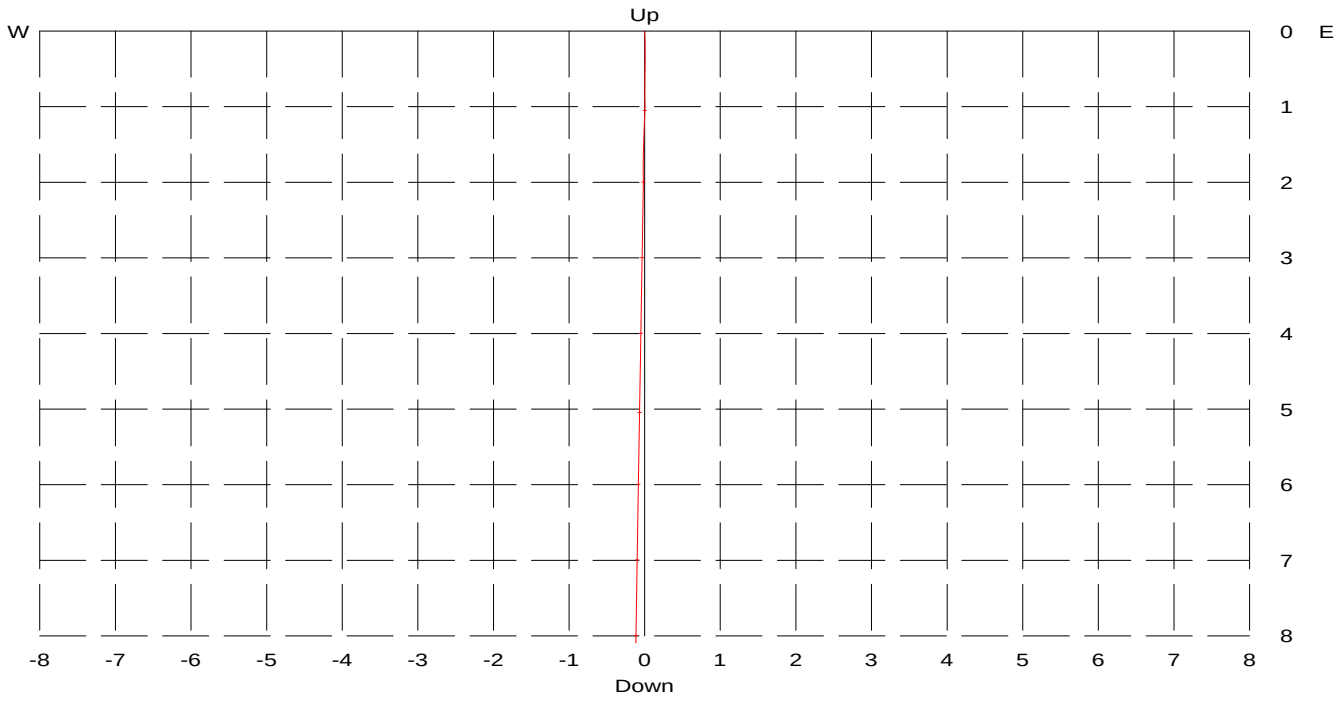


Borehole: SM-101 Sonde: OPTV
Zone from: 1.754 to 9.950m
North ref is magnetic
Mean deviation: 2.10 to N202.70
End coordinates .....
North: -0.277
East : -0.118
Down : 8.188
Azimuth of end: N203.10
Distance start-end: 0.301m
Distance marks every 1m
25 Sep 2015

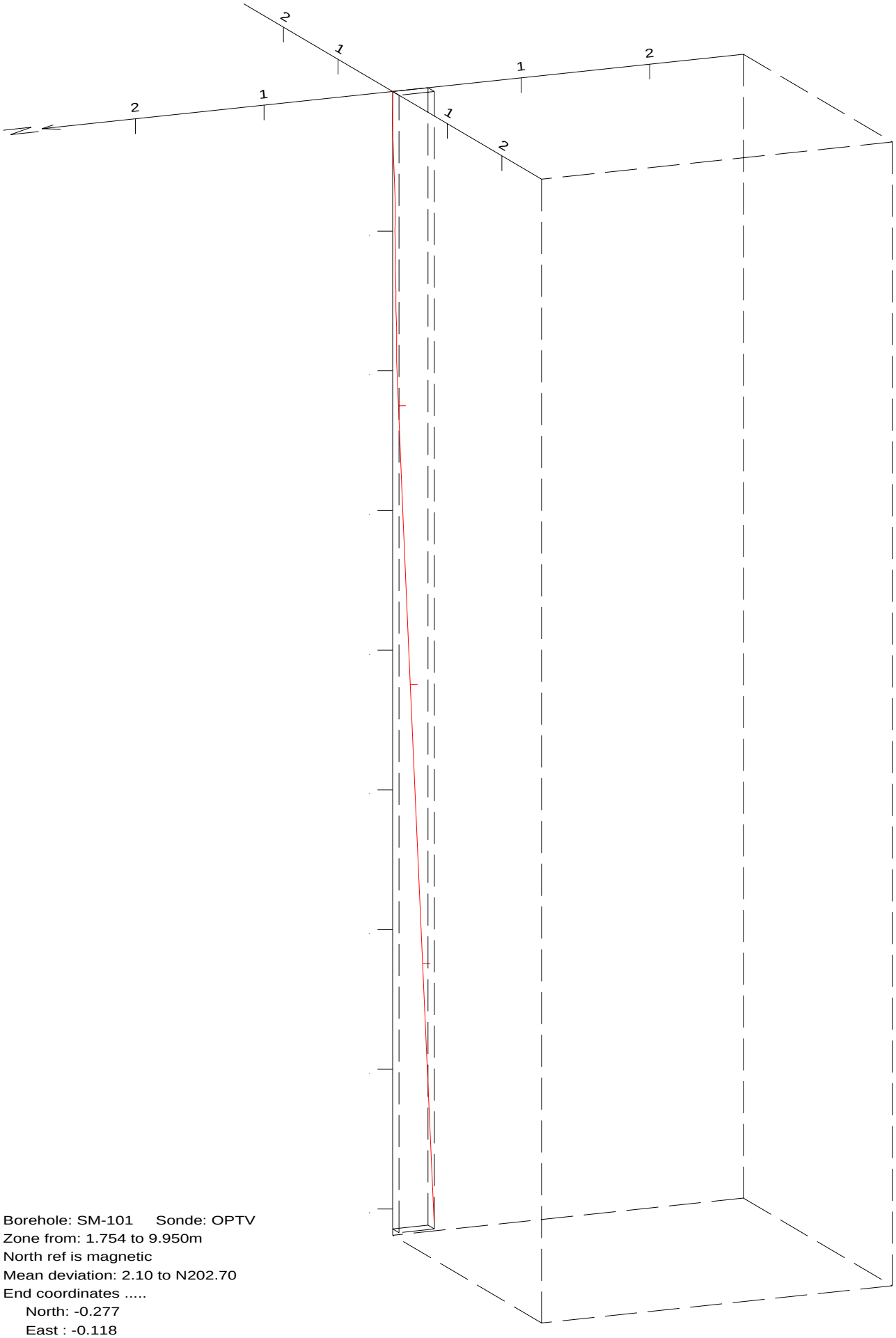
Projection onto vertical N-S plane



Projection onto vertical E-W plane



Deviated borehole in orthographic projection, viewed from N293



Borehole: SM-101 Sonde: OPTV
Zone from: 1.754 to 9.950m
North ref is magnetic
Mean deviation: 2.10 to N202.70
End coordinates .....
North: -0.277
East : -0.118
Down : 8.188
Azimuth of end: N203.10
Distance start-end: 0.301m
Viewpoint: N293
25 Sep 2015

SM-104

IMAGEM 2D

UHE ITAOCARA

Borehole: SM-104

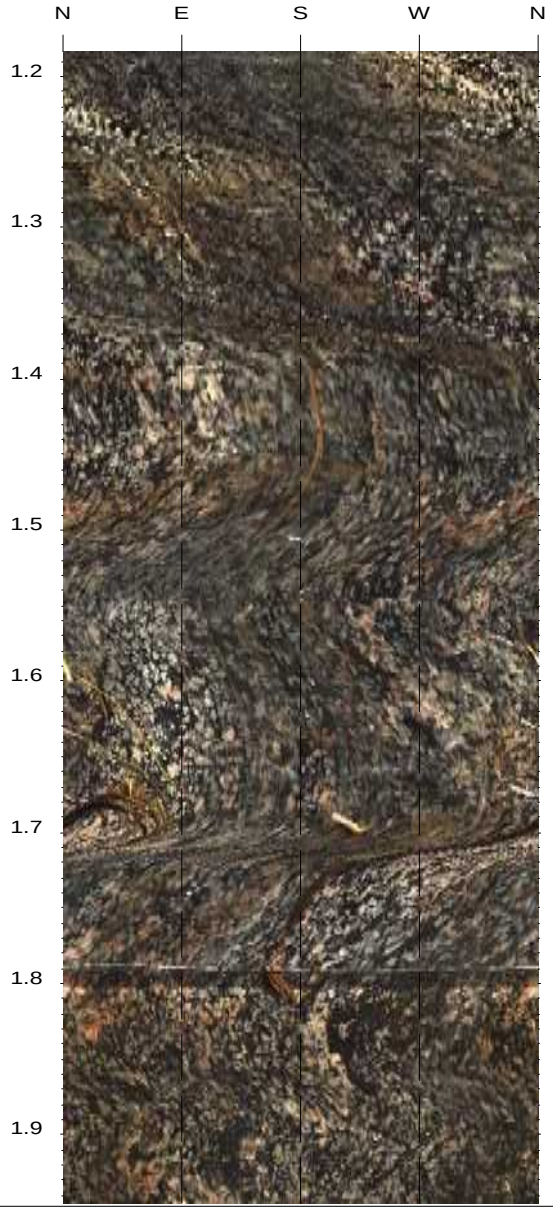
BARRAMENTO ILHA

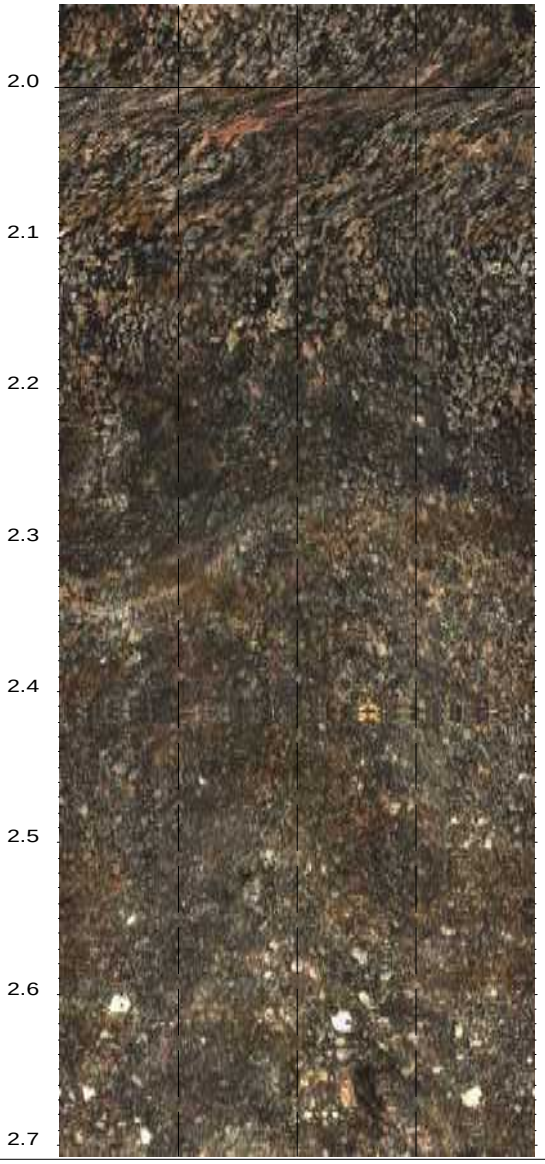
top of borehole.....
East:
North:
Elev:

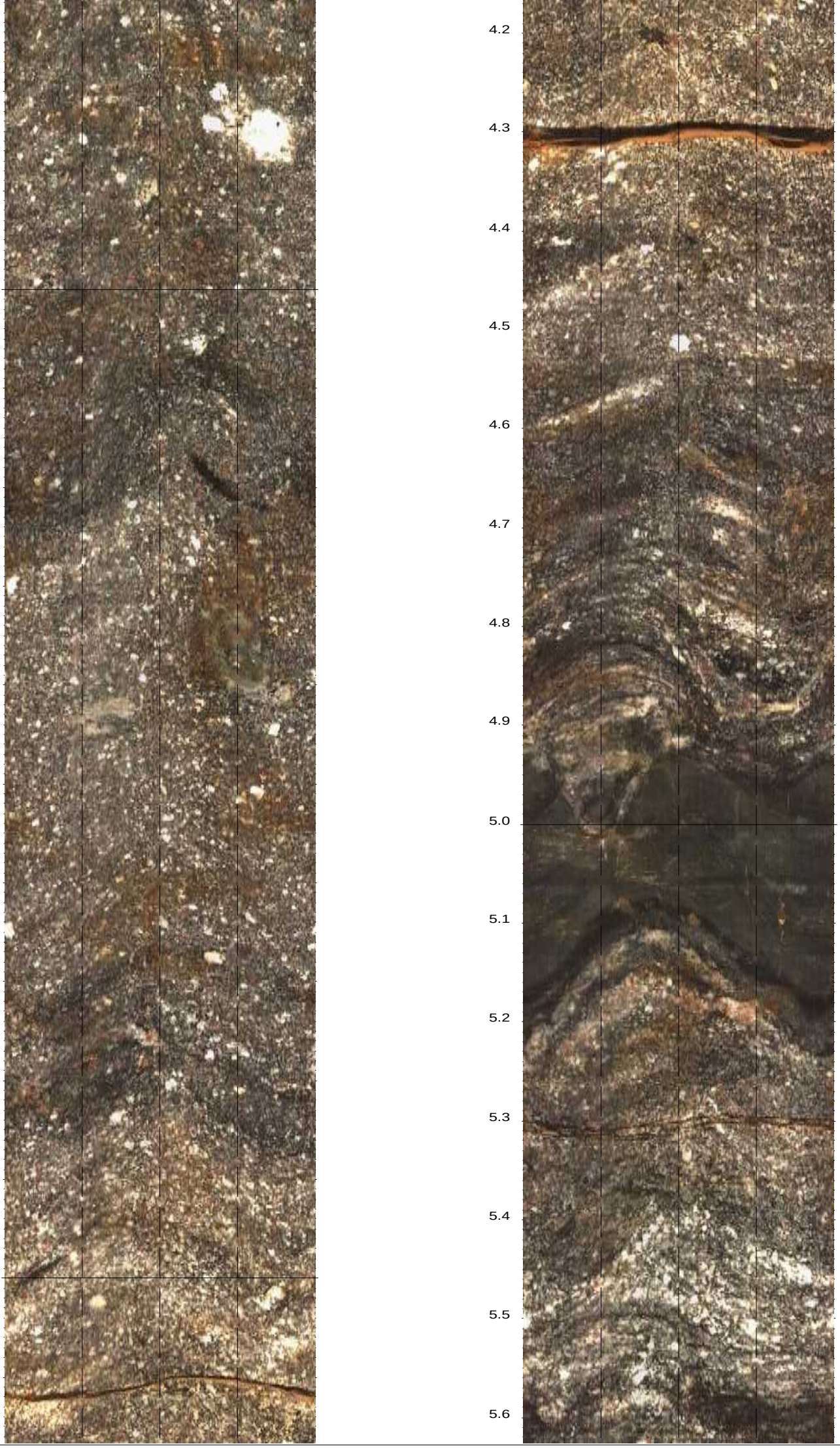
North ref. is magnetic
Depth units are metres
Vertical scale: 1/5
Horiz scale = vert scale

Zone from 10.0388 to 1.1827m
Format: BHTV NESWN

Borehole diam: 10.000cm
data intervals.....
Azimuth: 0.6667deg
Depth: 0.0012m






2.8
2.9
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7
3.8
3.9
4.0
4.1
4.2
4.3
4.4
4.5
4.6
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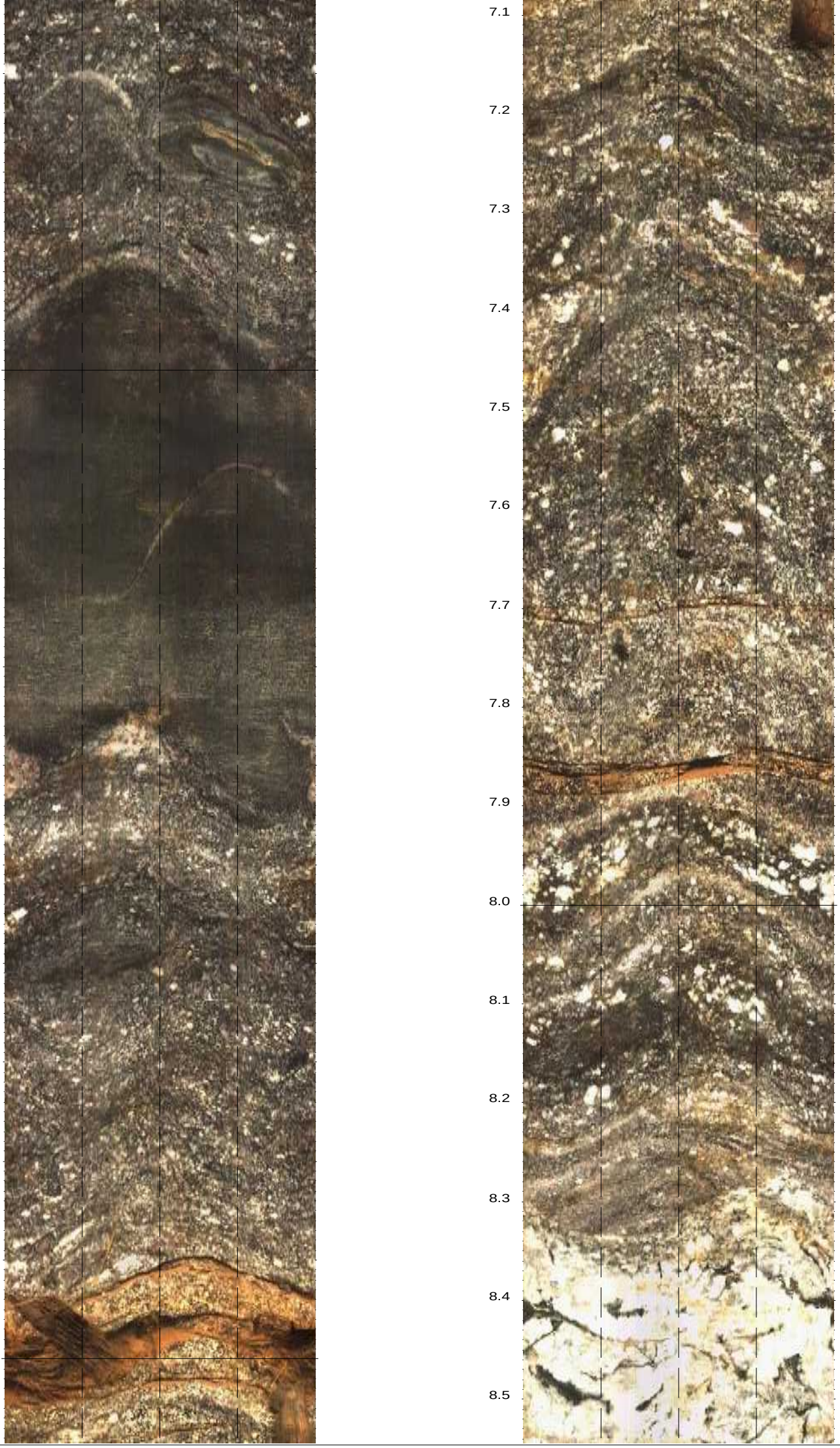
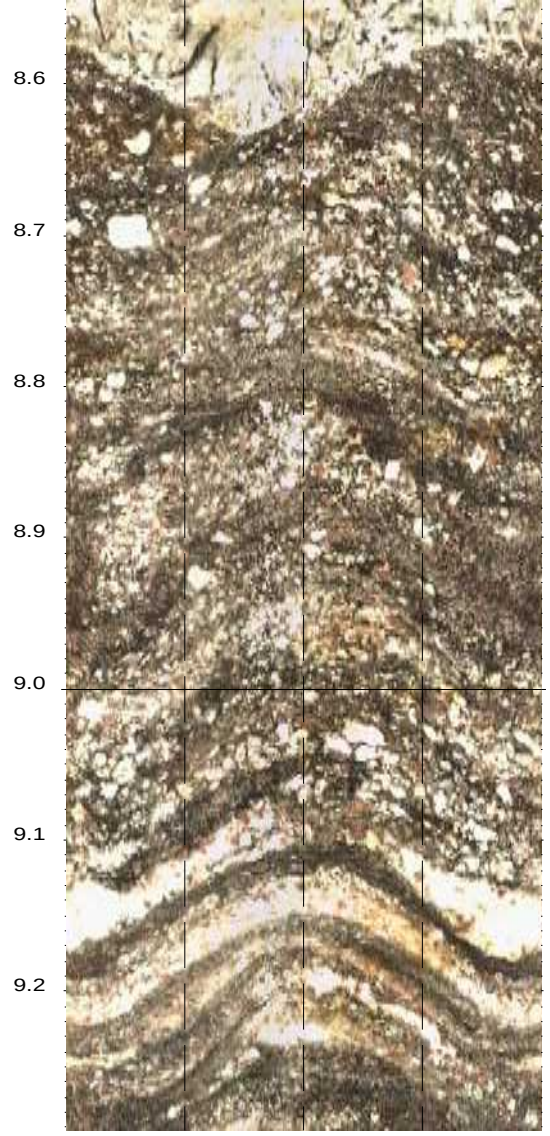
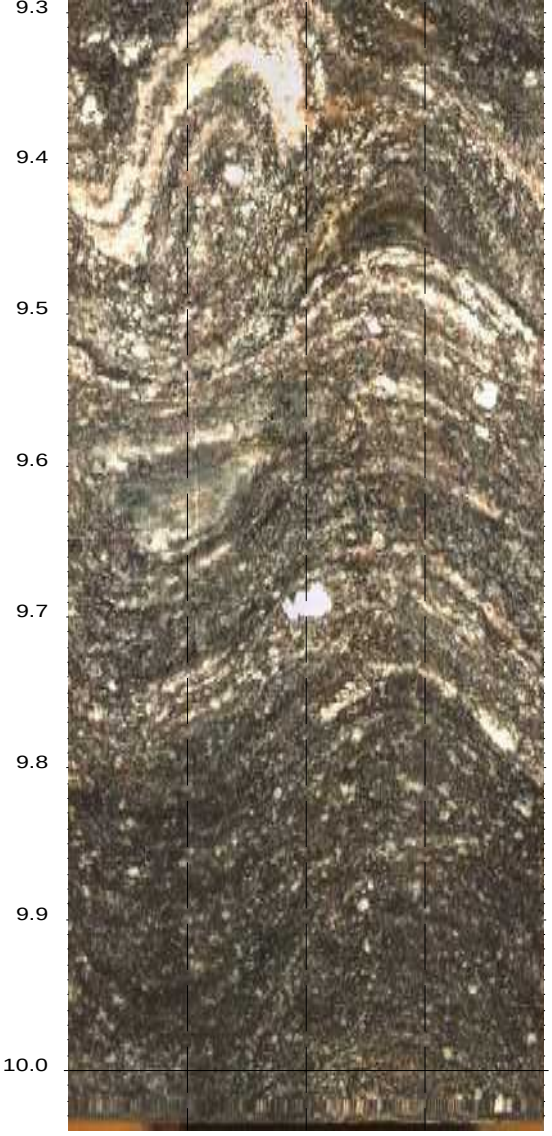
4.8
4.9
5.0
5.1
5.2
5.3
5.4
5.5
5.6


5.7
5.8
5.9
6.0
6.1
6.2
6.3
6.4
6.5
6.6
6.7
6.8
6.9
7.0
7.1
7.2
7.3
7.4
7.5
7.6
7.7
7.8
7.9
8.0
8.1
8.2
8.3
8.4
8.5


8.6
8.7
8.8
8.9
9.0
9.1
9.2


9.3
9.4
9.5
9.6
9.7
9.8
9.9
10.0

TESTEMUNHO VIRTUAL

OPTV DATA PROCESSING
RGLDIP vsn 6.2
CORE ORIENTATION LOG

25 Sep 2015

UHE ITAOCARA

Borehole: SM-104

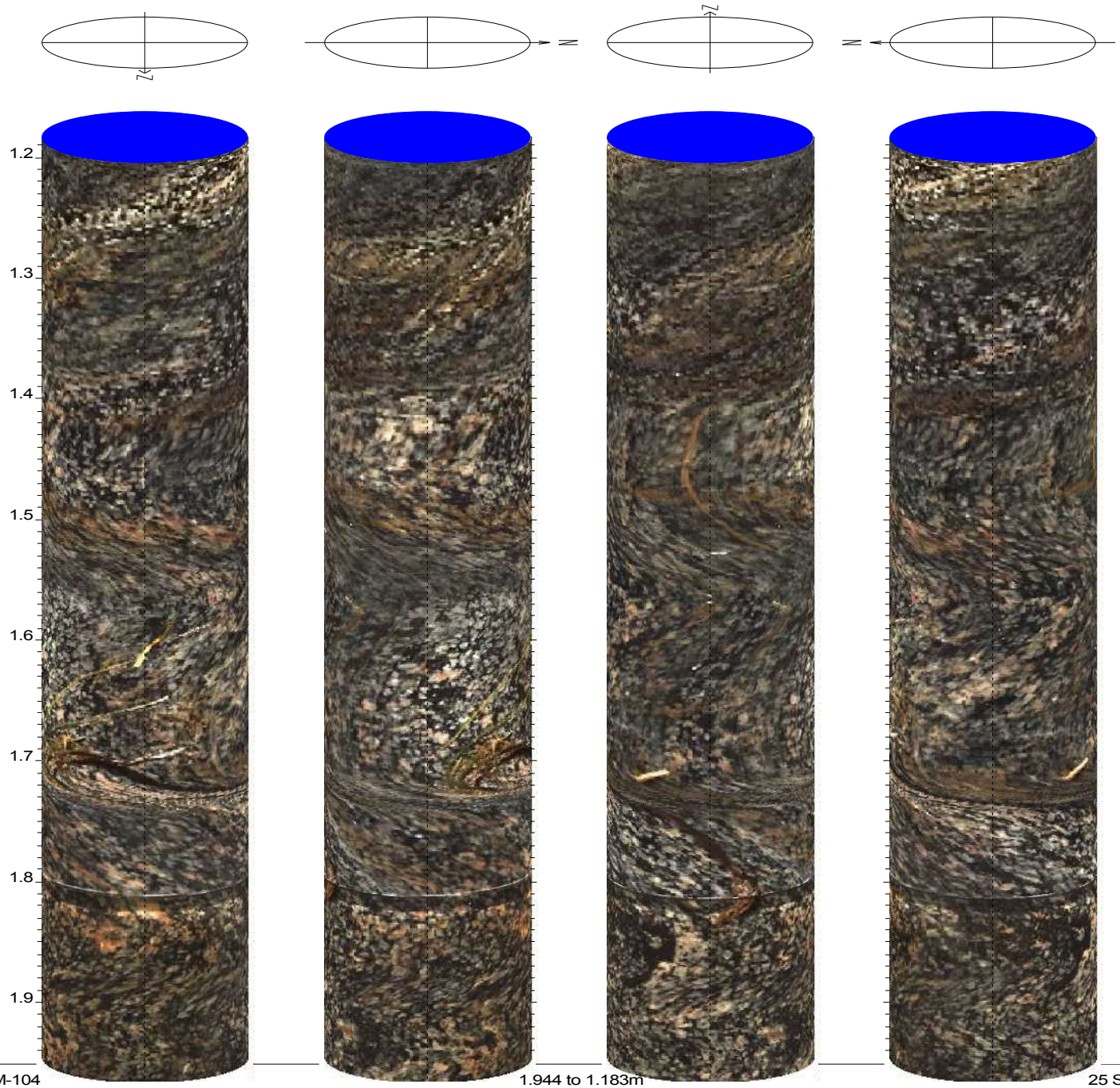
BARRAMENTO ILHA

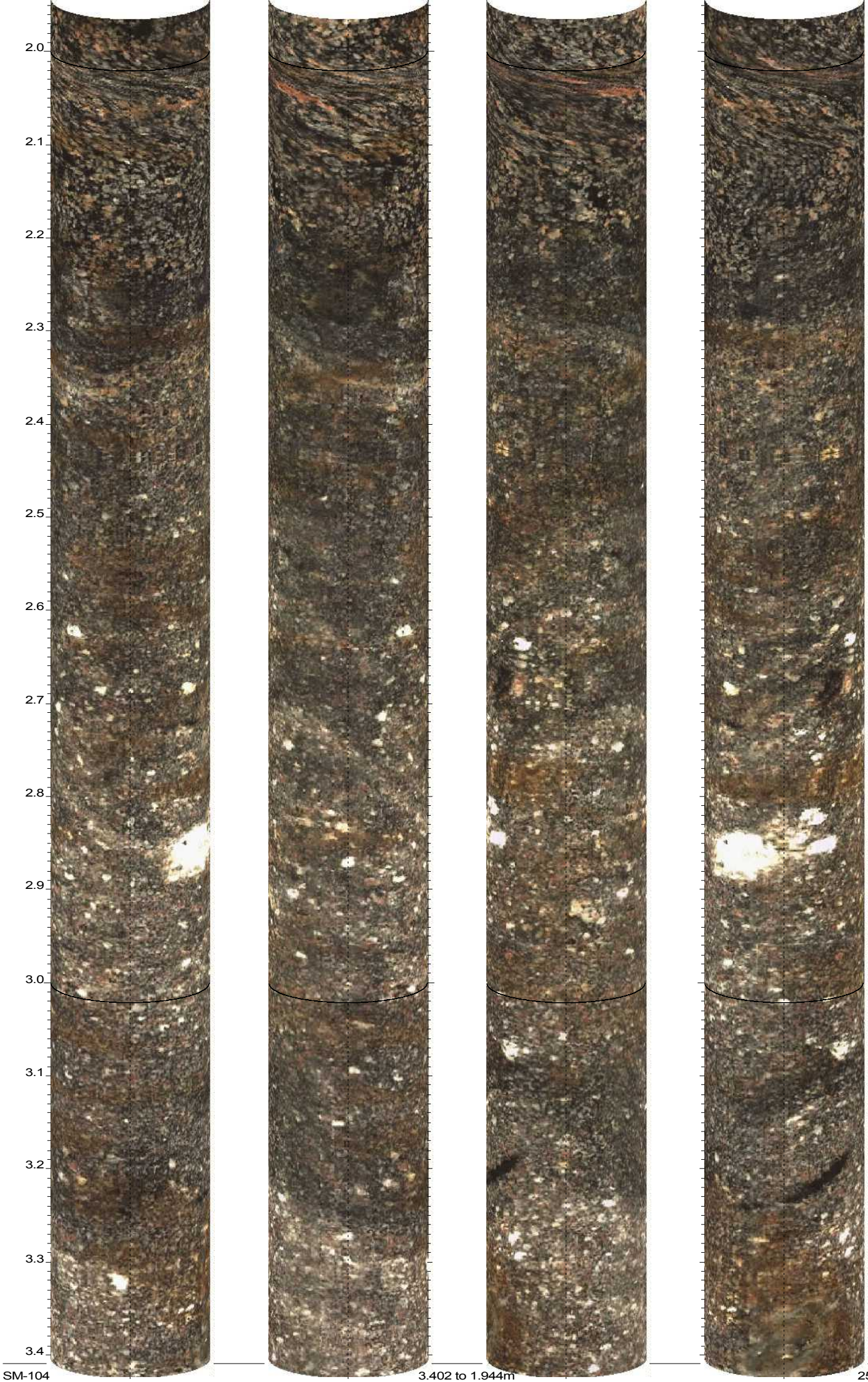
top of borehole.....
East:
North:
Elev:

North ref. is magnetic
Depth units are metres
Vertical scale: 1/5

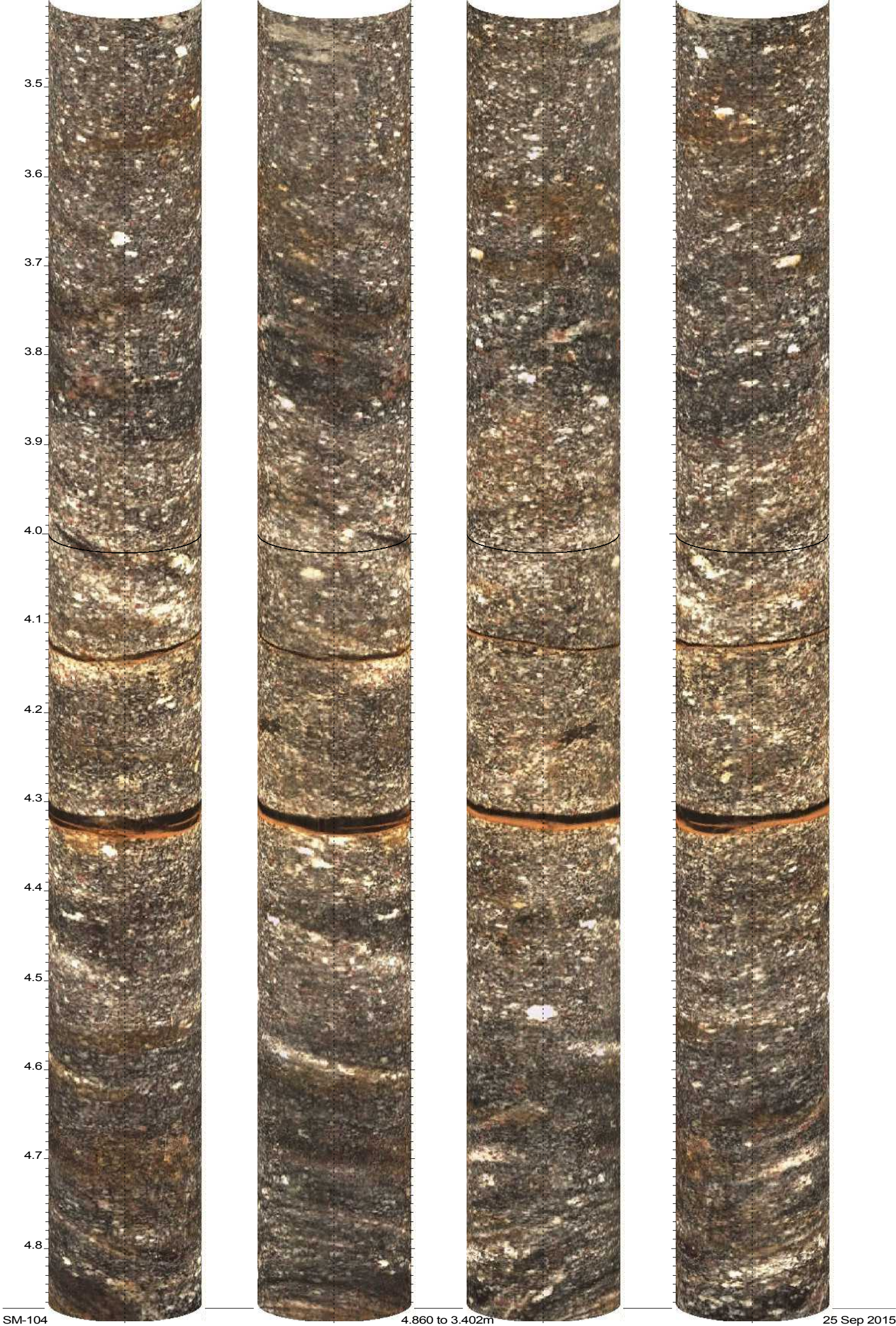
Zone from 10.039 to 1.183m
Cores oriented: N000 N090 N180 N270

Borehole diam: 10.000cm
data intervals .....
radial: 0.6667deg
axial: 0.0012m

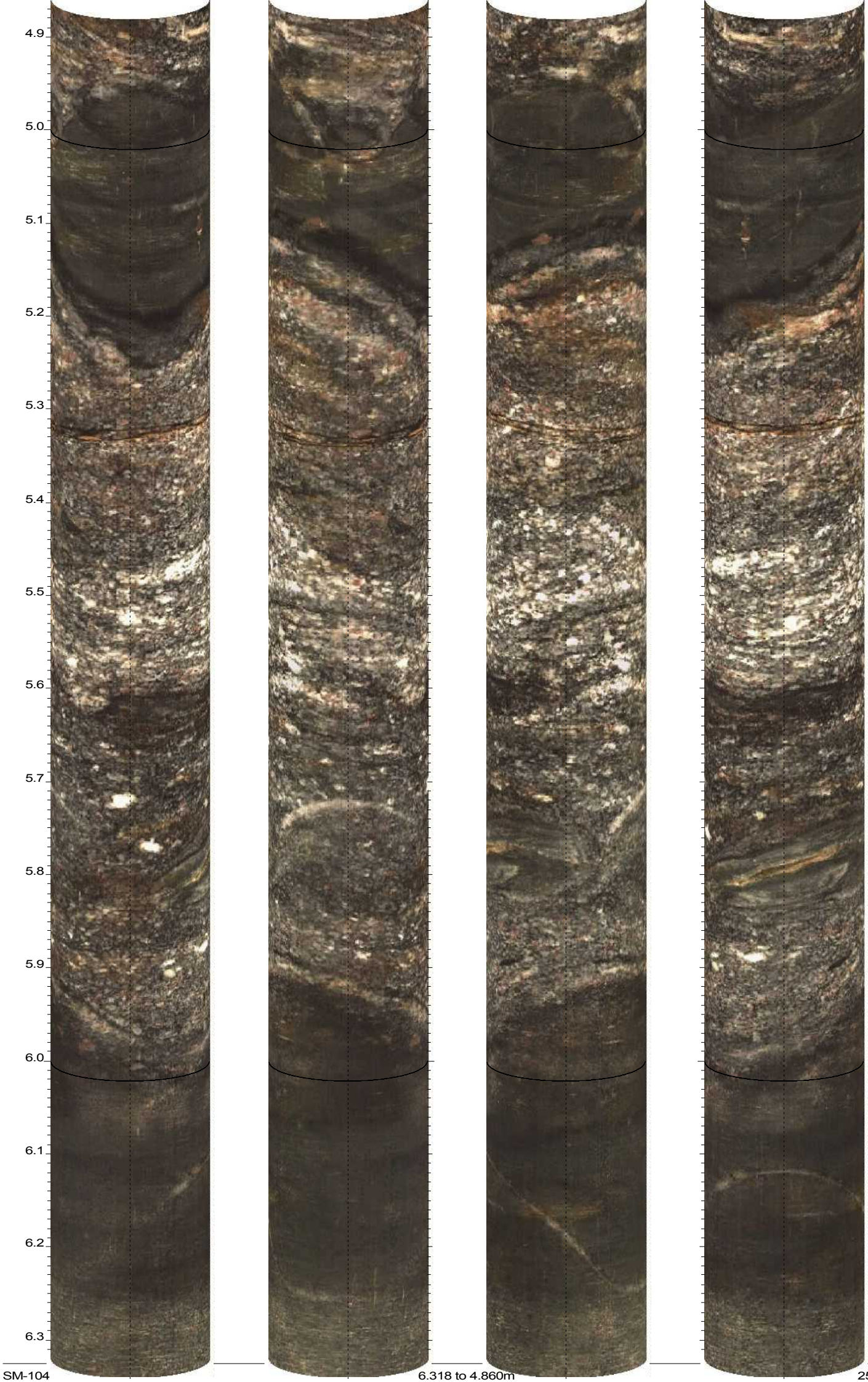




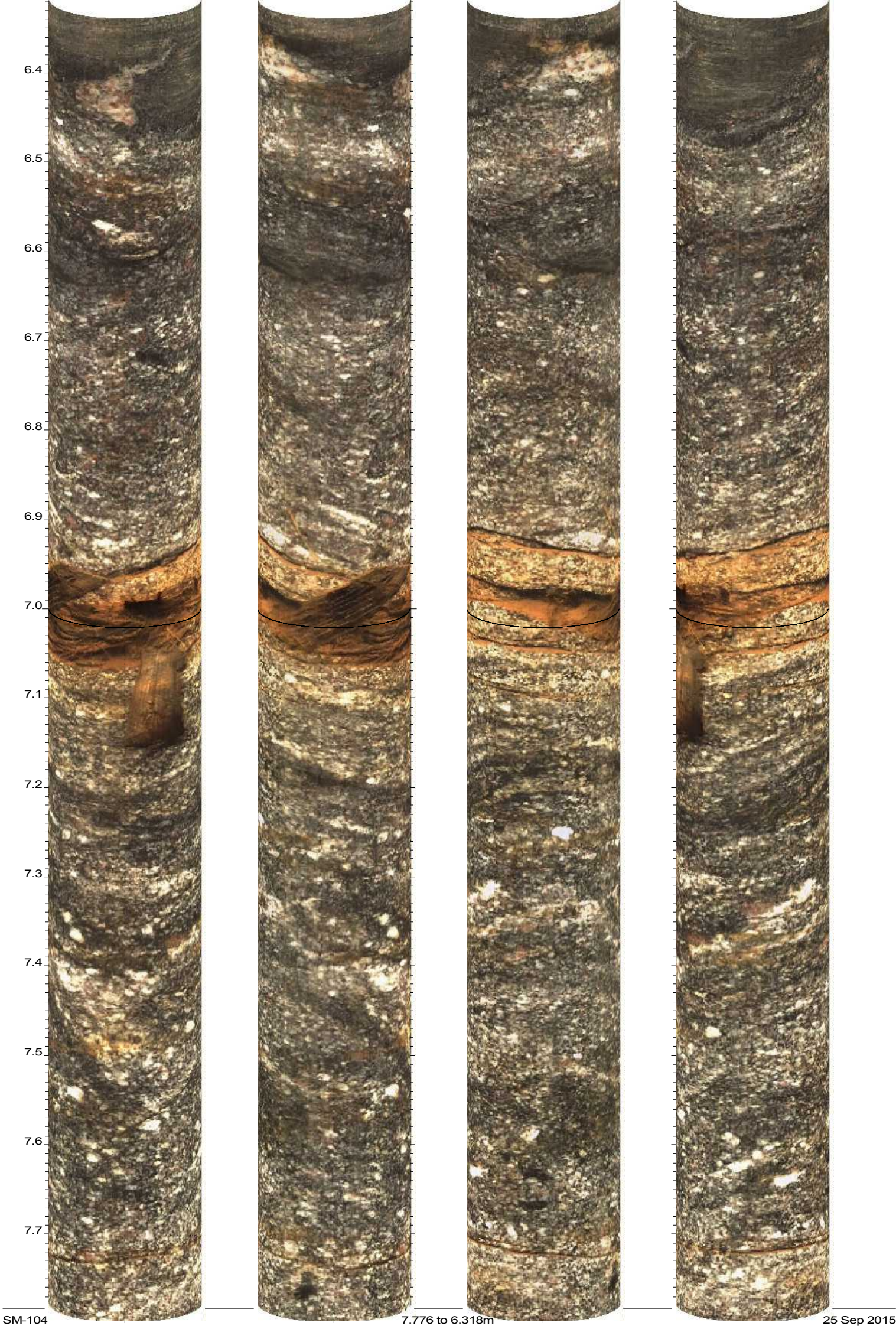
SM-104 3.402 to 1.944m 25 Sep 2015



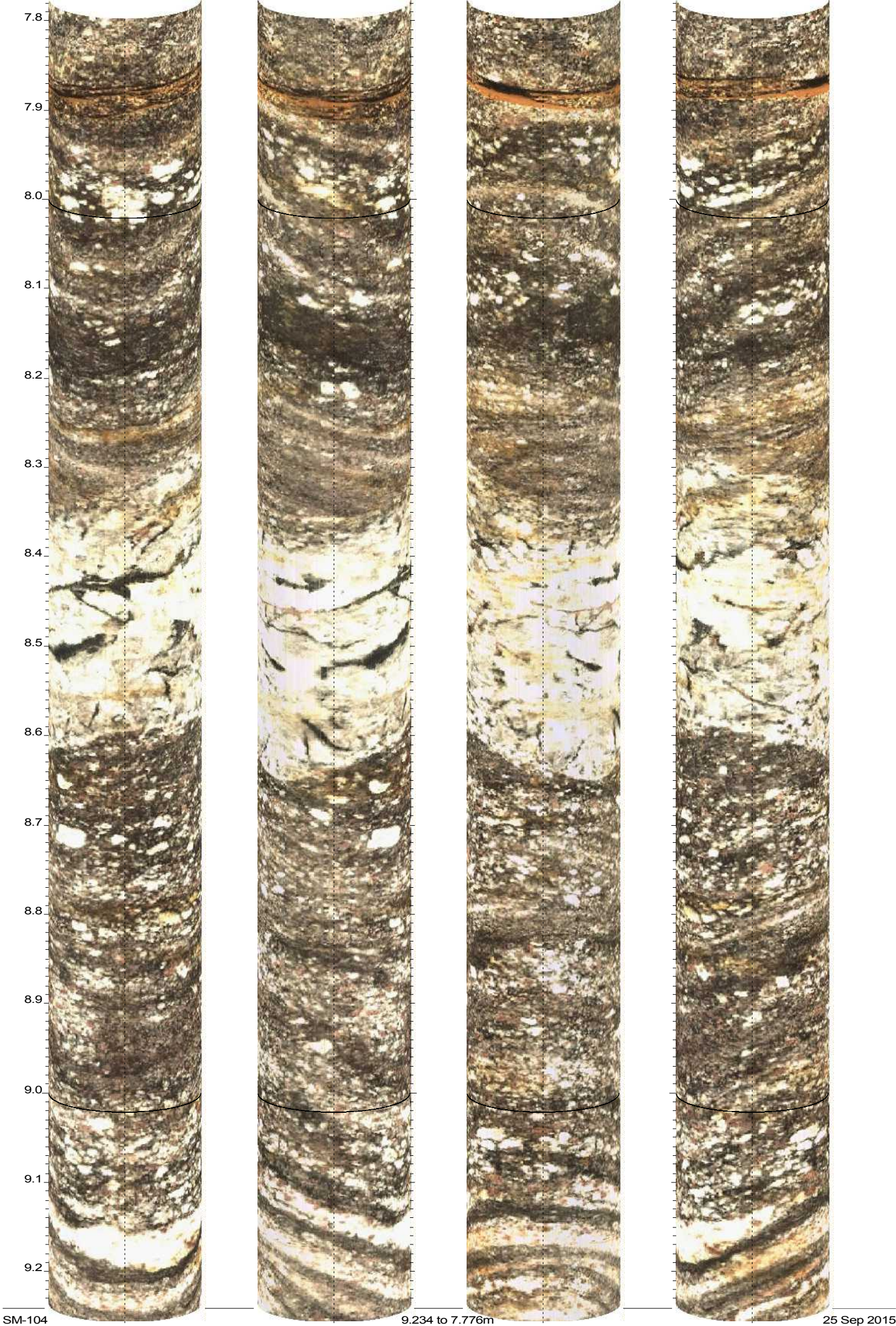
SM-104 4.860 to 3.402m 25 Sep 2015



SM-104 6.318 to 4.860m 25 Sep 2015



SM-104 7.776 to 6.318m 25 Sep 2015



SM-104 9.234 to 7.776m 25 Sep 2015

9.3
9.4
9.5
9.6
9.7
9.8
9.9
10.0

ATITUDES

DESCONTINUIDADES

OPTV DATA PROCESSING
RGLDIP vsn 6.2
INTERPRETED OPTV DIPS LOG

16 Oct 2015

UHE ITAOCARA

Borehole: SM-104

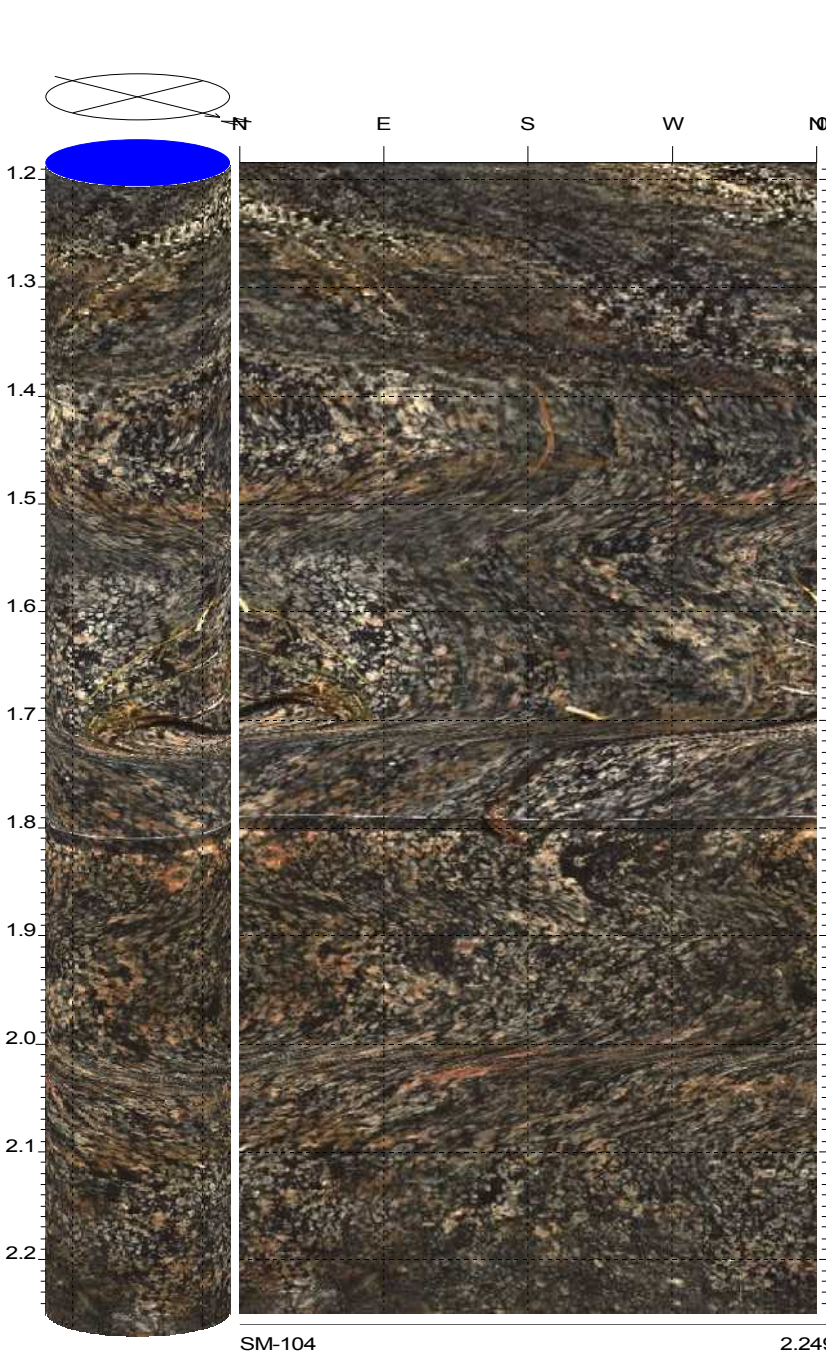
BARRAMENTO ILHA

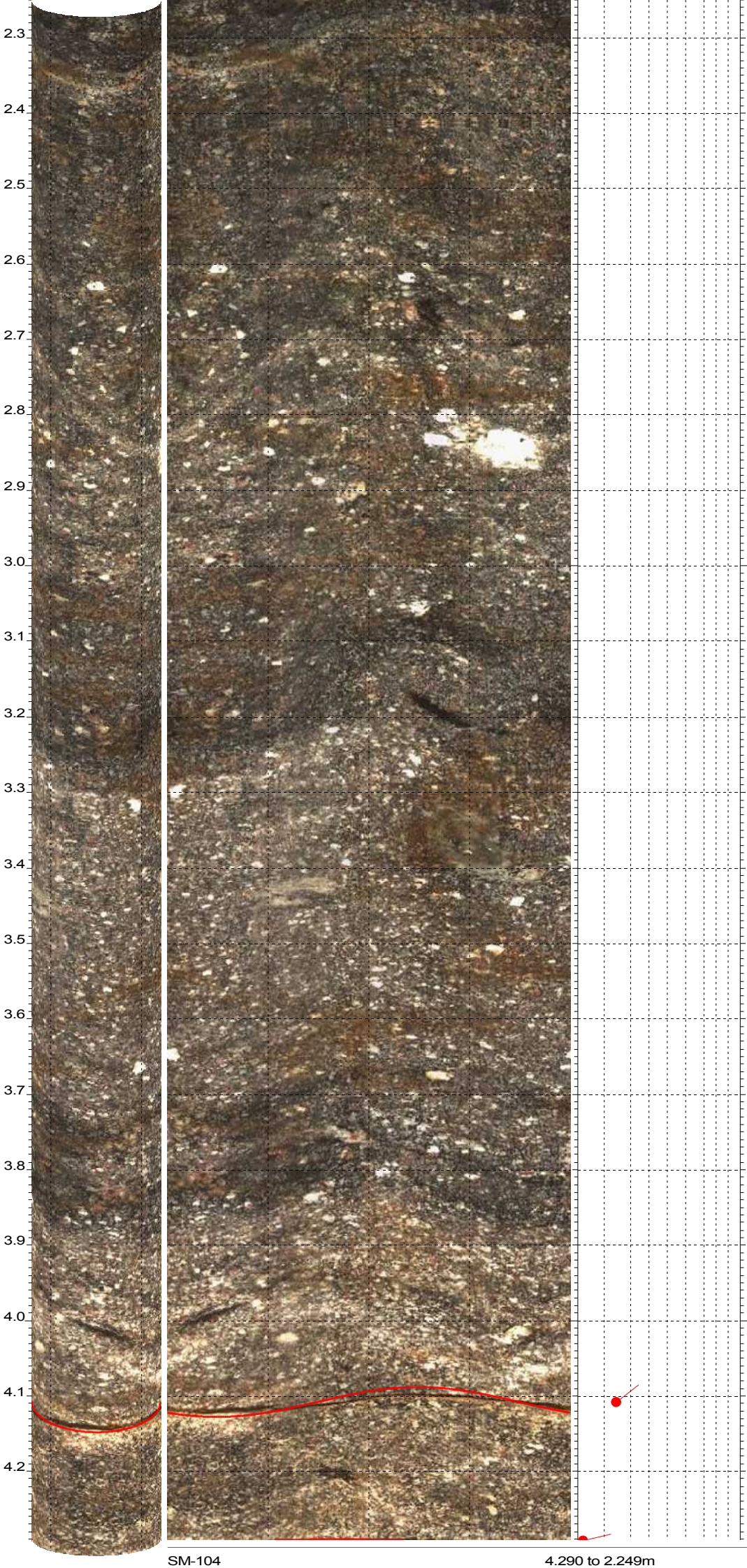
top of borehole.....
East:
North:
Elev:

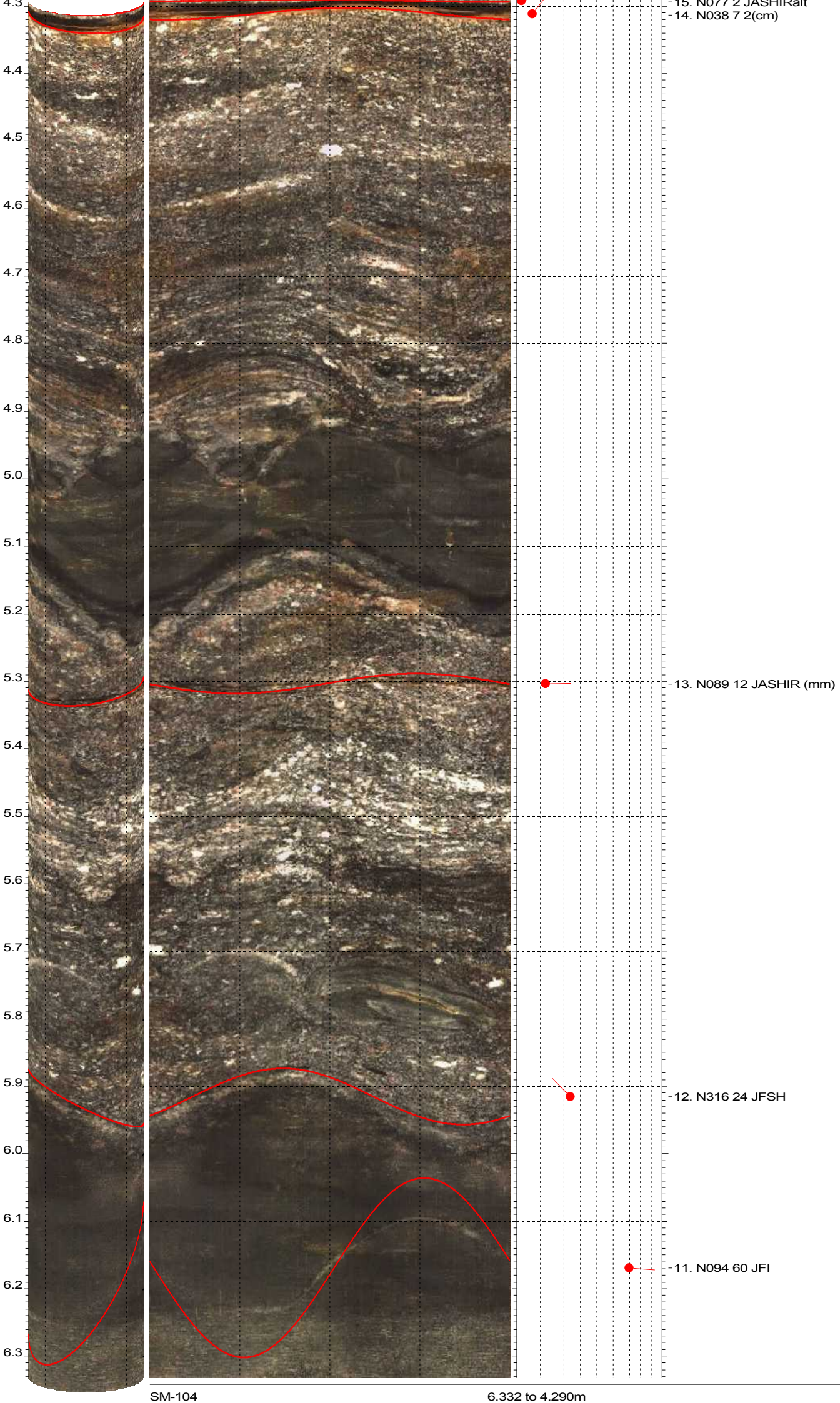
North ref. is magnetic
Depth units are metres
Vertical scale: 1/7

Zone from 10.039 to 1.183m
Format: BHTV-NESWN

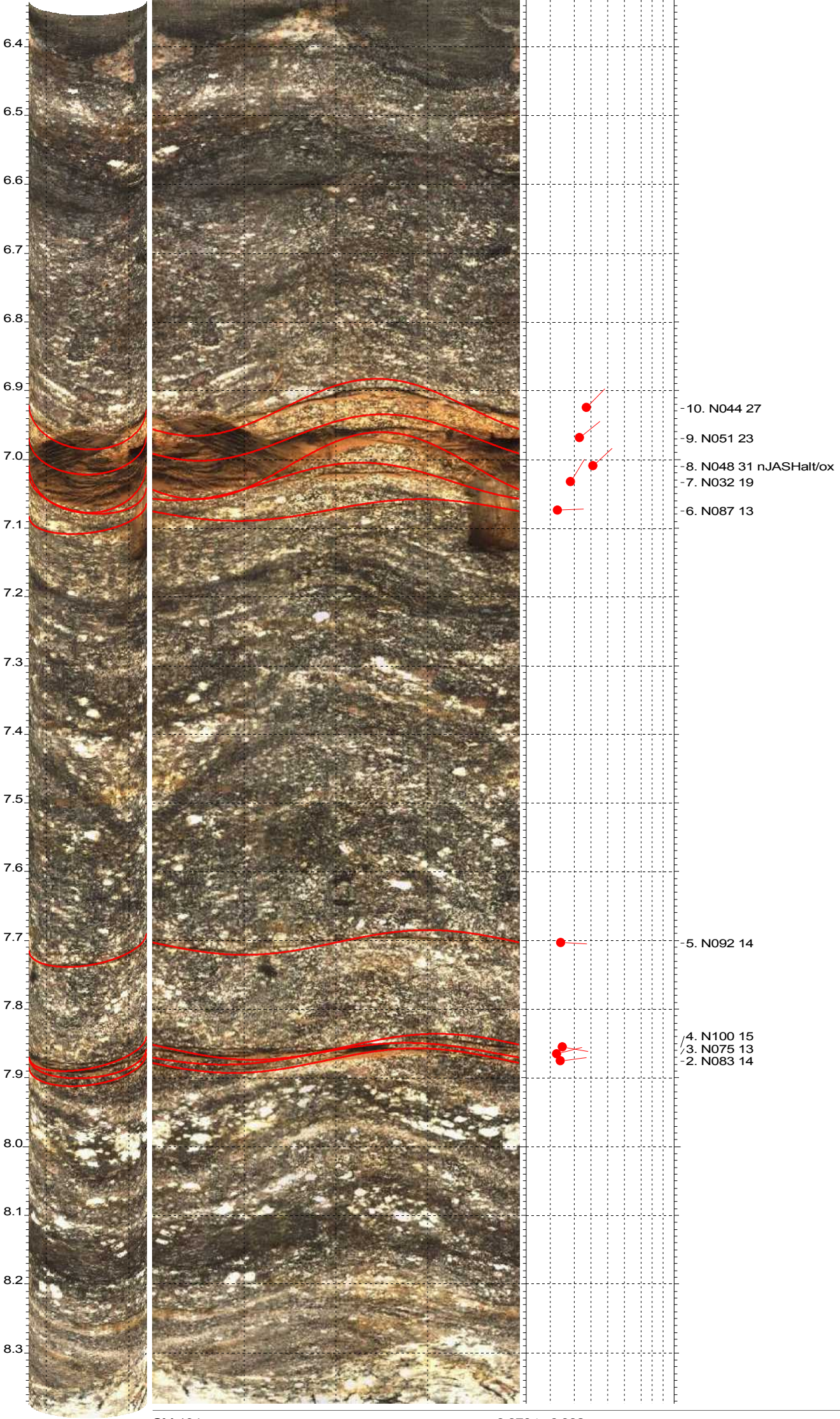
Borehole diam: 17.000cm
Vertical = borehole-axis

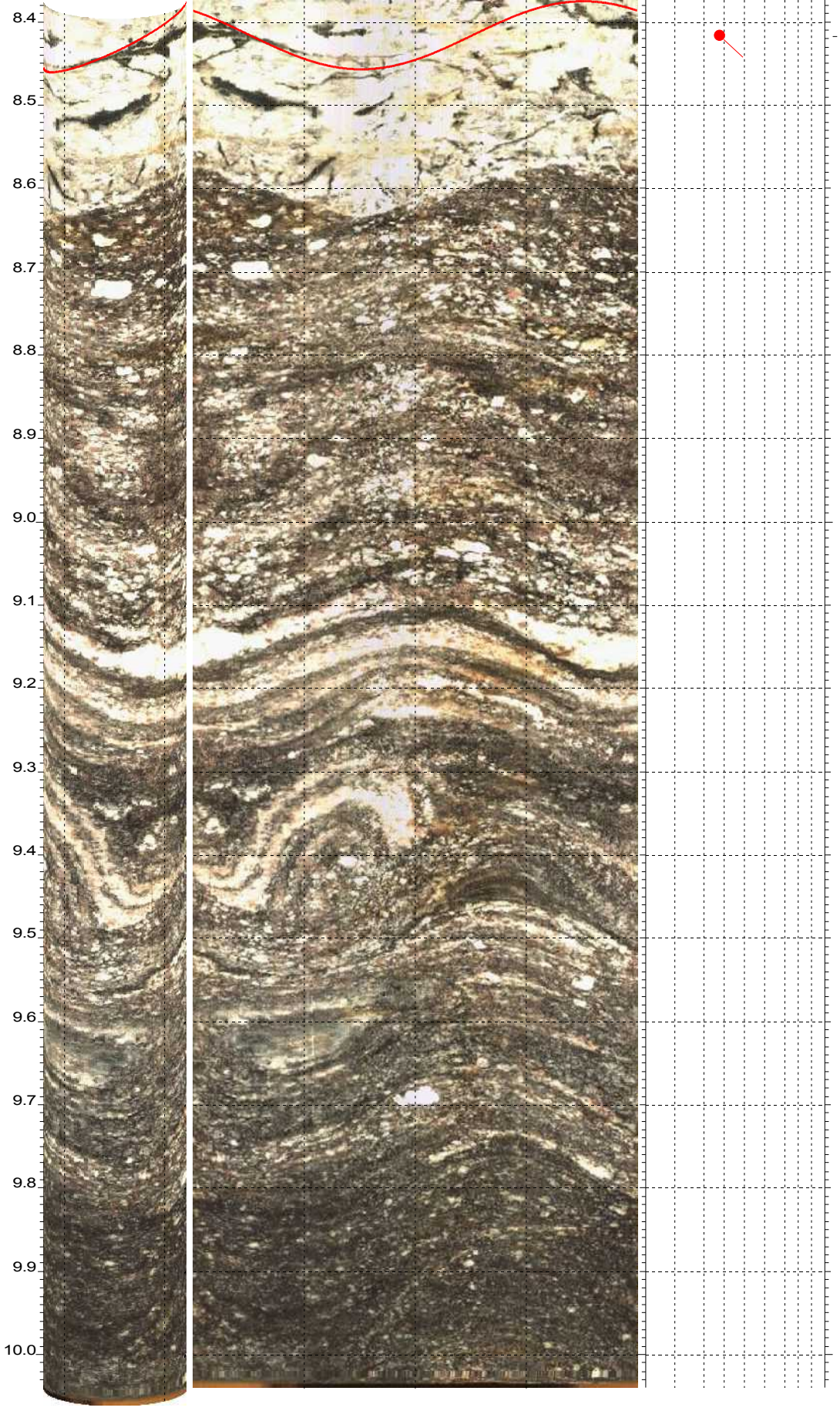



2.3
2.4
2.5
2.6
2.7
2.8
2.9
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7
3.8
3.9
4.0
4.1
4.2
16. N052 15 JASHalt(mm)
15. N077 2 JASHIRalt



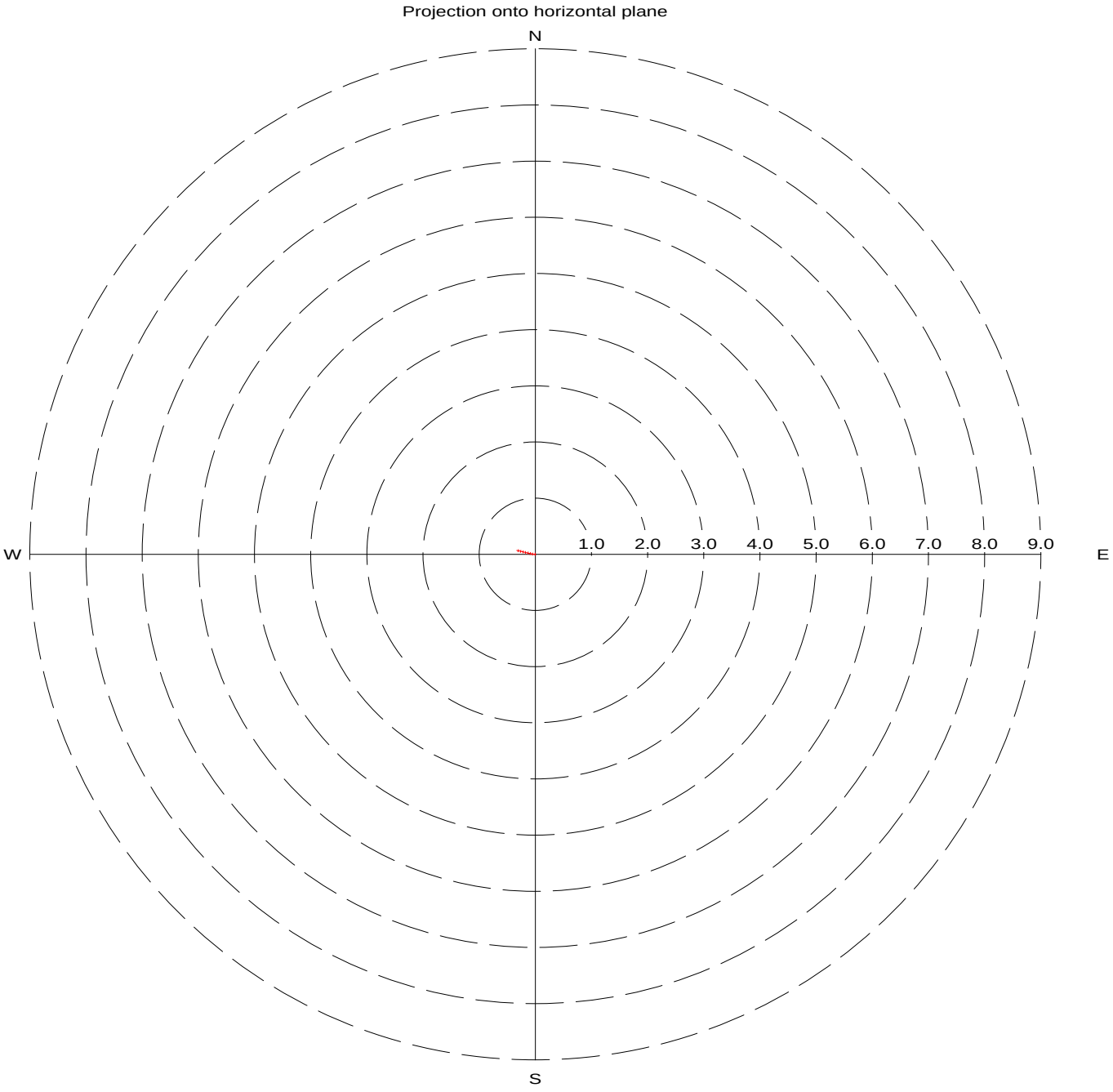
SM-104 6.332 to 4.290m 16 Oct 2015


6.4
6.5
6.6
6.7
6.8
6.9
7.0
7.1
7.2
7.3
7.4
7.5
7.6
7.7
7.8
7.9
8.0
8.1
8.2
8.3
10. N044 27
9. N051 23
8. N048 31 nJASHalt/ox
7. N032 19
6. N087 13
5. N092 14
4. N100 15
3. N075 13
2. N083 14


8.4
8.5
8.6
8.7
8.8
8.9
9.0
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10.0
1. N133 28 JFSH

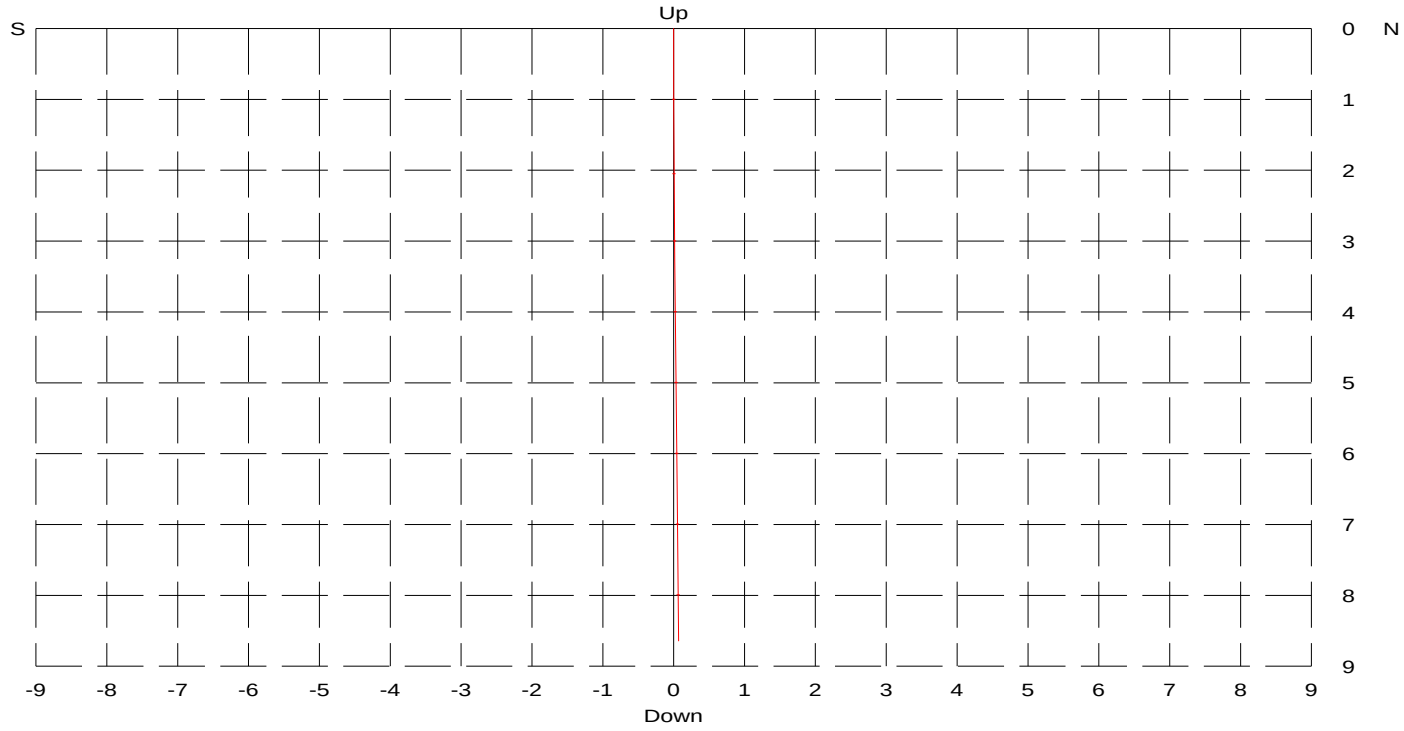
DESVIO SONDAGEM

Borehole: SM-104 Sonde: OPTV
Zone from: 1.204 to 9.950m
North ref is magnetic
Mean deviation: 2.27 to N282.26
End coordinates .....
North: 0.072
East : -0.339
Down : 8.737
Azimuth of end: N281.95
Distance start-end: 0.346m
Distance marks every 1m
25 Sep 2015

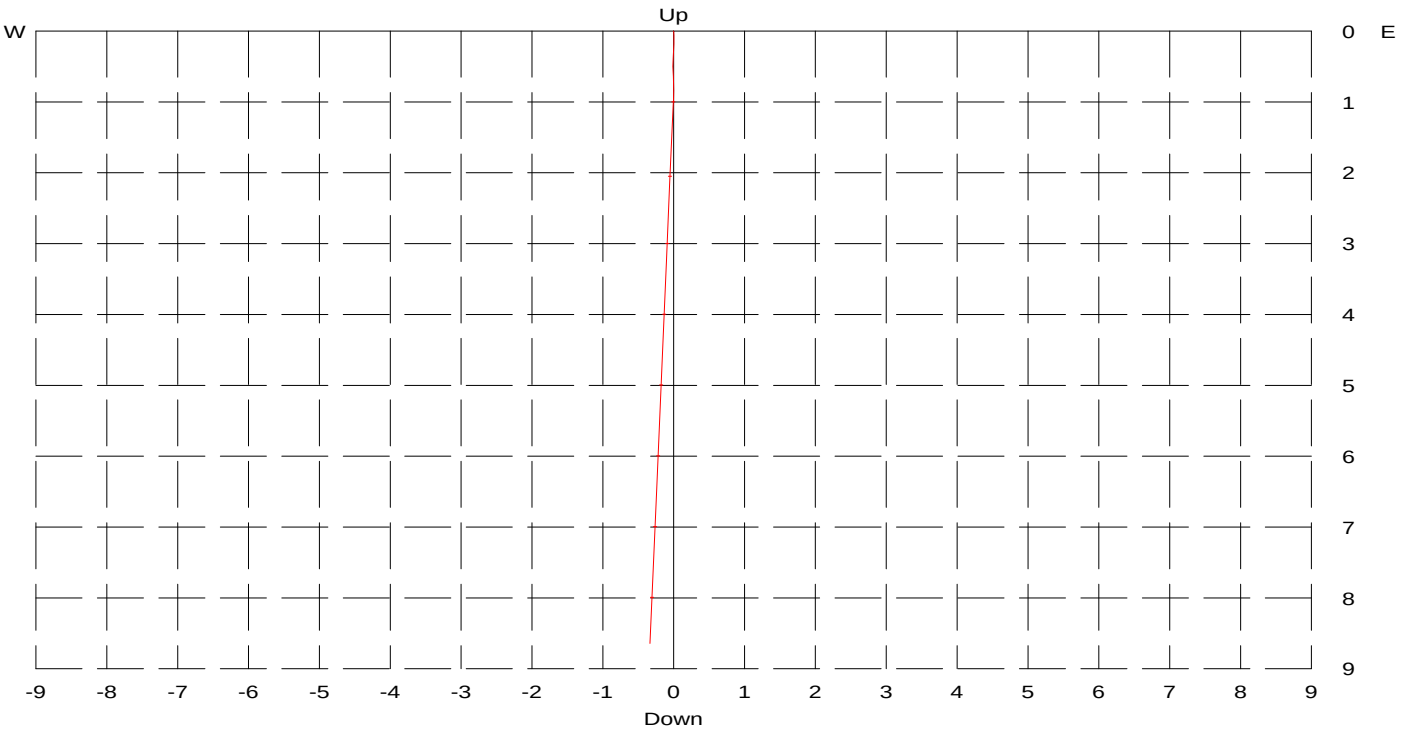


Borehole: SM-104 Sonde: OPTV
Zone from: 1.204 to 9.950m
North ref is magnetic
Mean deviation: 2.27 to N282.26
End coordinates .....
North: 0.072
East : -0.339
Down : 8.737
Azimuth of end: N281.95
Distance start-end: 0.346m
Distance marks every 1m
25 Sep 2015

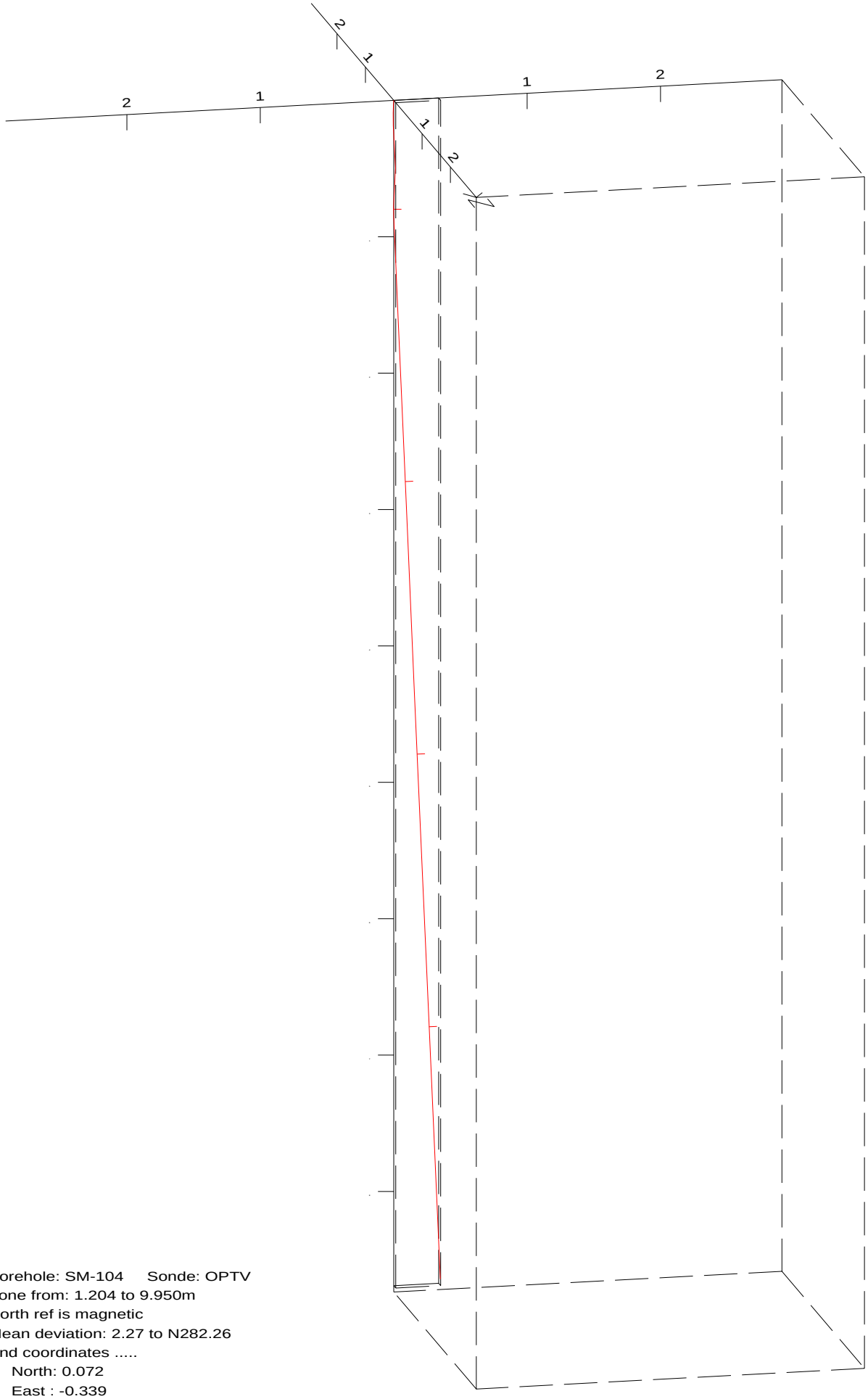
Projection onto vertical N-S plane



Projection onto vertical E-W plane



Deviated borehole in orthographic projection, viewed from N12



Borehole: SM-104 Sonde: OPTV
Zone from: 1.204 to 9.950m
North ref is magnetic
Mean deviation: 2.27 to N282.26
End coordinates .....
North: 0.072
East : -0.339
Down : 8.737
Azimuth of end: N281.95
Distance start-end: 0.346m
Viewpoint: N12
25 Sep 2015

SM-105

IMAGEM 2D

UHE ITAOCARA

Borehole: SM-105

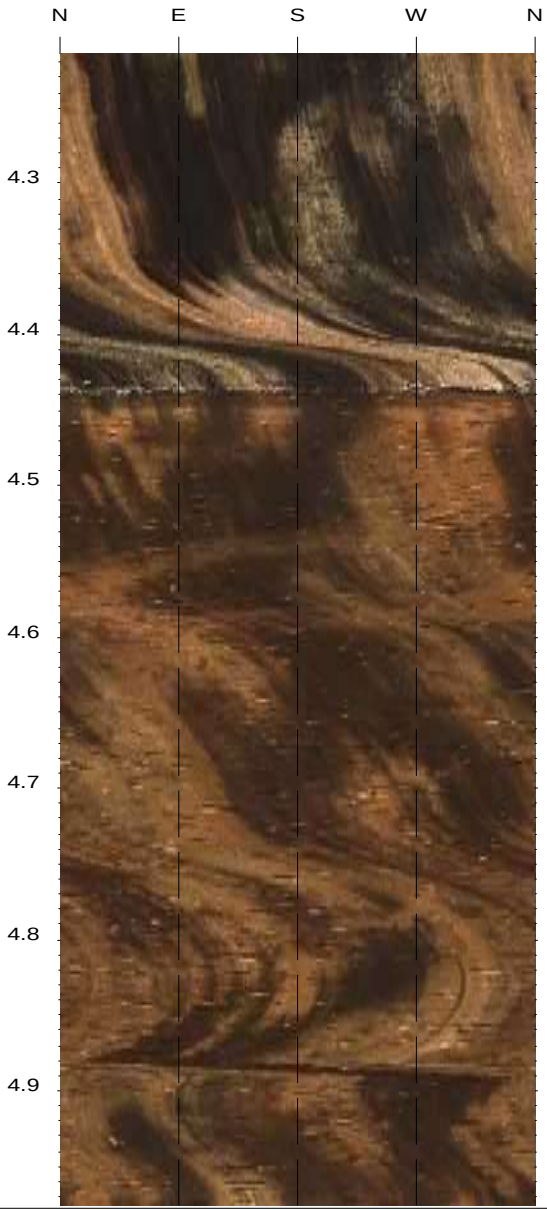
BARRAMENTO ILHA

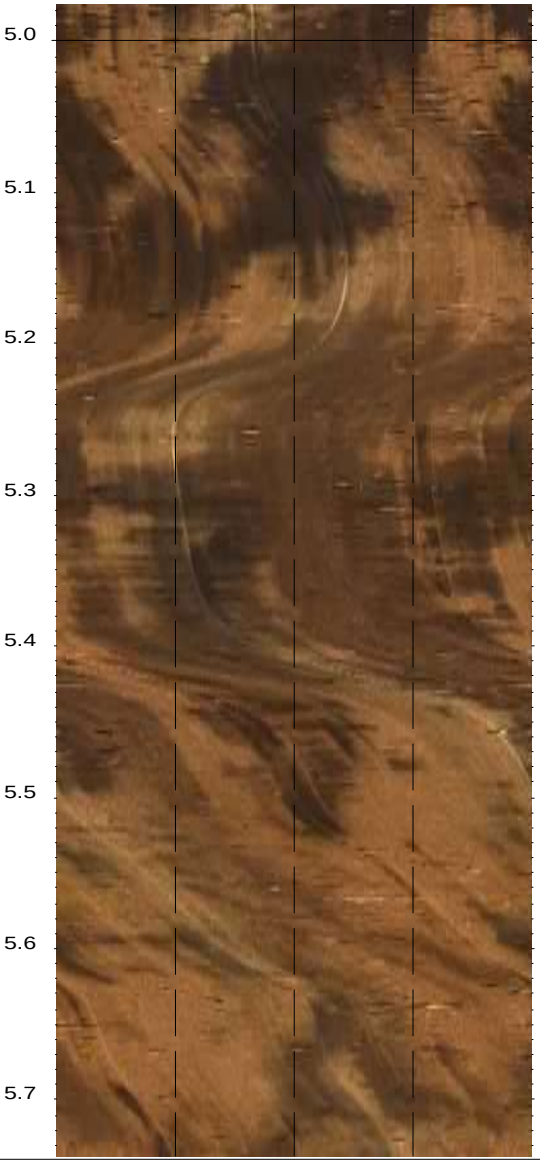
top of borehole.....
East:
North:
Elev:

North ref. is magnetic
Depth units are metres
Vertical scale: 1/5
Horiz scale = vert scale

Zone from 17.0586 to 4.2134m
Format: BHTV NESWN

Borehole diam: 10.000cm
data intervals.....
Azimuth: 0.6667deg
Depth: 0.0014m





5.8
5.9
6.0
6.1
6.2
6.3
6.4
6.5
6.6
6.7
6.8
6.9
7.0
7.1
7.2
7.3
7.4
7.5
7.6
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7.9
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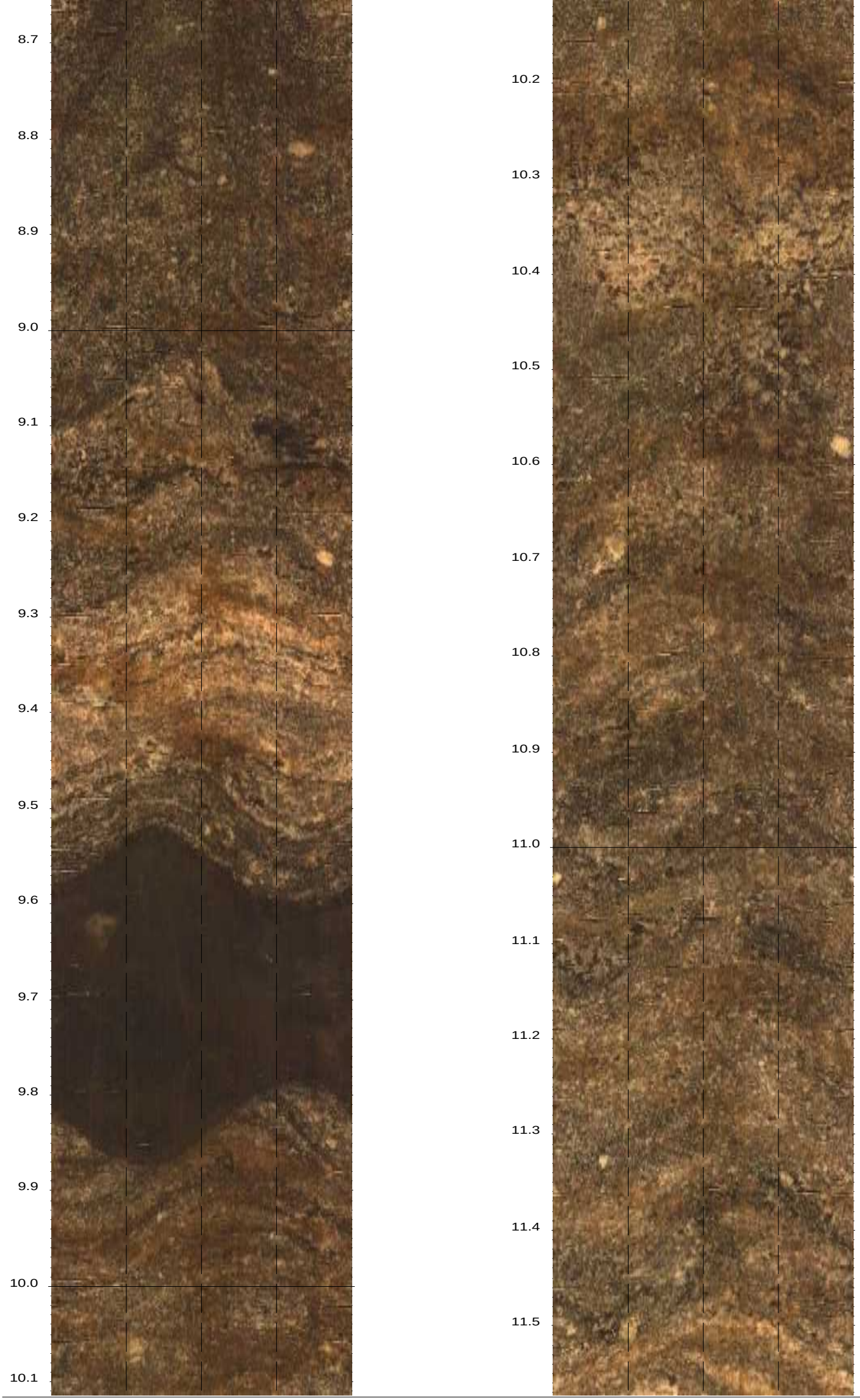
8.1
8.2
8.3
8.4
8.5
8.6


8.7
8.8
8.9
9.0
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10.0
10.1
10.2
10.3
10.4
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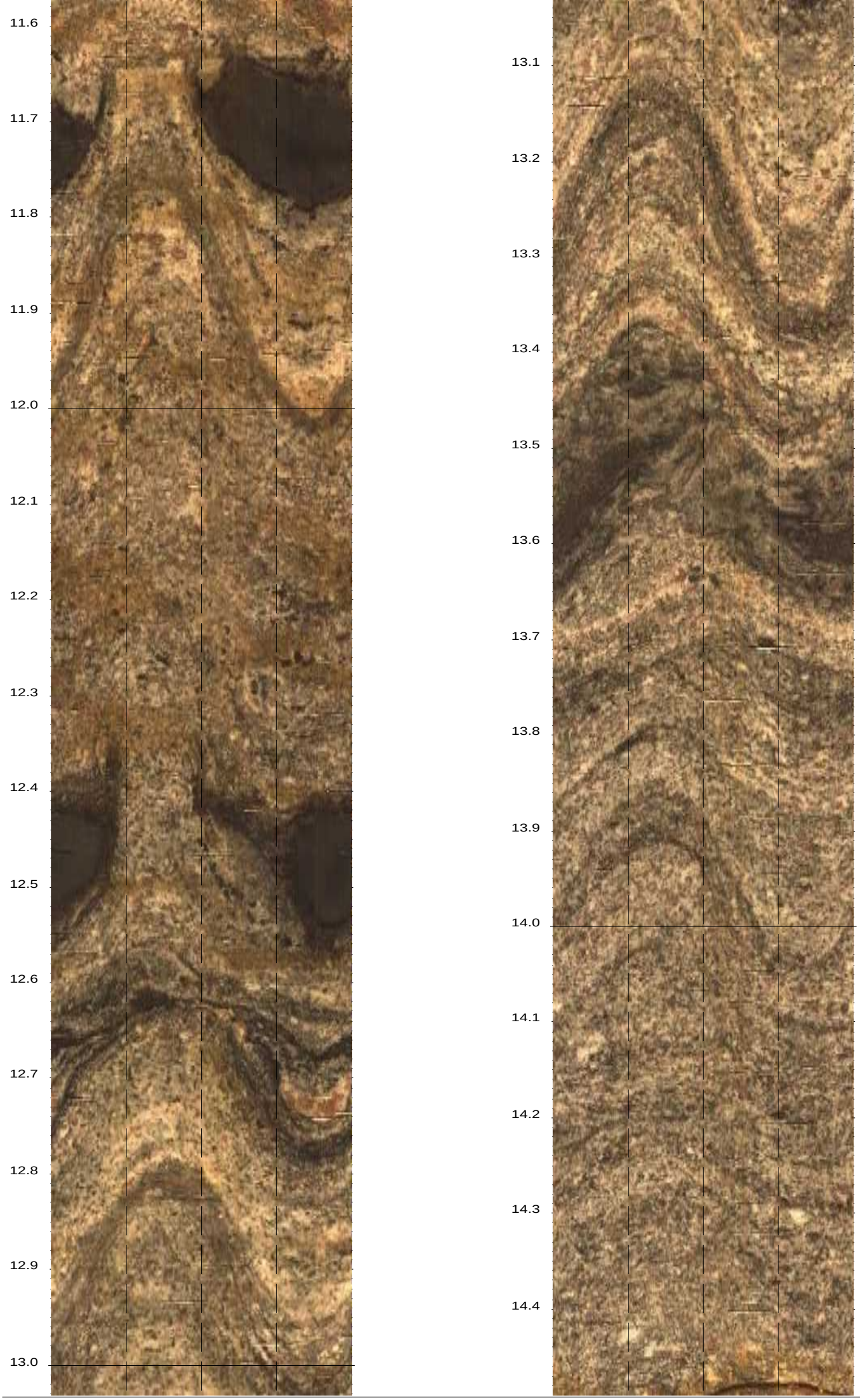
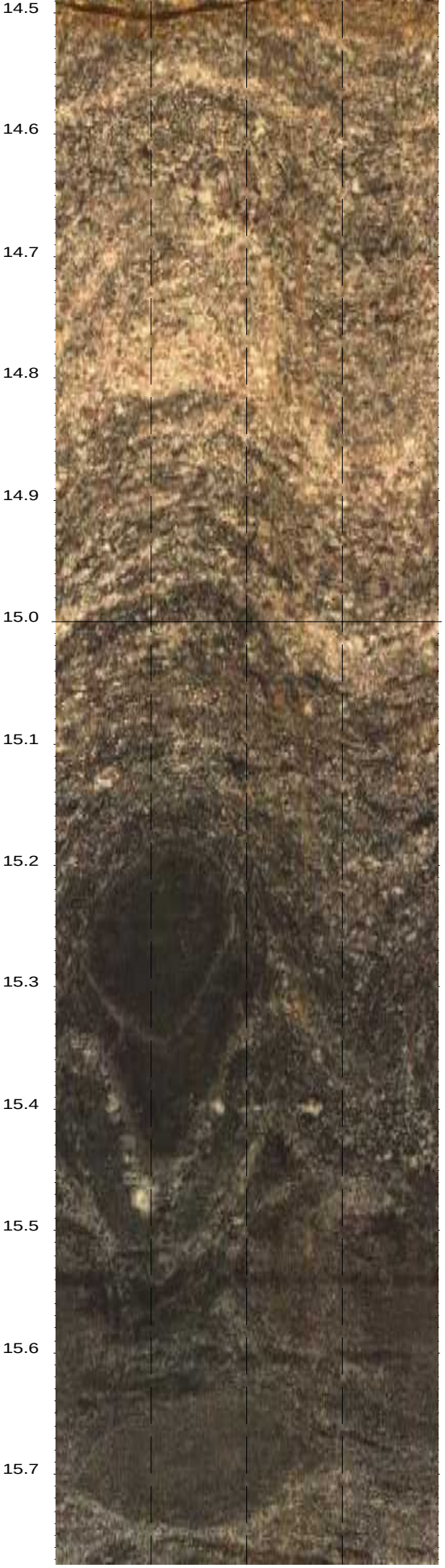
10.6
10.7
10.8
10.9
11.0
11.1
11.2
11.3
11.4
11.5


11.6
11.7
11.8
11.9
12.0
12.1
12.2
12.3
12.4
12.5
12.6
12.7
12.8
12.9
13.0
13.1
13.2
13.3
13.4
13.5
13.6
13.7
13.8
13.9
14.0
14.1
14.2
14.3
14.4


14.5
14.6
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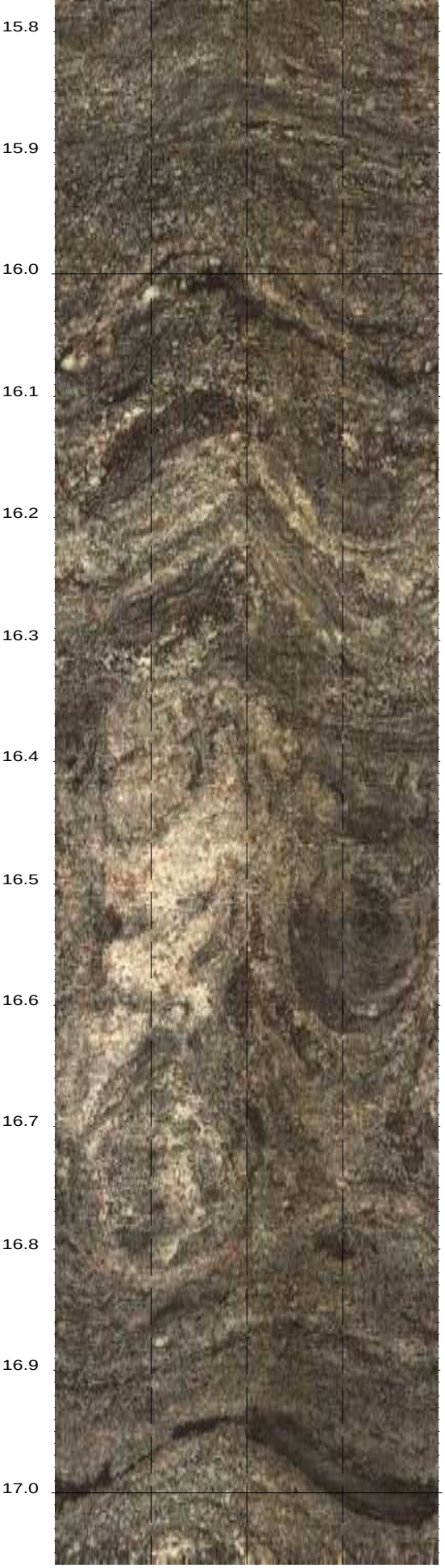
14.8
14.9
15.0
15.1
15.2
15.3
15.4
15.5
15.6
15.7


15.8
15.9
16.0
16.1
16.2
16.3
16.4
16.5
16.6
16.7
16.8
16.9
17.0

TESTEMUNHO VIRTUAL

OPTV DATA PROCESSING
RGLDIP vsn 6.2
CORE ORIENTATION LOG

25 Sep 2015

UHE ITAOCARA

Borehole: SM-105

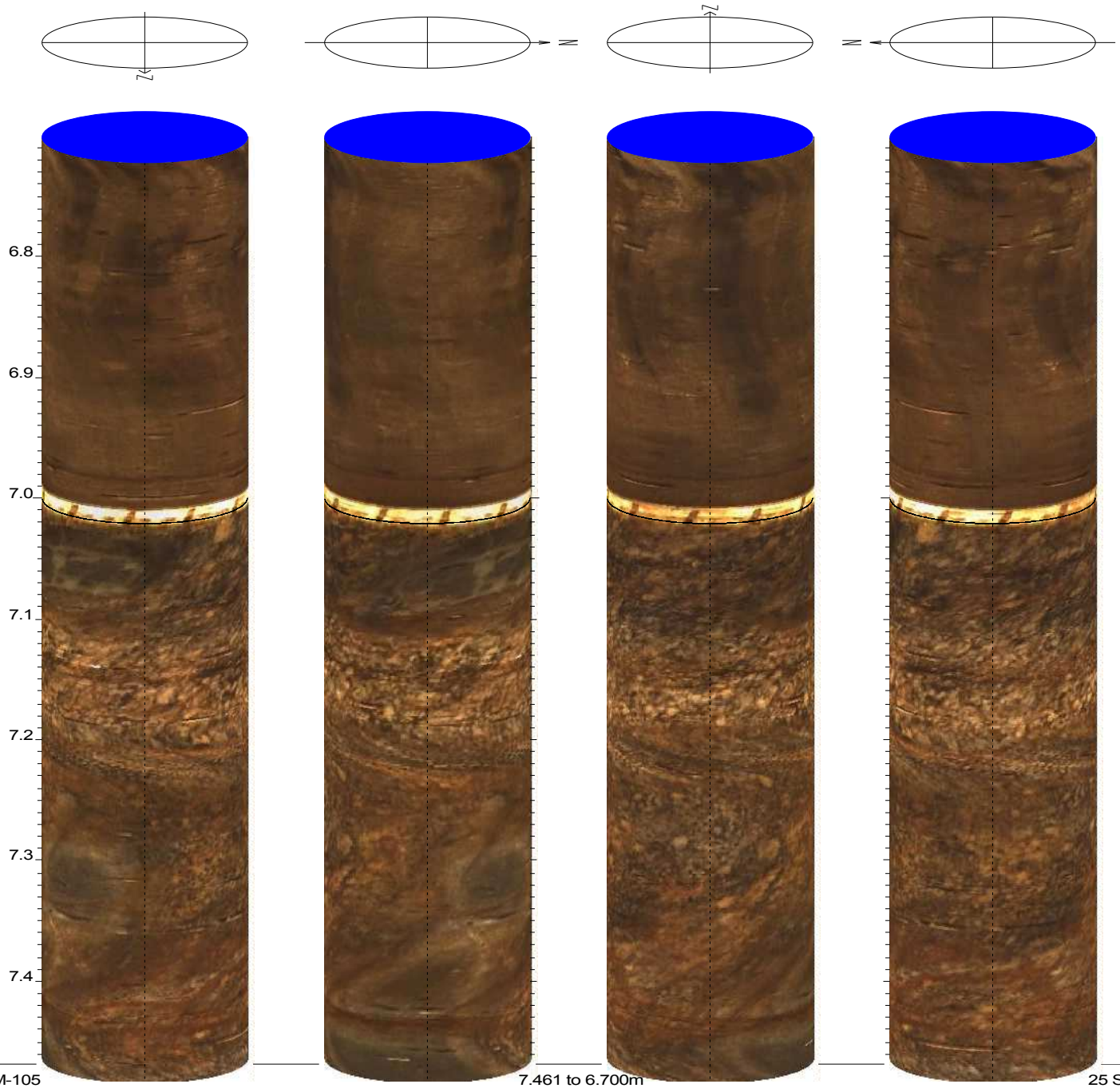
BARRAMENTO ILHA

top of borehole.....
East:
North:
Elev:

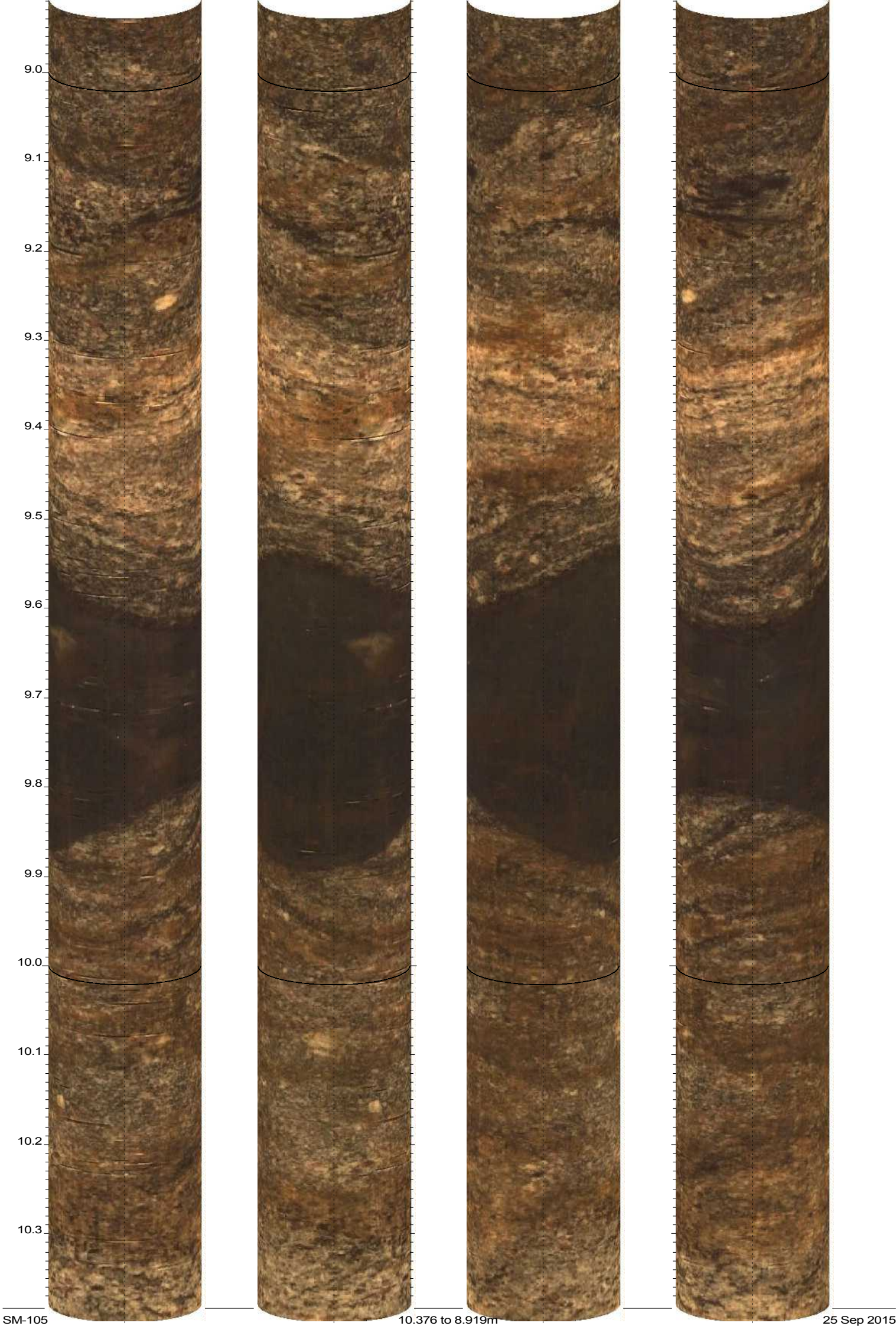
North ref. is magnetic
Depth units are metres
Vertical scale: 1/5

Zone from 17.059 to 6.700m
Cores oriented: N000 N090 N180 N270

Borehole diam: 10.000cm
data intervals .....
radial: 0.6667deg
axial: 0.0014m

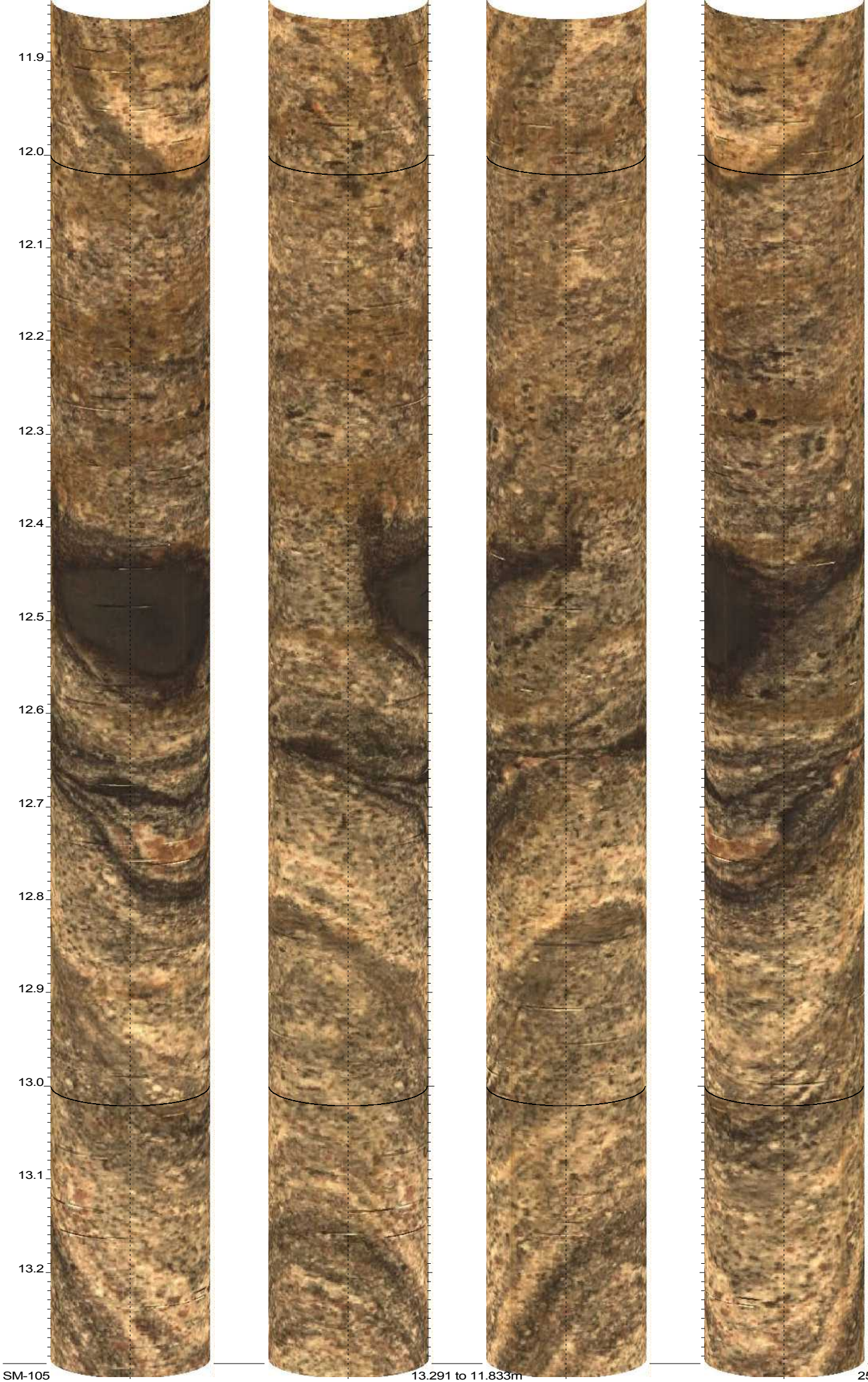


SM-105 8.919 to 7.461m 25 Sep 2015



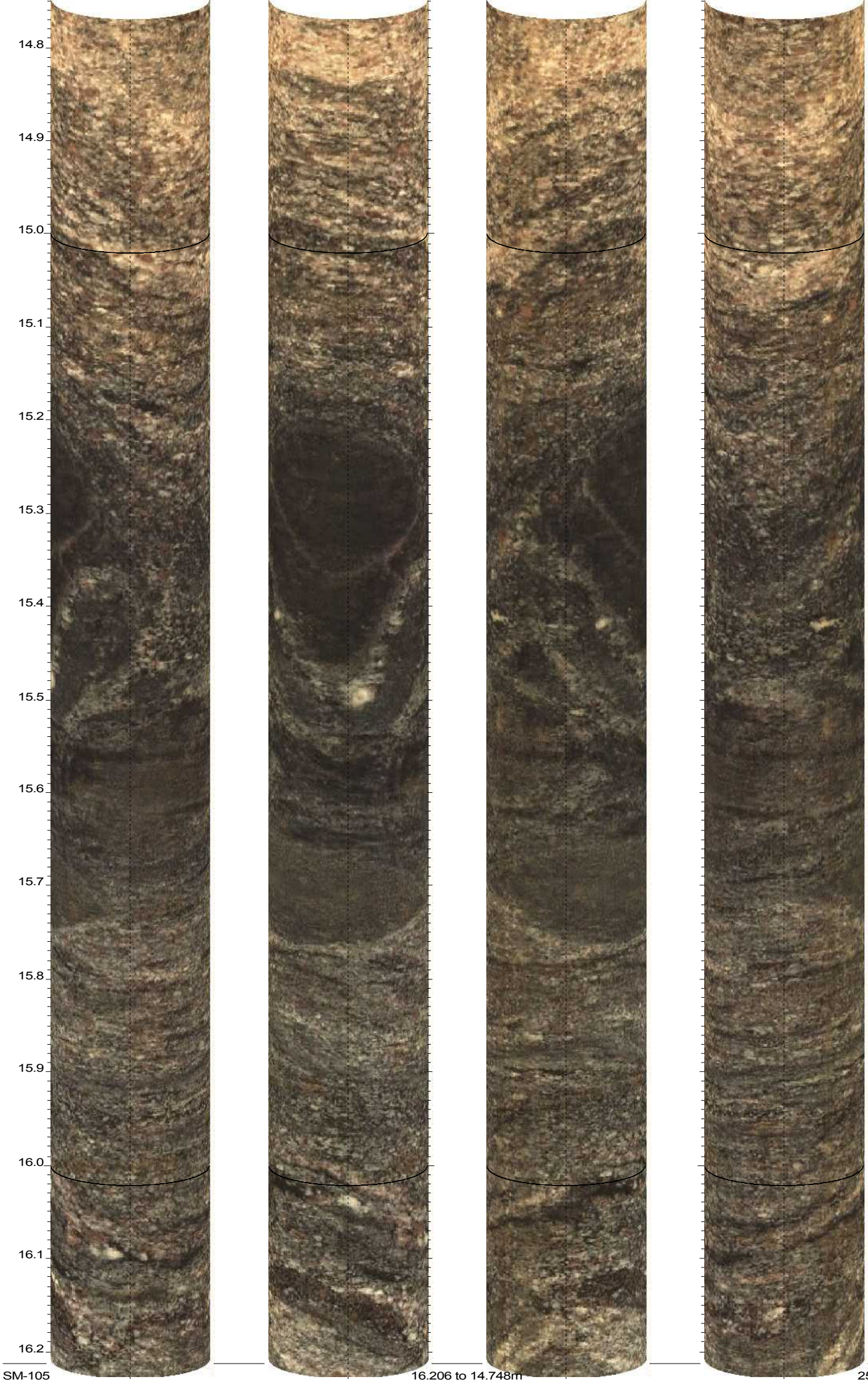
SM-105 10.376 to 8.919m 25 Sep 2015

SM-105 11.833 to 10.376m 25 Sep 2015



SM-105 13.291 to 11.833m 25 Sep 2015

SM-105 14.748 to 13.291m 25 Sep 2015



SM-105 16.206 to 14.748m 25 Sep 2015

16.3
16.4
16.5
16.6
16.7
16.8
16.9
17.0

ATITUDES

DESCONTINUIDADES

OPTV DATA PROCESSING
RGLDIP vsn 6.2
INTERPRETED OPTV DIPS LOG

15 Oct 2015

UHE ITAOCARA

Borehole: SM-105

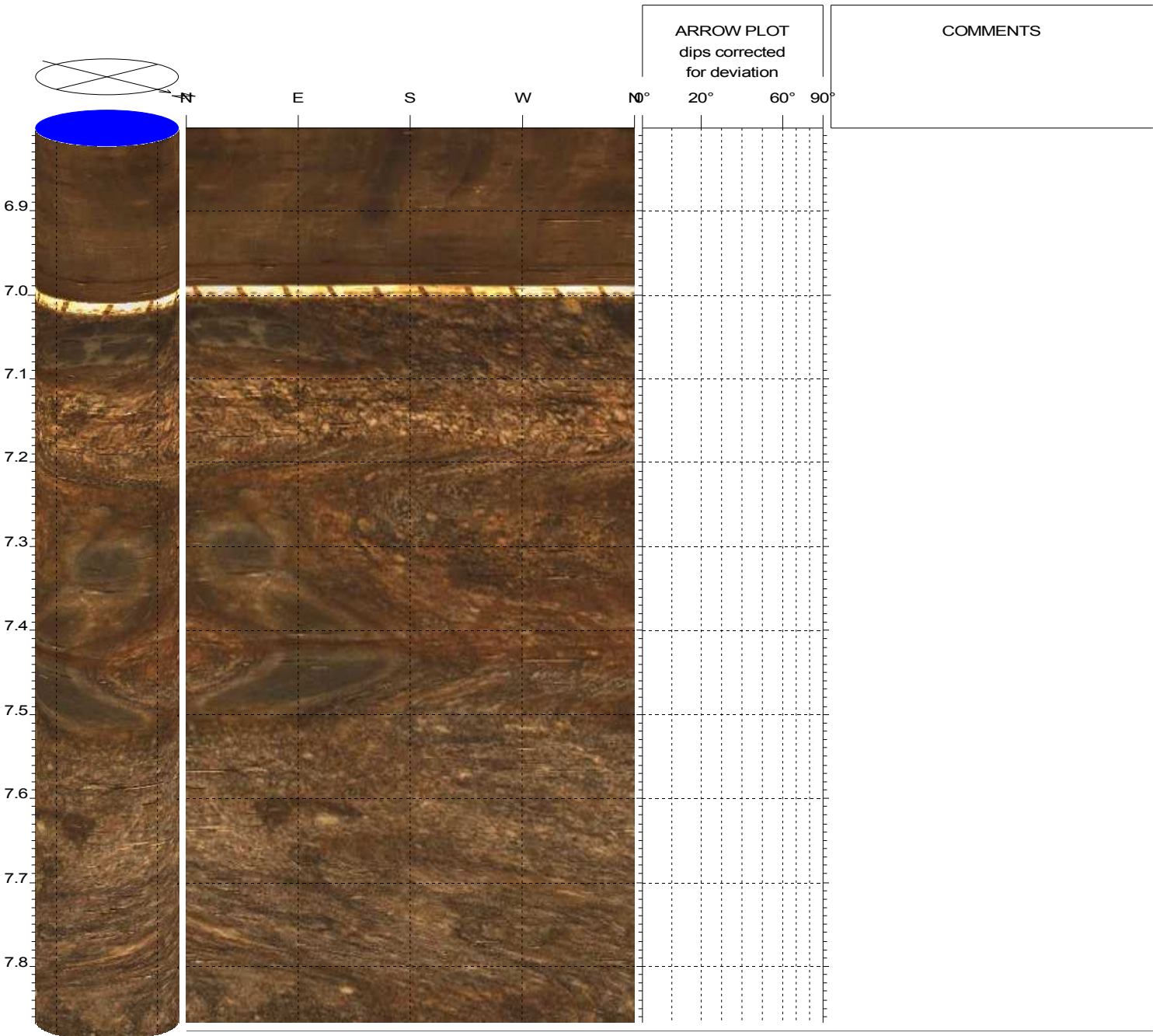
BARRAMENTO ILHA

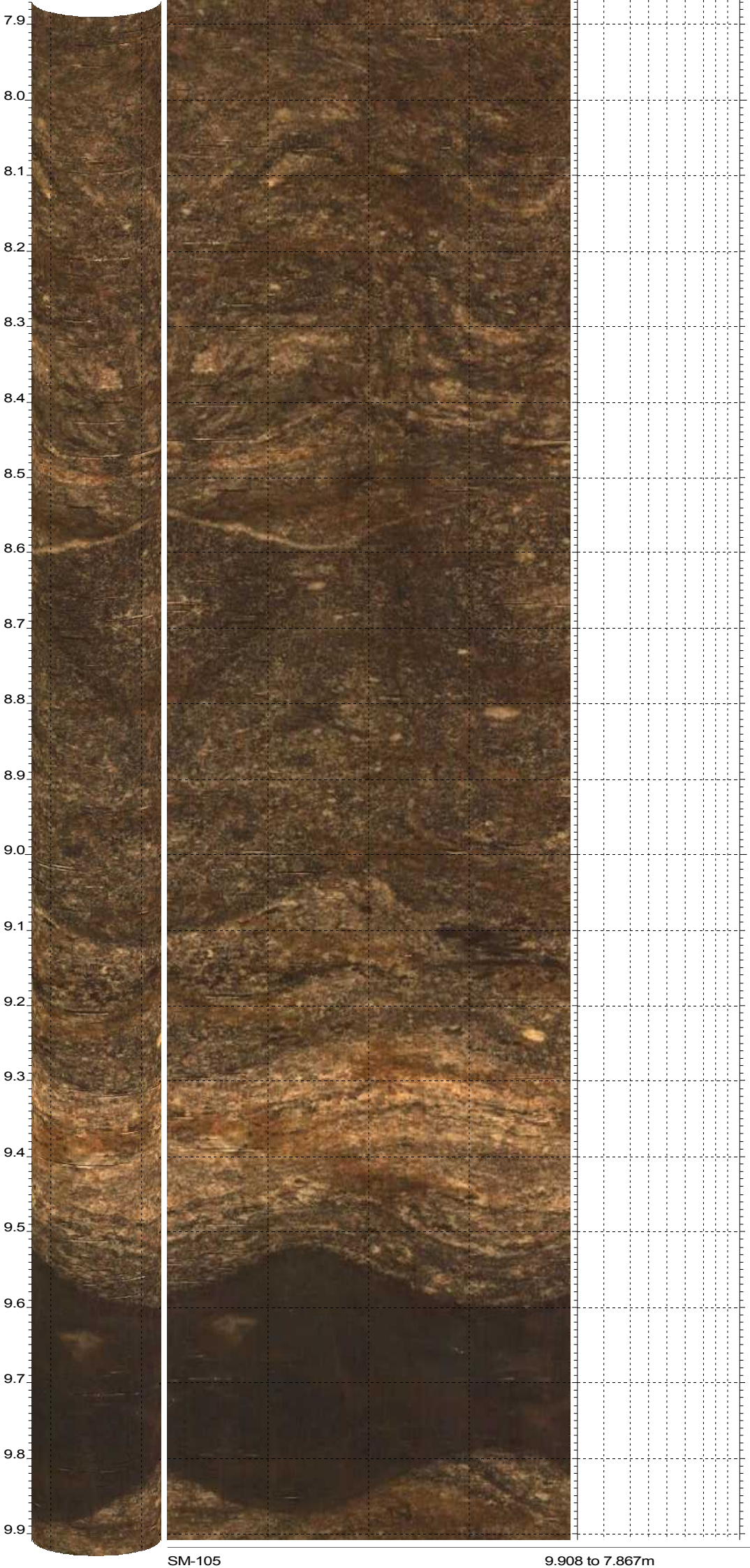
top of borehole.....
East:
North:
Elev:

North ref. is magnetic
Depth units are metres
Vertical scale: 1/7

Zone from 17.000 to 6.800m
Format: BHTV-NESWN

Borehole diam: 10.000cm
Vertical = borehole-axis




7.9
8.0
8.1
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8.4
8.5
8.6
8.7
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9.1
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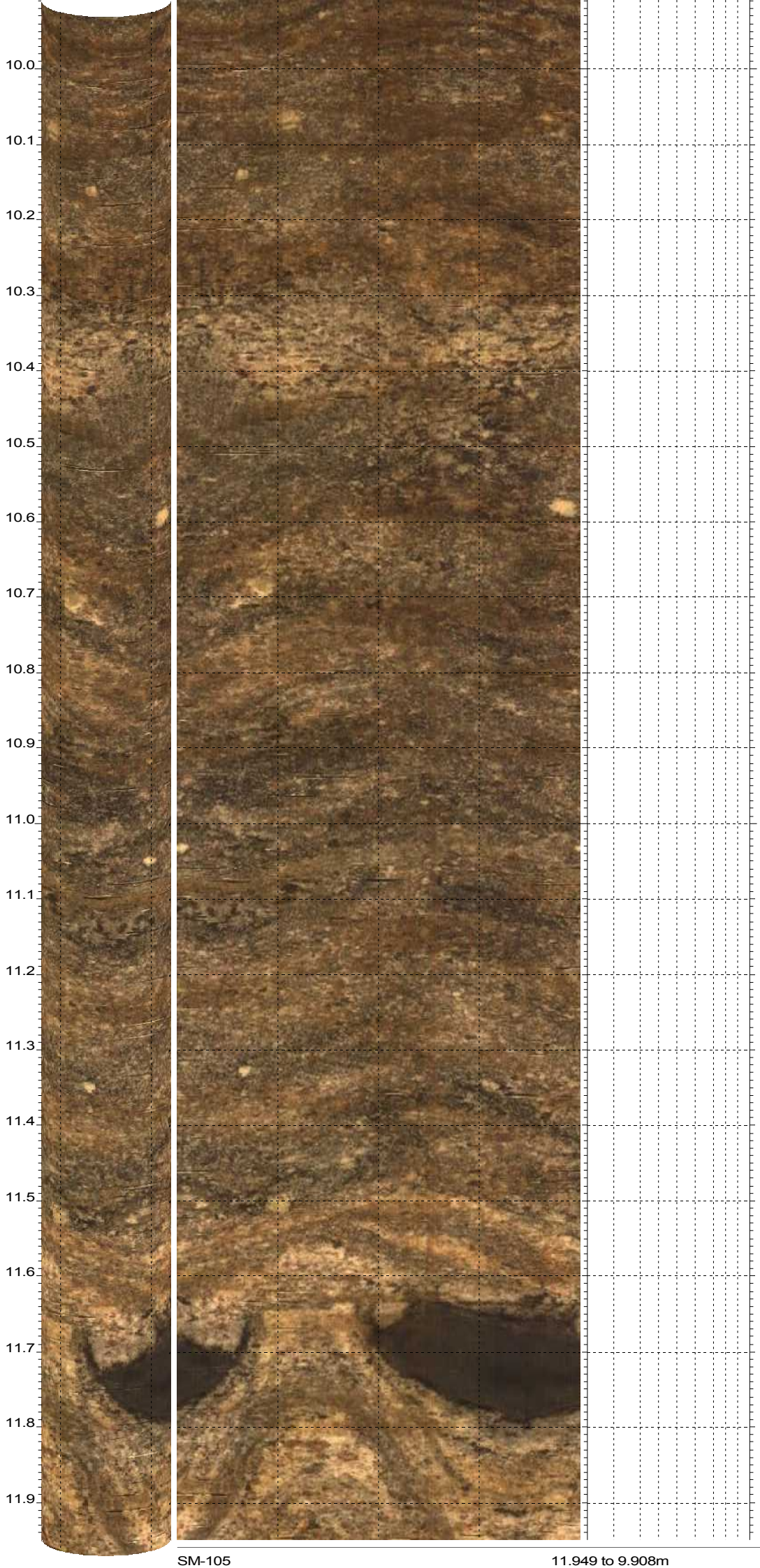
9.4
9.5
9.6
9.7
9.8
9.9


10.0
10.1
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10.3
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10.5
10.6
10.7
10.8
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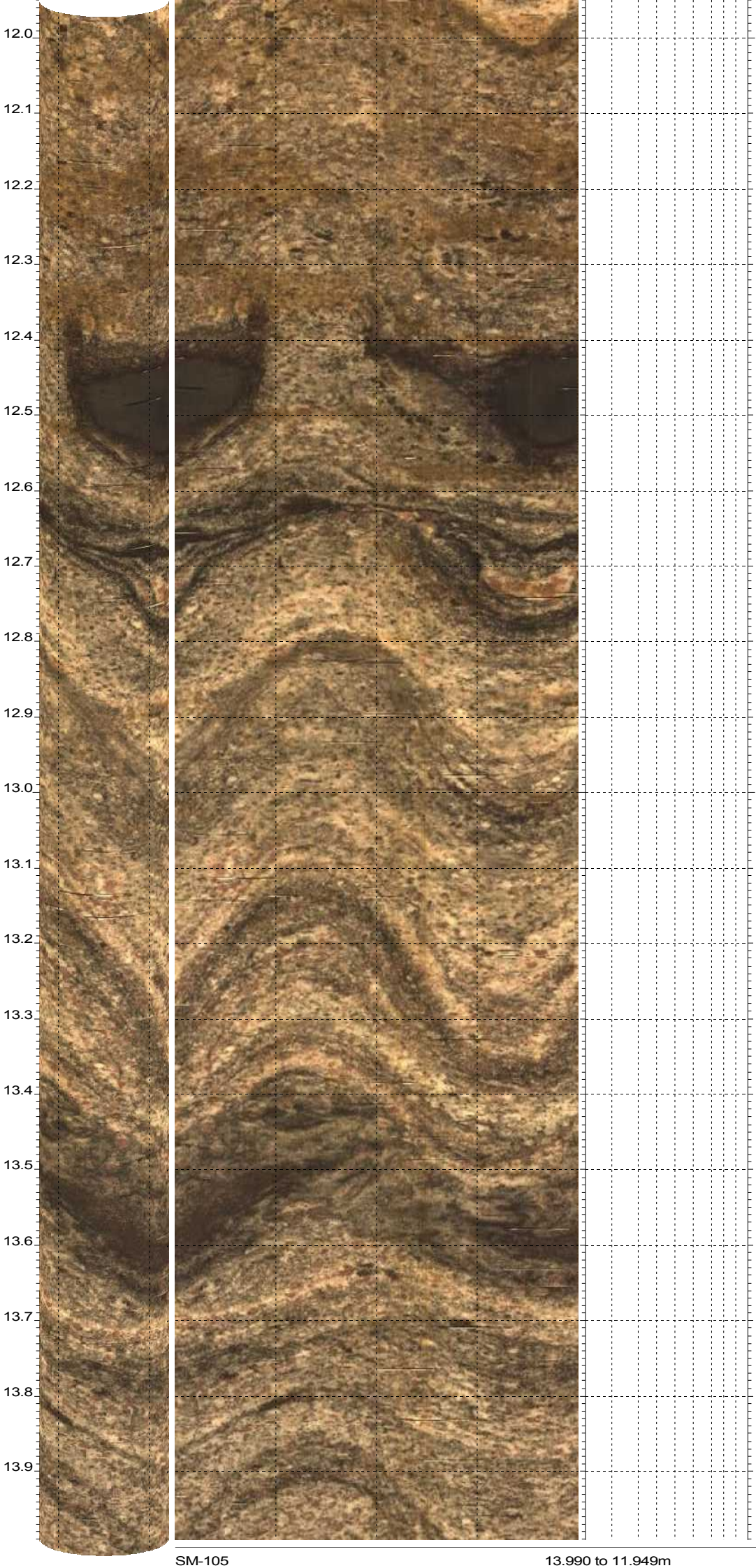
11.0
11.1
11.2
11.3
11.4
11.5
11.6
11.7
11.8
11.9


12.0
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12.5
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12.7
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13.1
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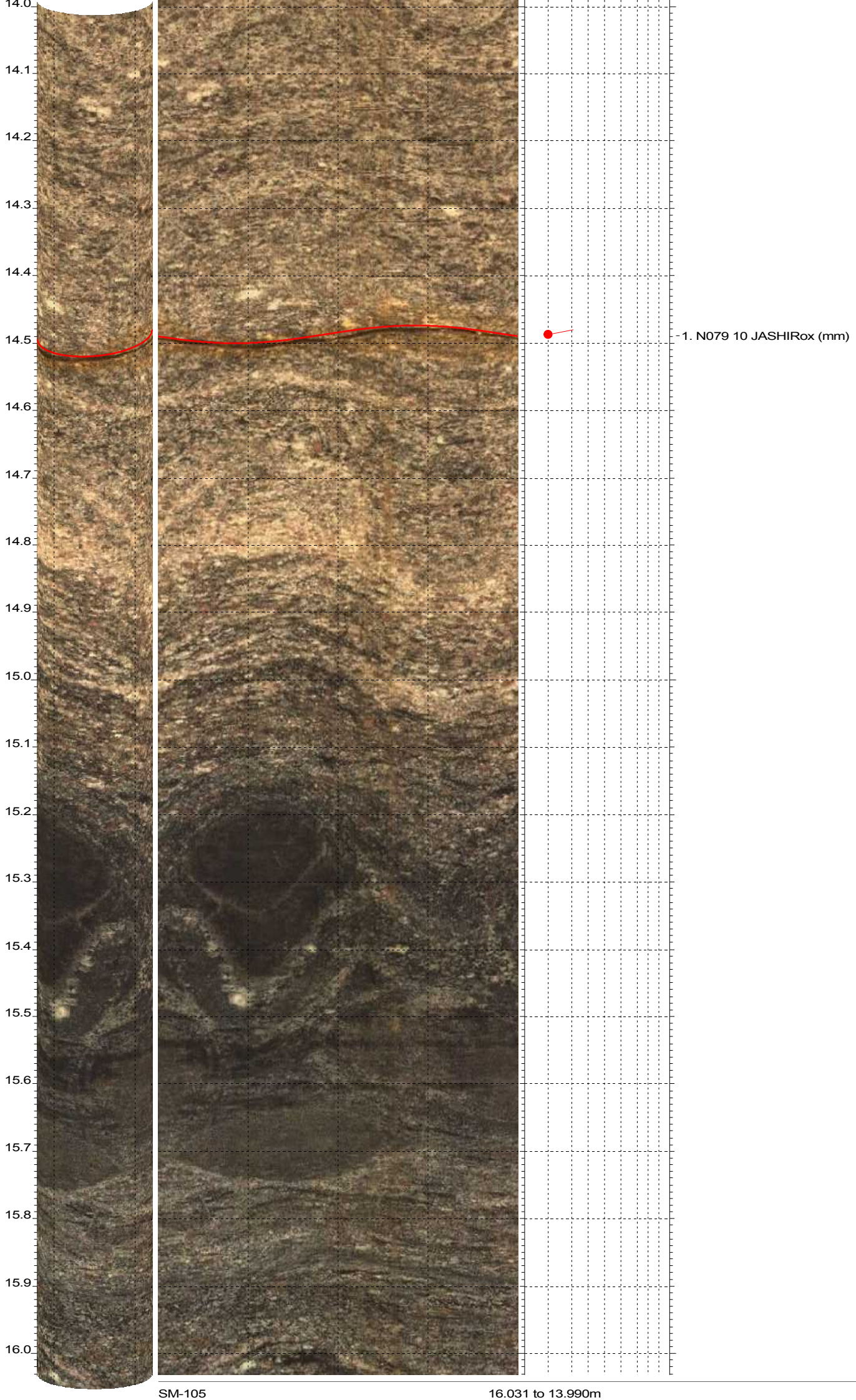
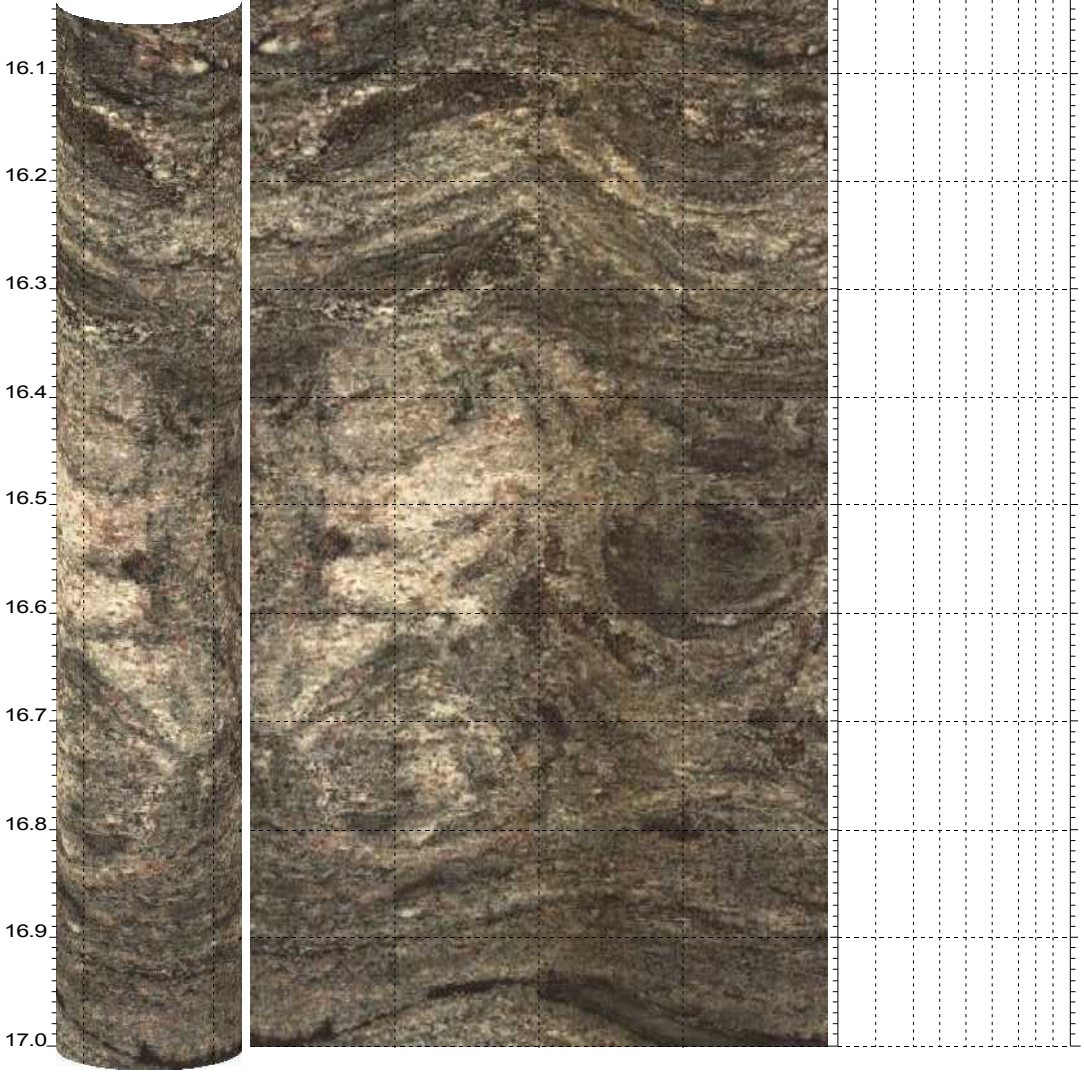
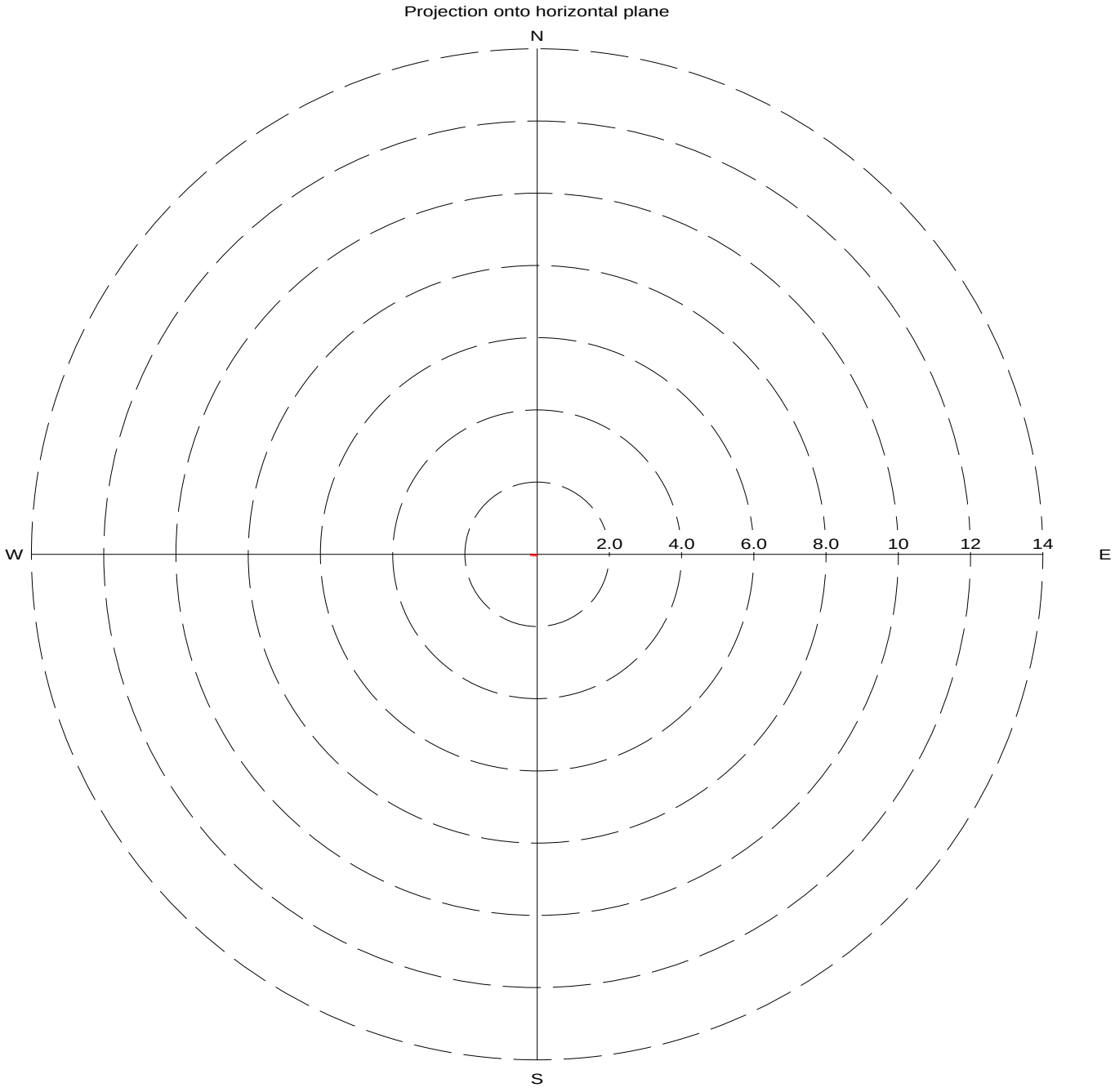
13.8
13.9


14.0
14.1
14.2
14.3
14.4
14.5
14.6
14.7
14.8
14.9
15.0
15.1
15.2
15.3
15.4
15.5
15.6
15.7
15.8
15.9
16.0
1. N079 10 JASHIRox (mm)


16.1
16.2
16.3
16.4
16.5
16.6
16.7
16.8
16.9
17.0

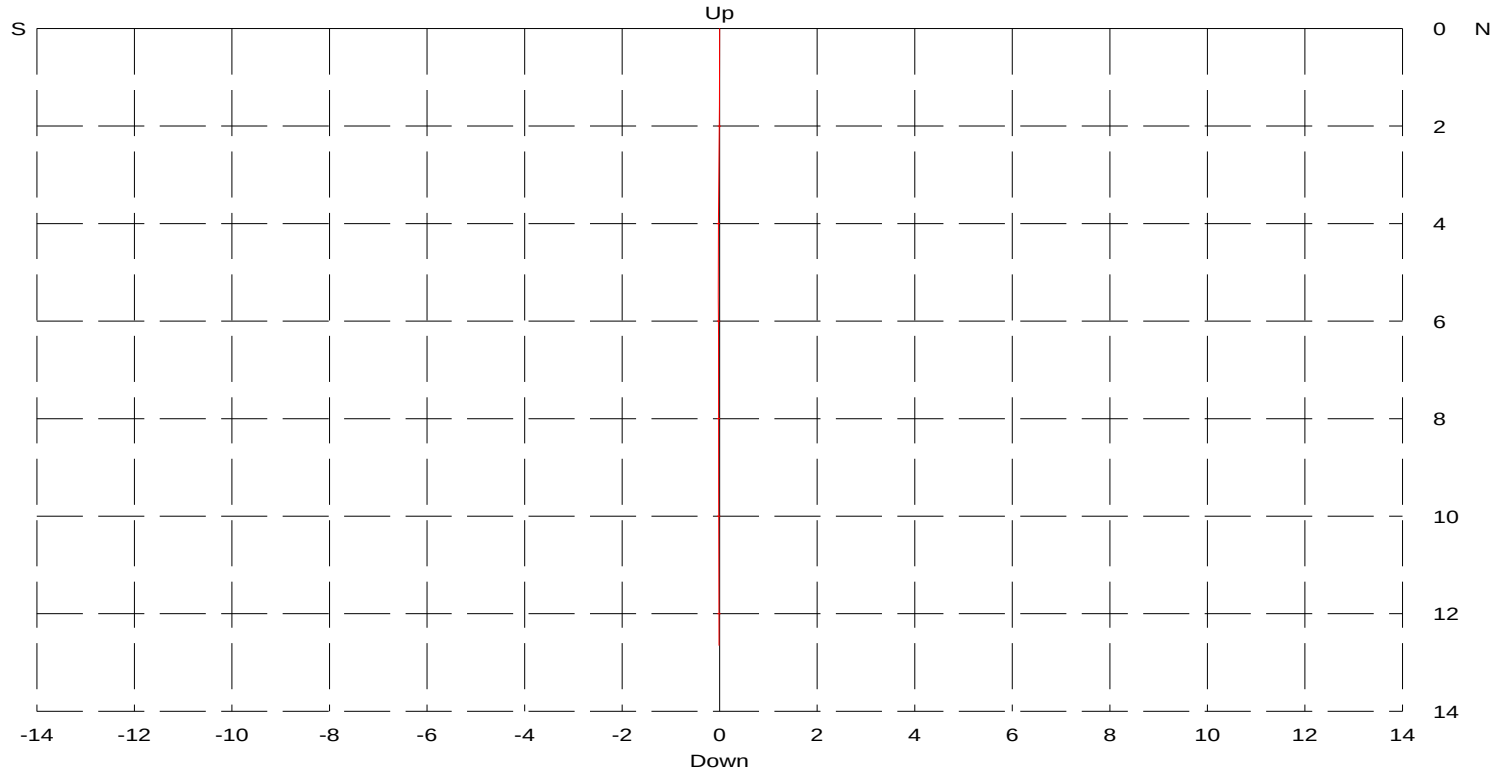
DESVIO SONDAGEM

Borehole: SM-105 Sonde: OPTV
Zone from: 4.254 to 17.000m
North ref is magnetic
Mean deviation: 0.86 to N265.58
End coordinates .....
North: -0.015
East : -0.190
Down : 12.694
Azimuth of end: N265.54
Distance start-end: 0.190m
Distance marks every 2m
15 Oct 2015

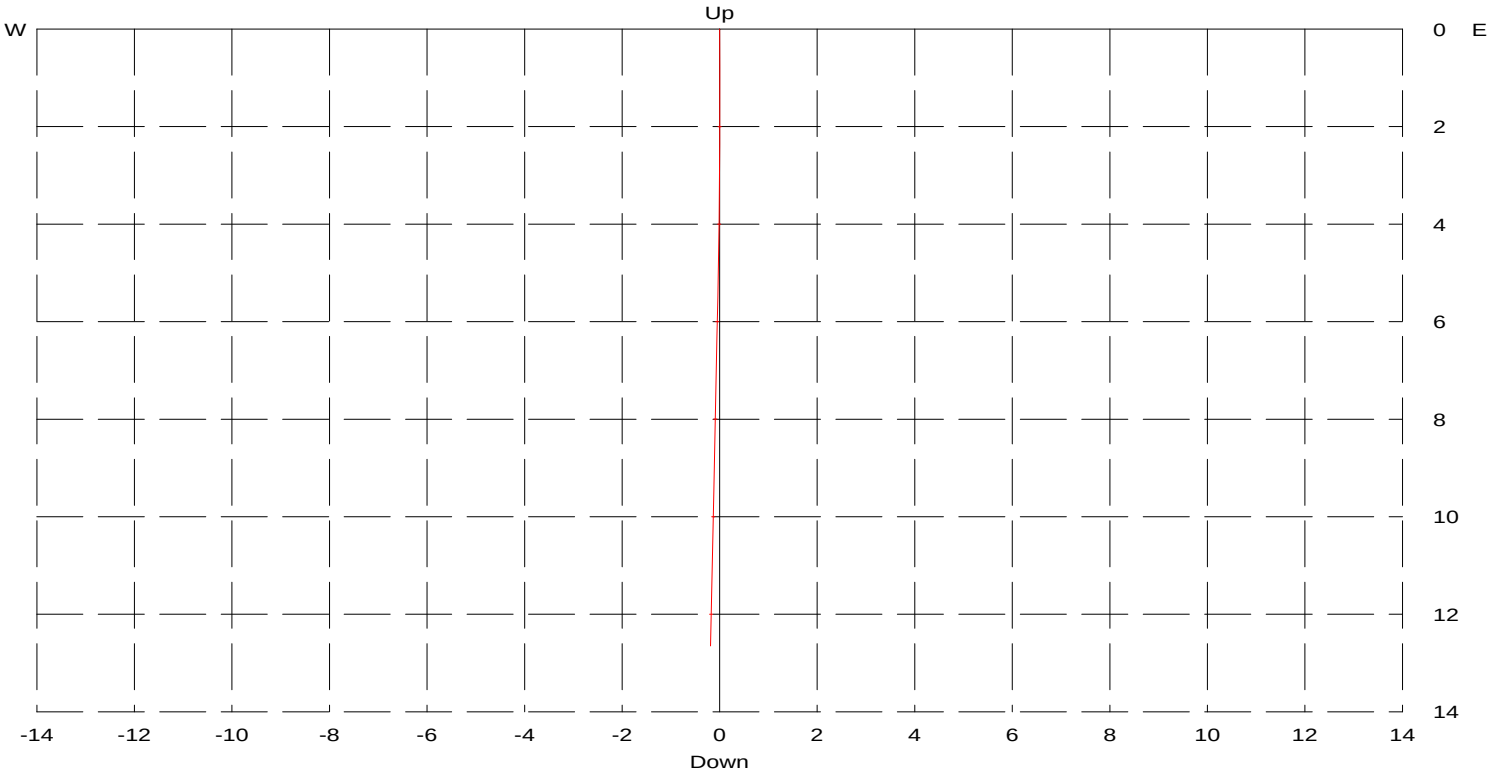


Borehole: SM-105 Sonde: OPTV
Zone from: 4.254 to 17.000m
North ref is magnetic
Mean deviation: 0.86 to N265.58
End coordinates .....
North: -0.015
East : -0.190
Down : 12.694
Azimuth of end: N265.54
Distance start-end: 0.190m
Distance marks every 2m
15 Oct 2015

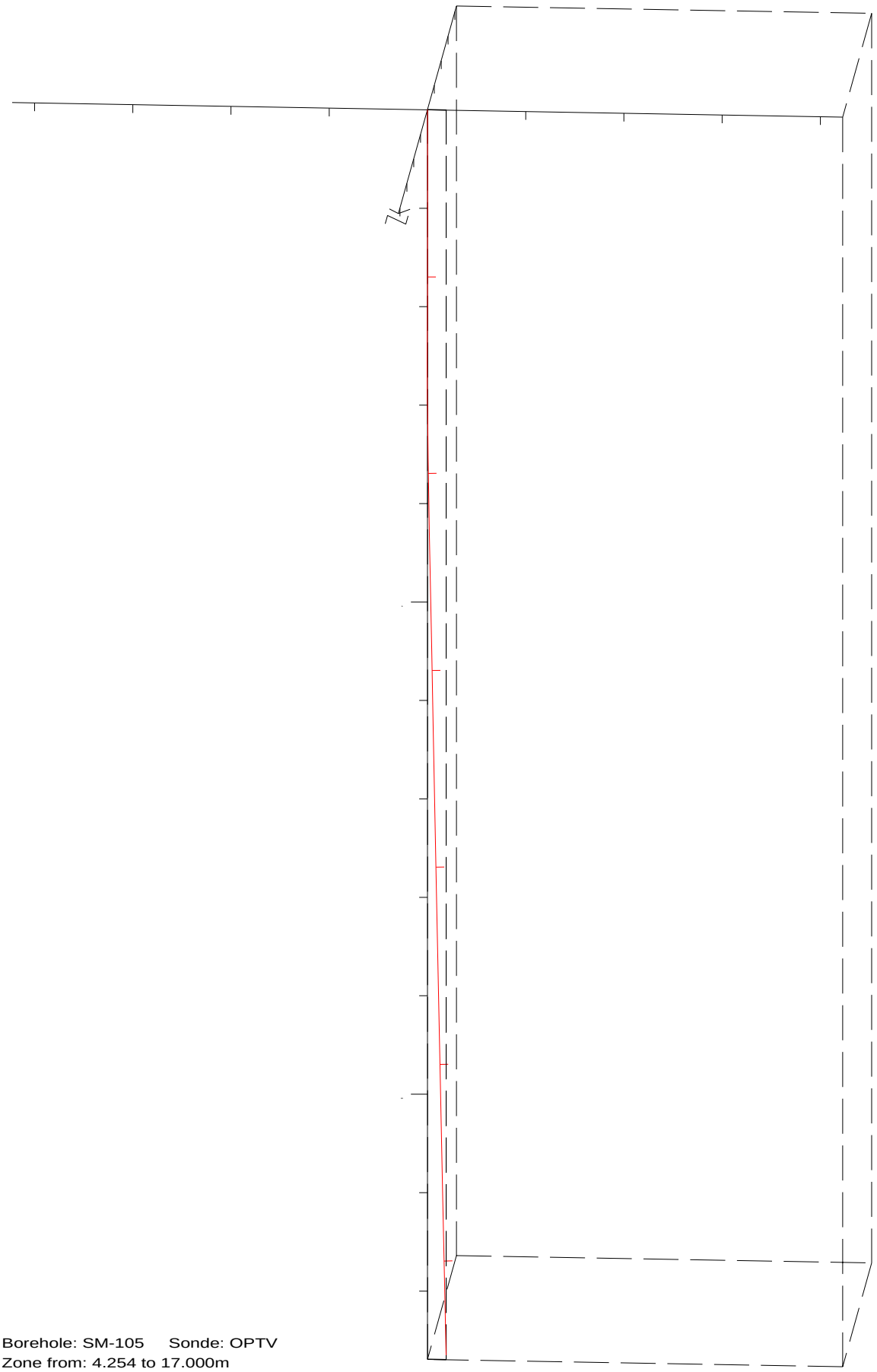
Projection onto vertical N-S plane



Projection onto vertical E-W plane



Deviated borehole in orthographic projection, viewed from N356



Borehole: SM-105 Sonde: OPTV
Zone from: 4.254 to 17.000m
North ref is magnetic
Mean deviation: 0.86 to N265.58
End coordinates .....
North: -0.015
East : -0.190
Down : 12.694
Azimuth of end: N265.54
Distance start-end: 0.190m
Viewpoint: N356
15 Oct 2015

SM-111

IMAGEM 2D

OPTV DATA PROCESSING
RGLDIP vsn 6.2
BOREHOLE IMAGE LOG

25 Sep 2015

UHE ITAOCARA

Borehole: SM-111

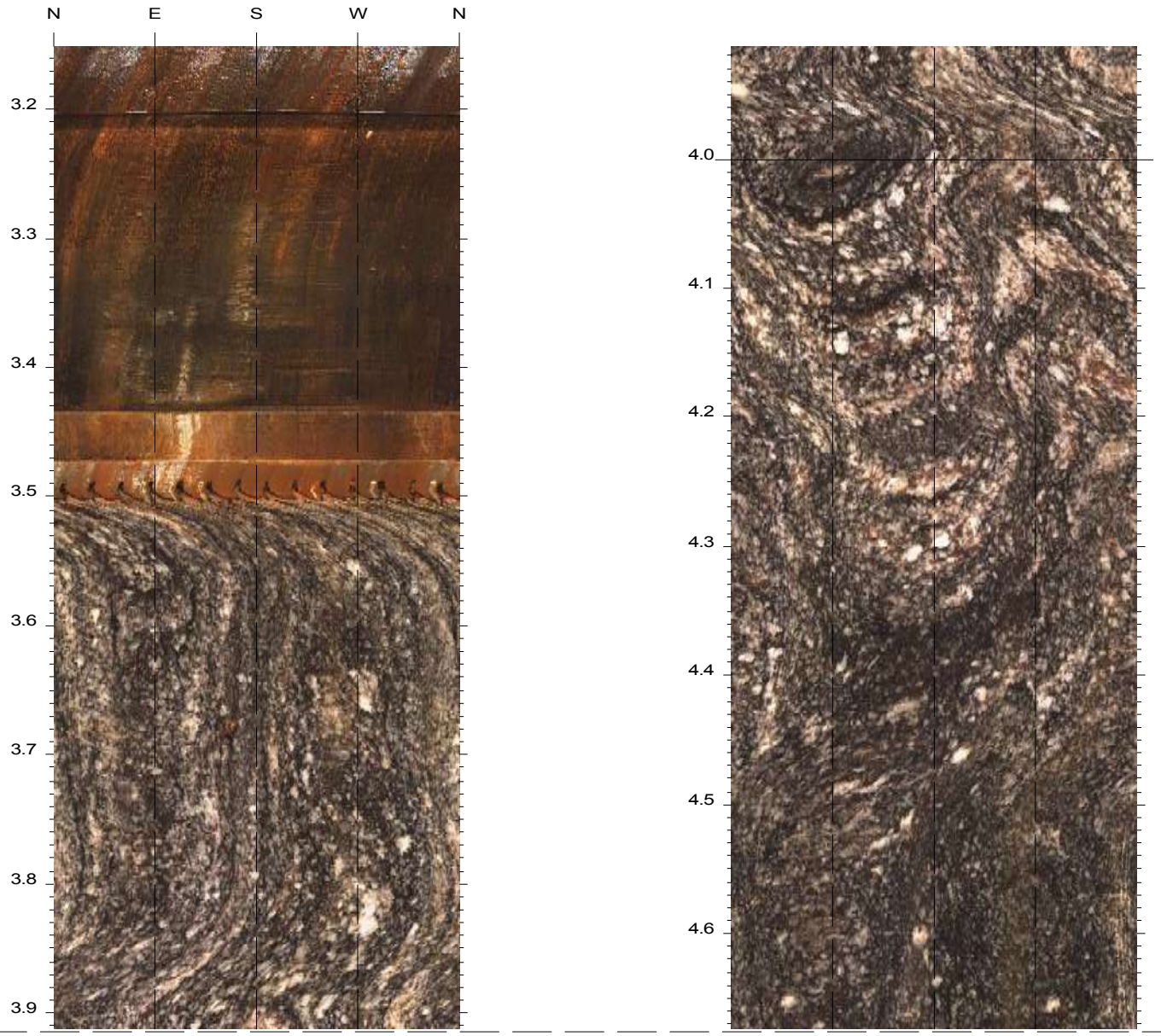
BARRAMENTO M.E.

top of borehole.....
East:
North:
Elev:

North ref. is magnetic
Depth units are metres
Vertical scale: 1/5
Horiz scale = vert scale

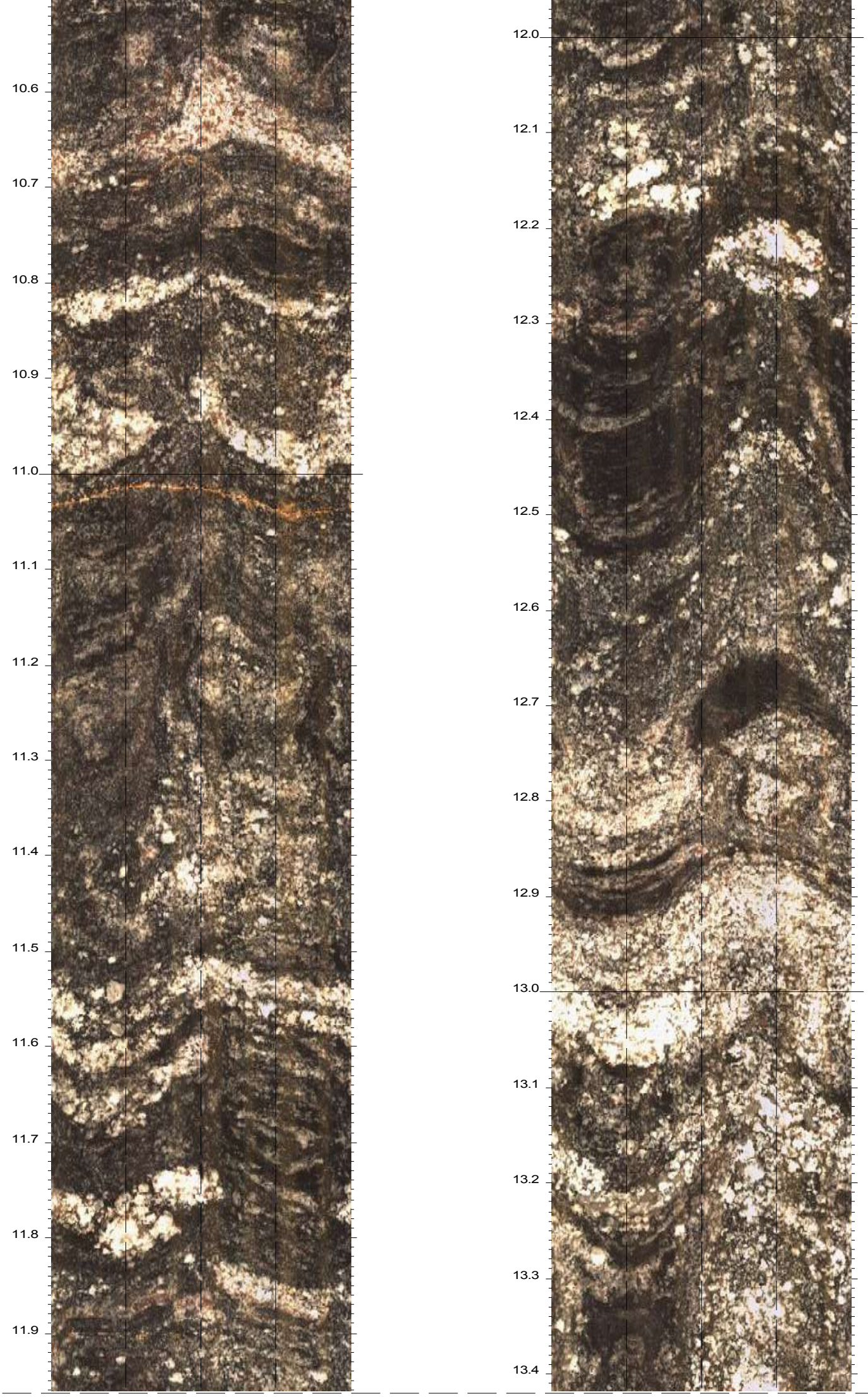
Zone from 32.8686 to 3.1500m
Format: BHTV NESWN

Borehole diam: 10.000cm
data intervals.....
Azimuth: 0.6667deg
Depth: 0.0014m

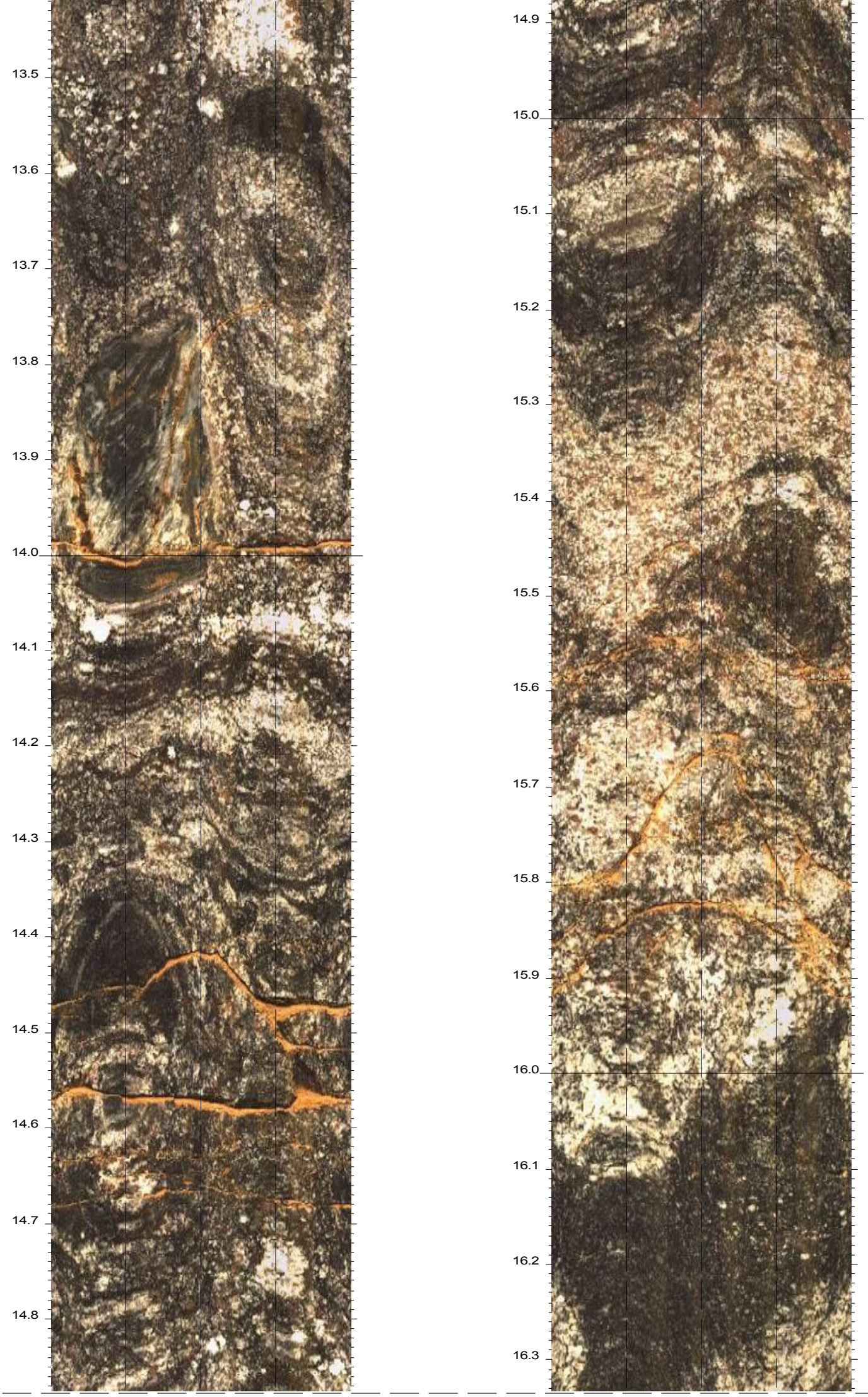


SM-111 7.5880 to 4.6732m 25 Sep 2015

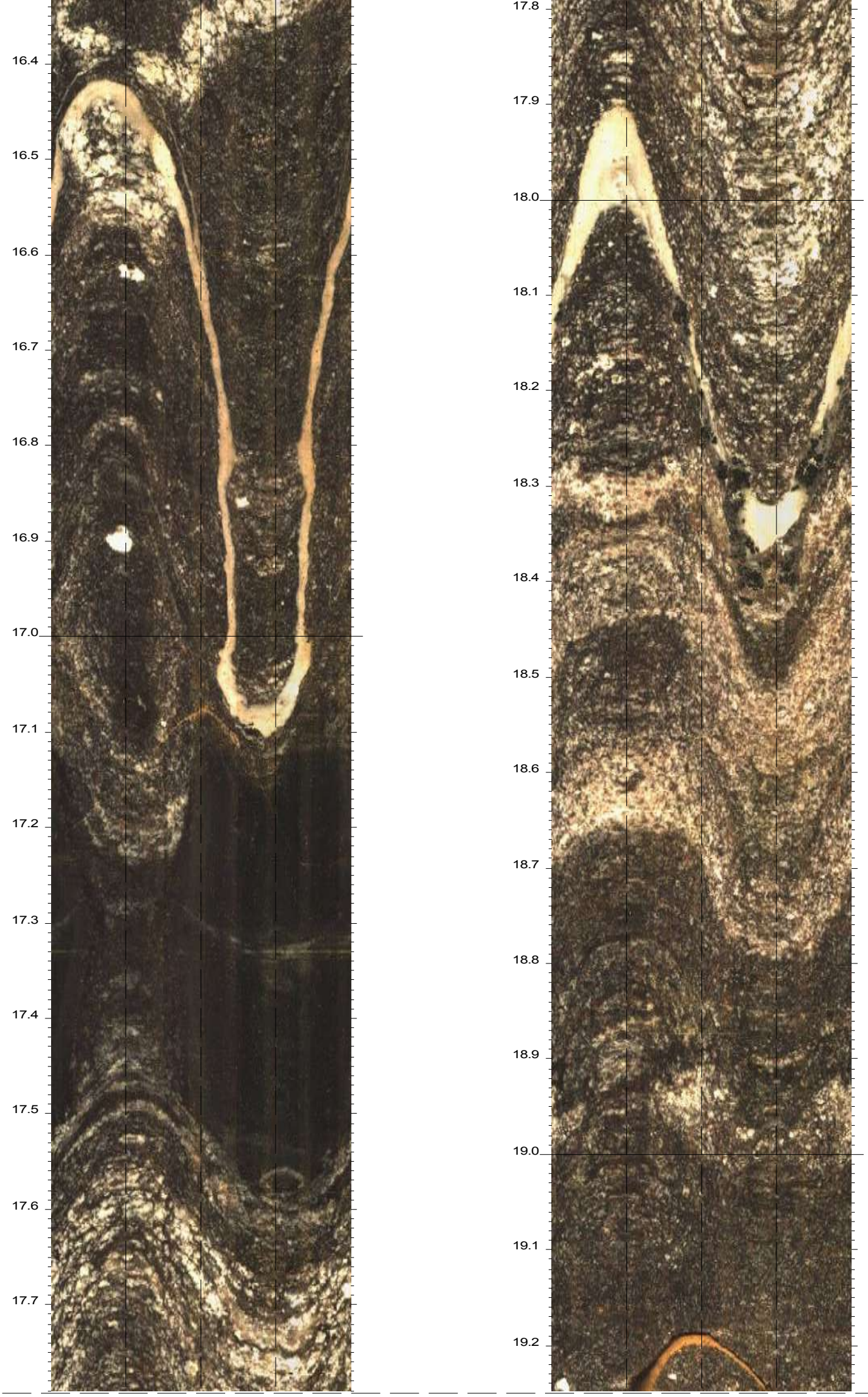
SM-111 10.5028 to 7.5880m 25 Sep 2015



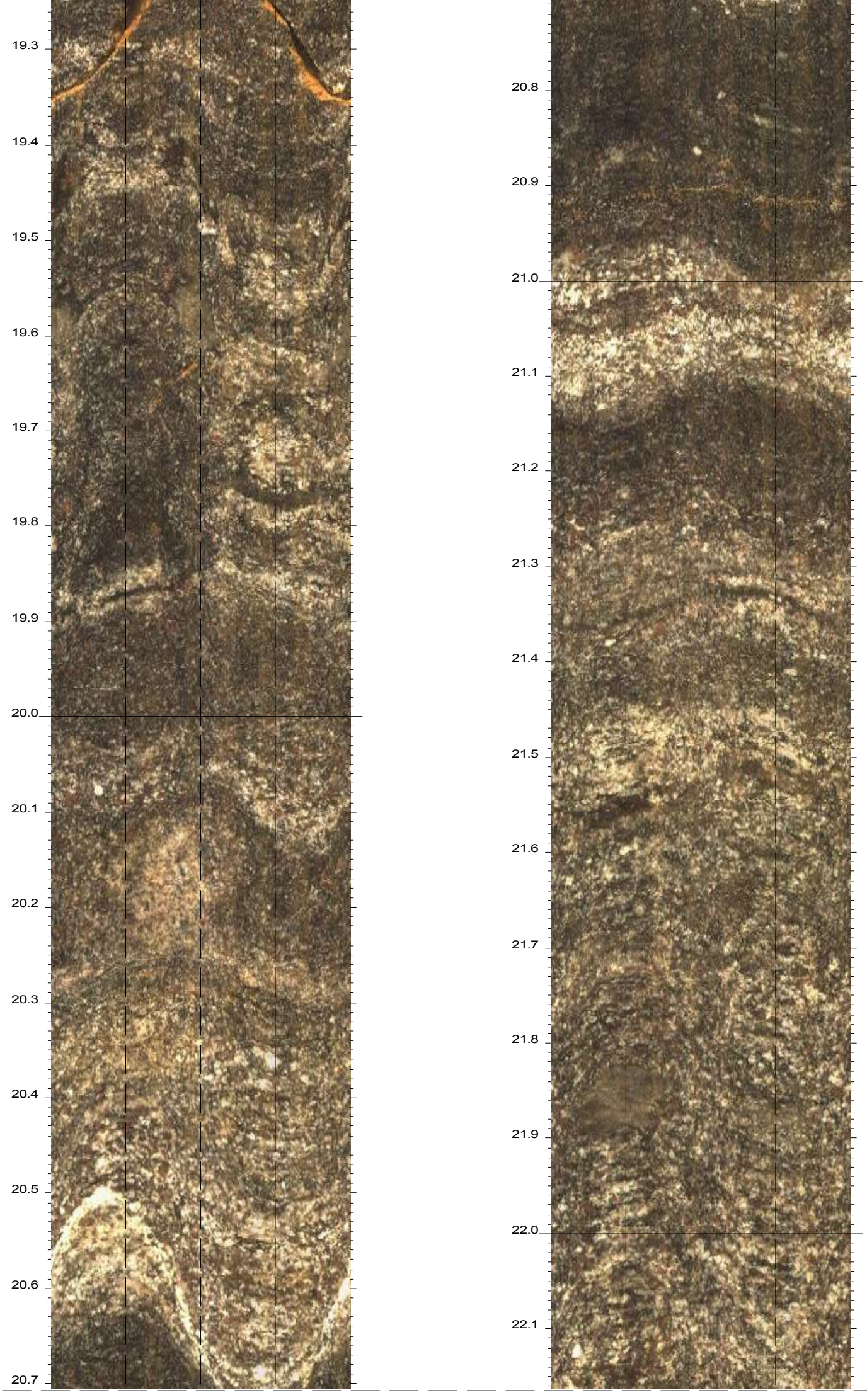
SM-111 13.4176 to 10.5028m 25 Sep 2015



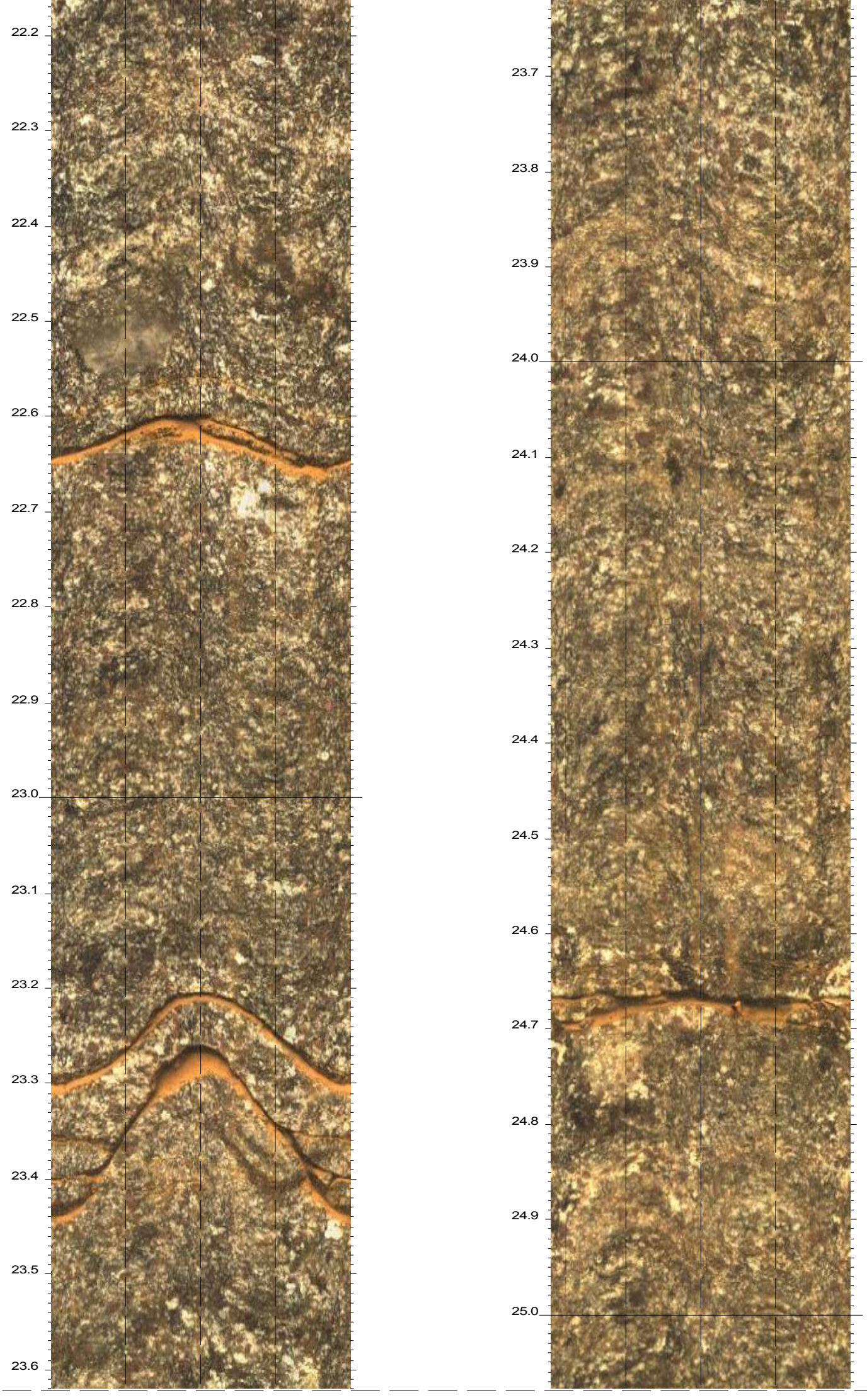
SM-111 16.3324 to 13.4176m 25 Sep 2015



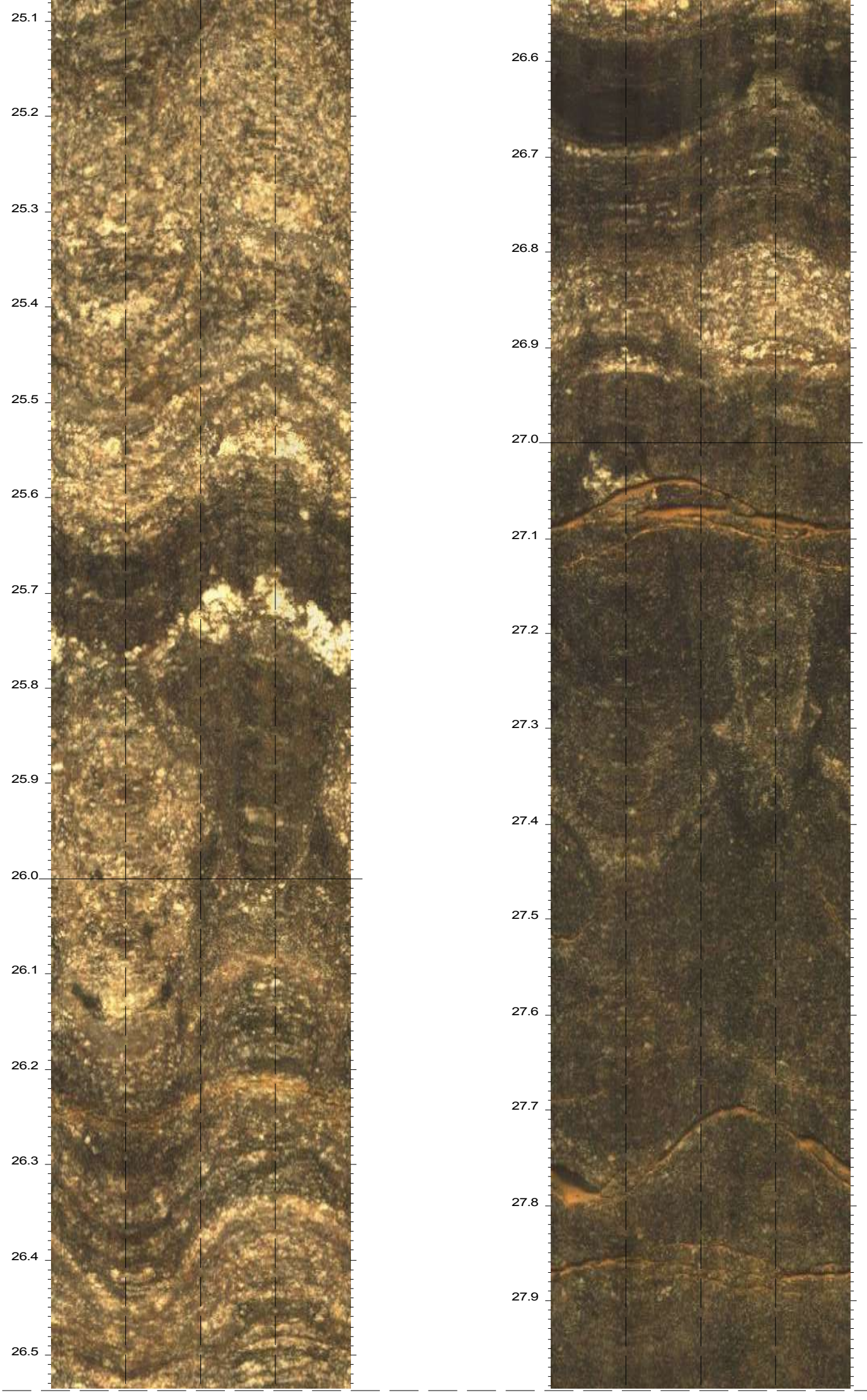
SM-111 19.2472 to 16.3324m 25 Sep 2015



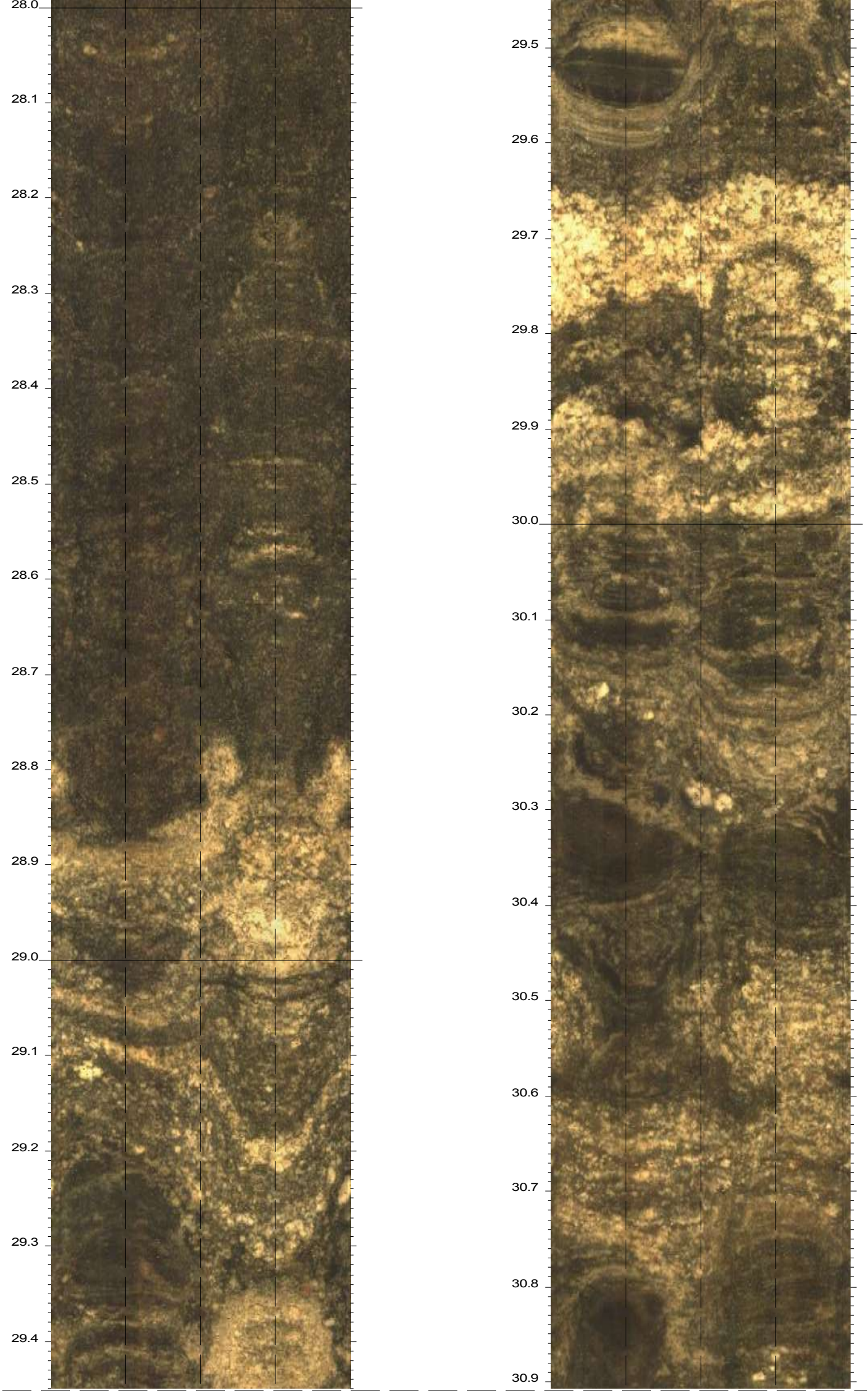
SM-111 22.1620 to 19.2472m 25 Sep 2015



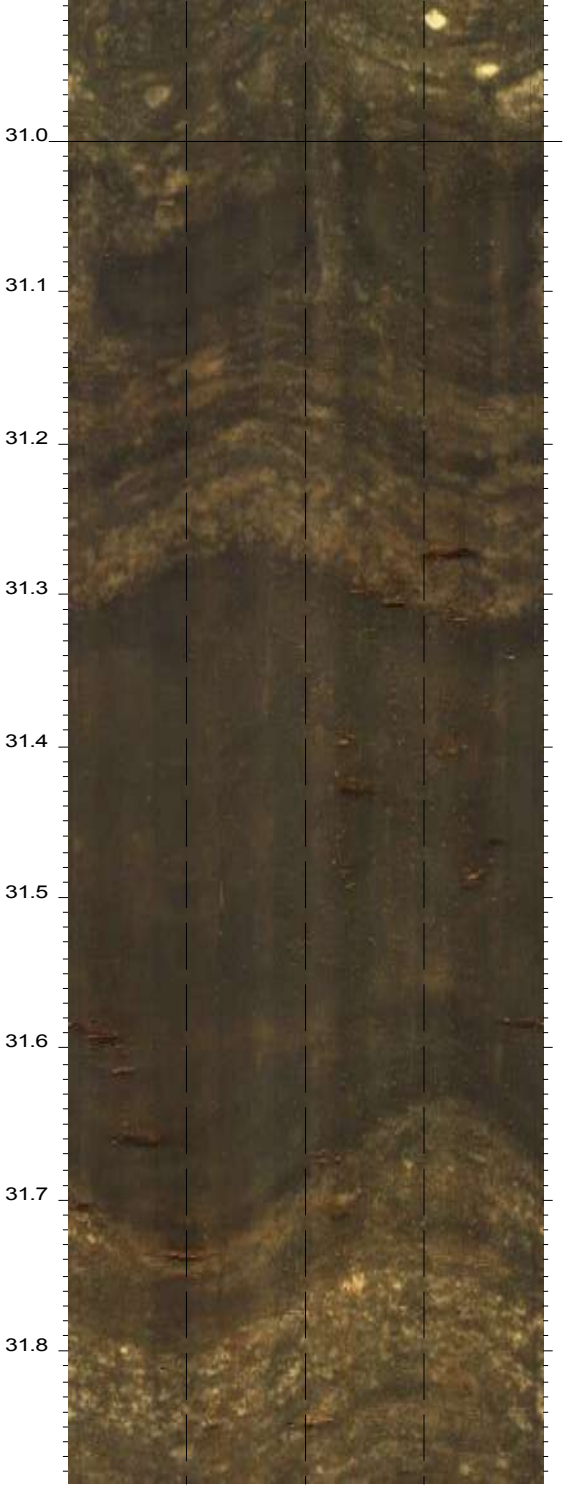
SM-111 25.0768 to 22.1620m 25 Sep 2015



SM-111 27.9916 to 25.0768m 25 Sep 2015



SM-111 30.9064 to 27.9916m 25 Sep 2015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31.4
31.5
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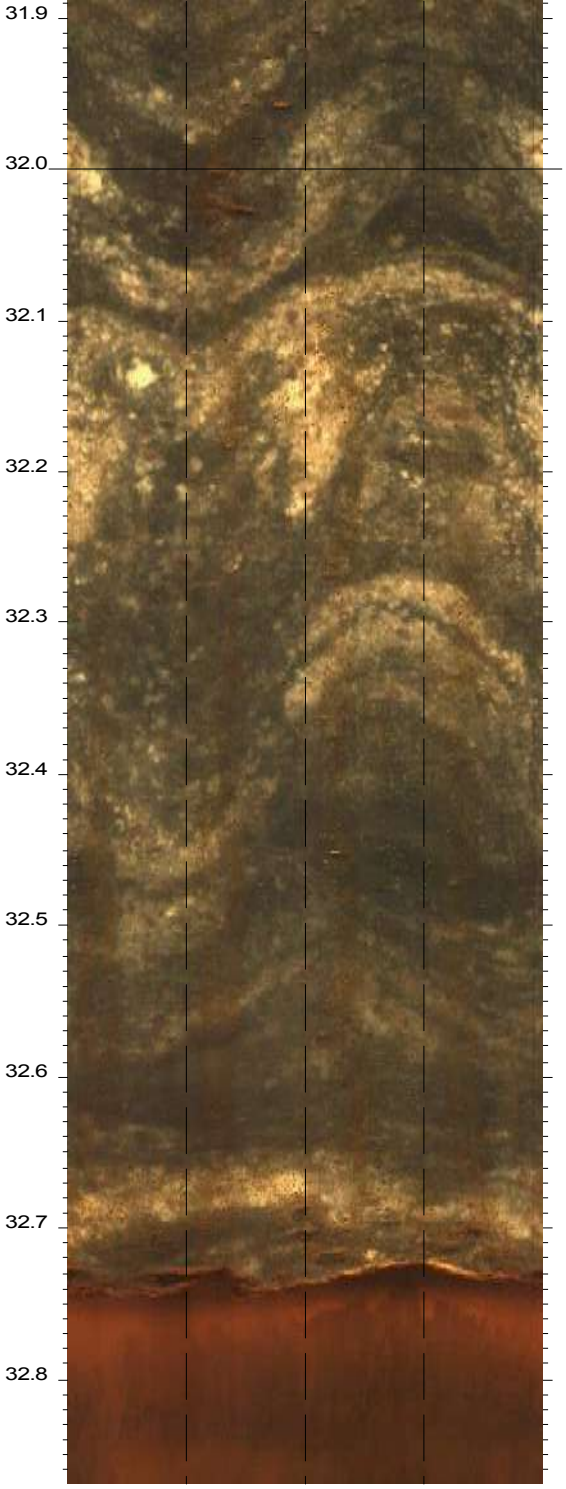
31.7
31.8


31.9
32.0
32.1
32.2
32.3
32.4
32.5
32.6
32.7
32.8

TESTEMUNHO VIRTUAL

OPTV DATA PROCESSING
RGLDIP vsn 6.2
CORE ORIENTATION LOG

25 Sep 2015

UHE ITAOCARA

Borehole: SM-111

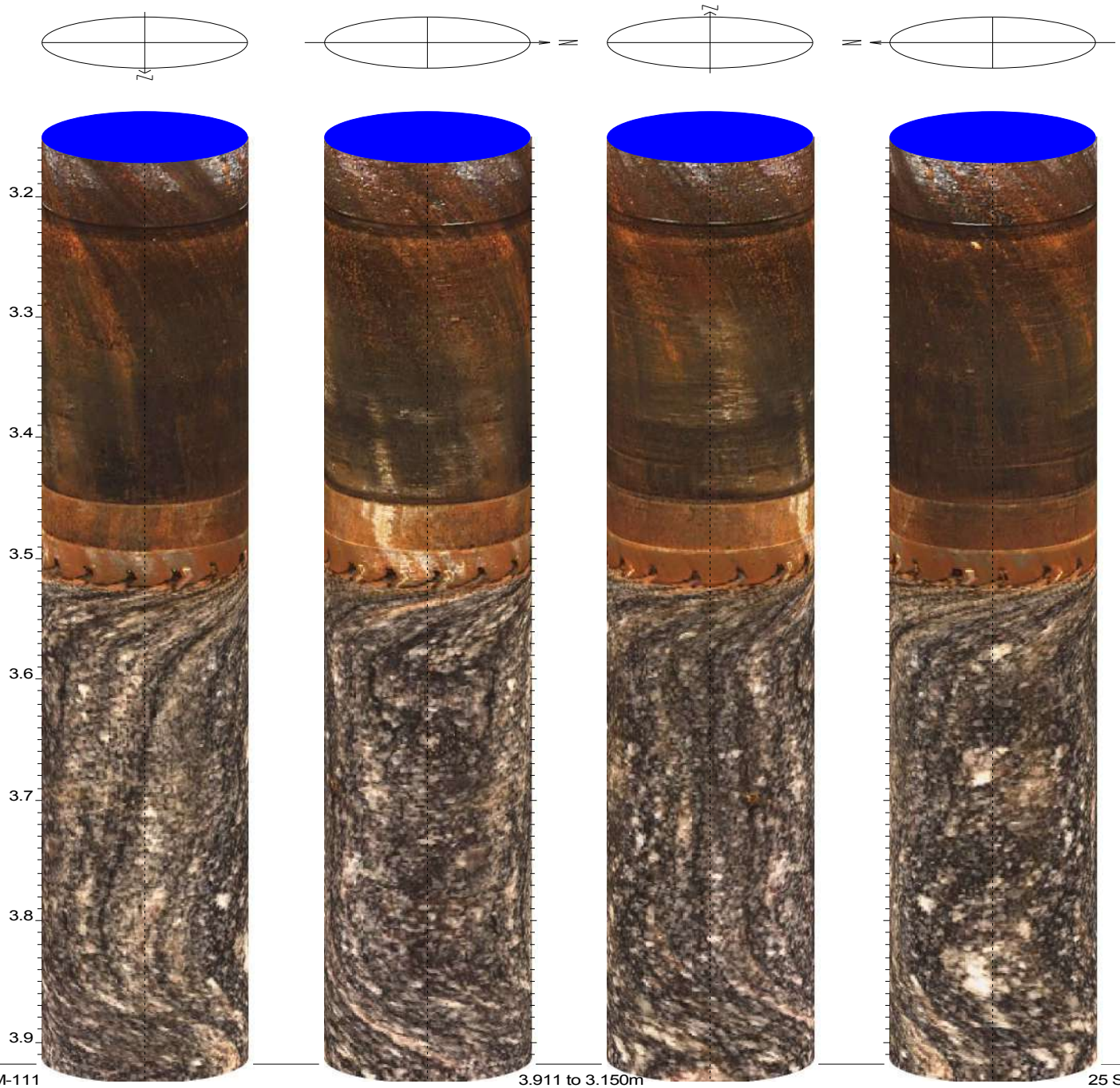
BARRAMENTO M.E.

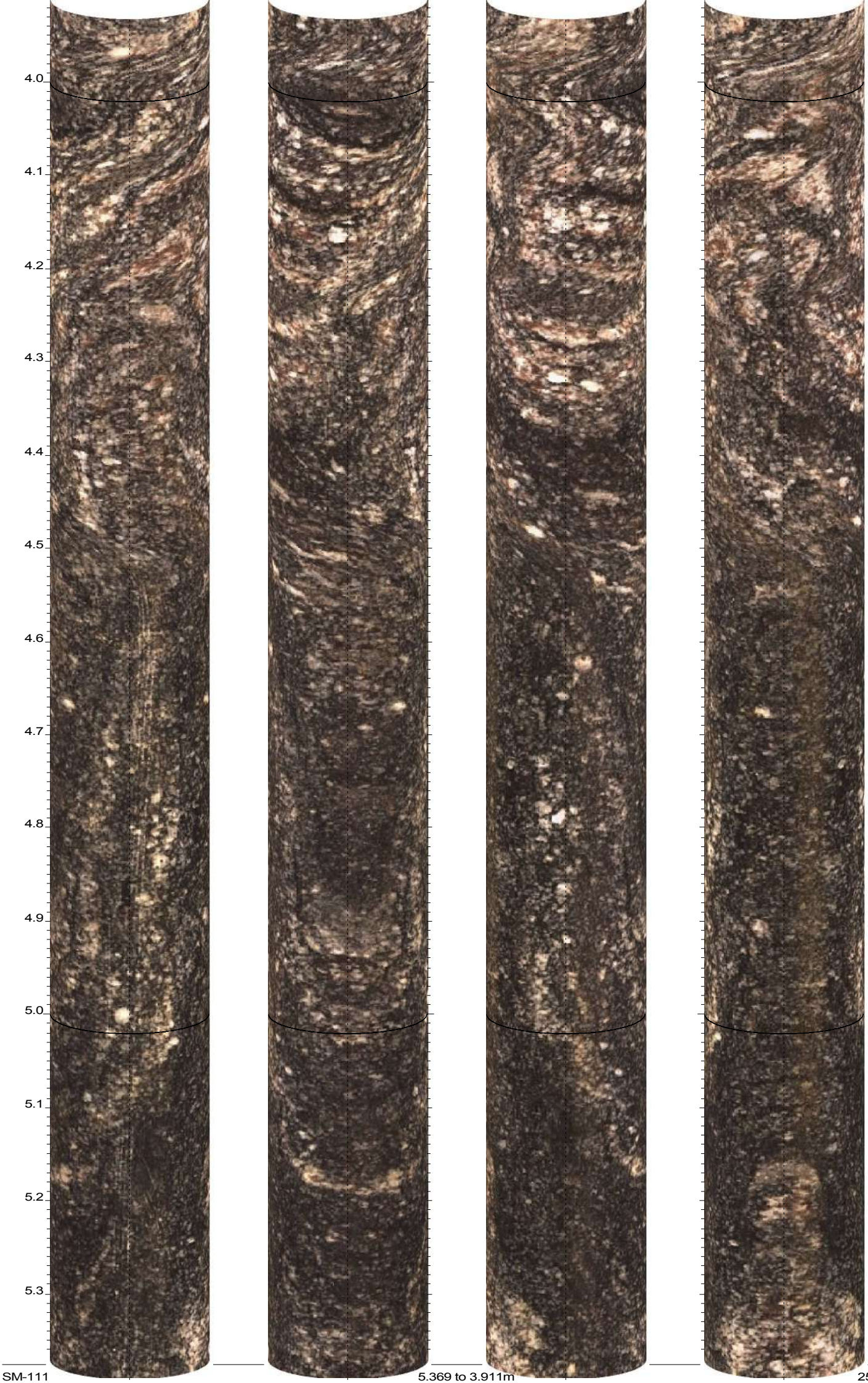
top of borehole.....
East:
North:
Elev:

North ref. is magnetic
Depth units are metres
Vertical scale: 1/5

Zone from 32.869 to 3.150m
Cores oriented: N000 N090 N180 N270

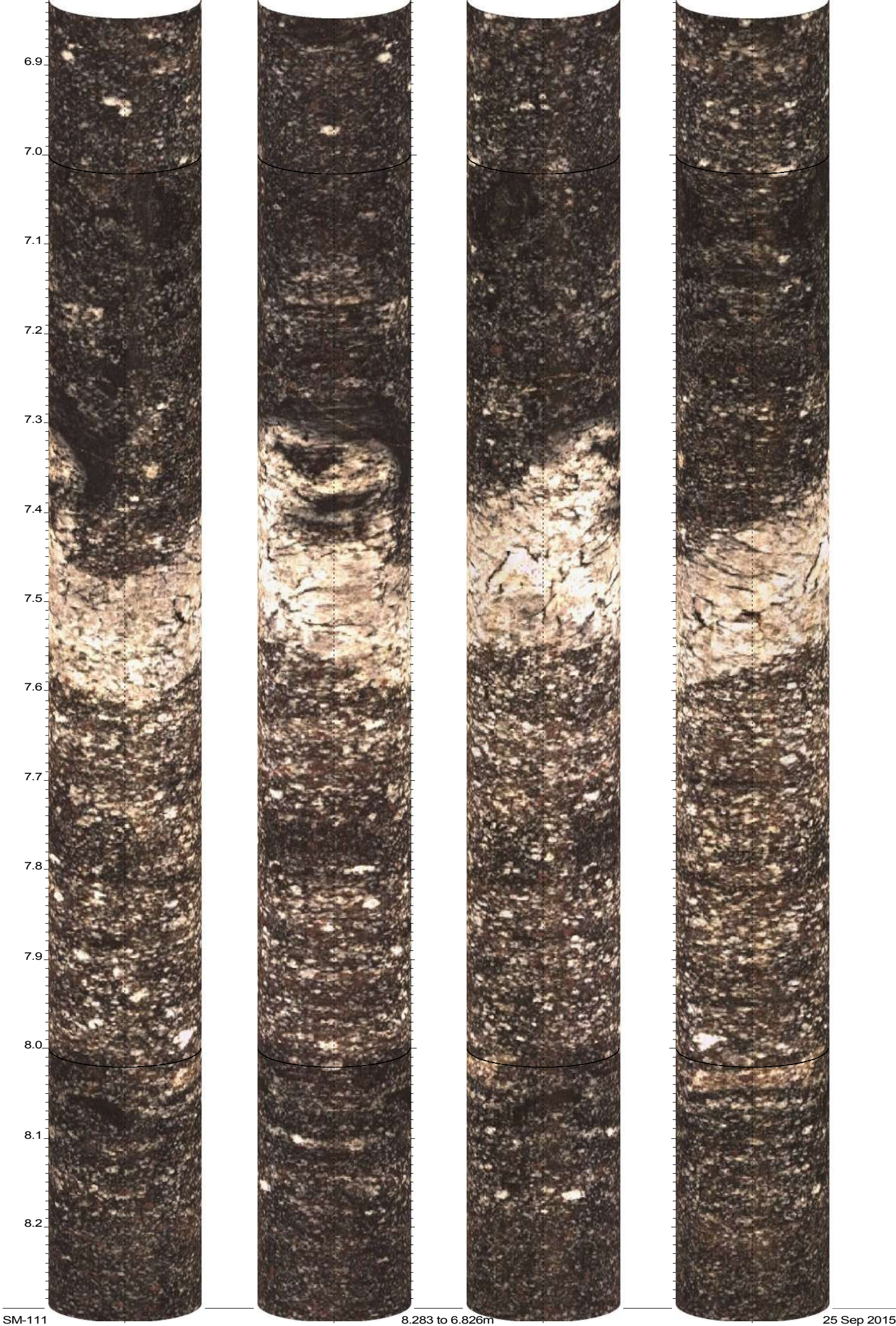
Borehole diam: 10.000cm
data intervals .....
radial: 0.6667deg
axial: 0.0014m





SM-111 5.369 to 3.911m 25 Sep 2015

SM-111 6.826 to 5.369m 25 Sep 2015



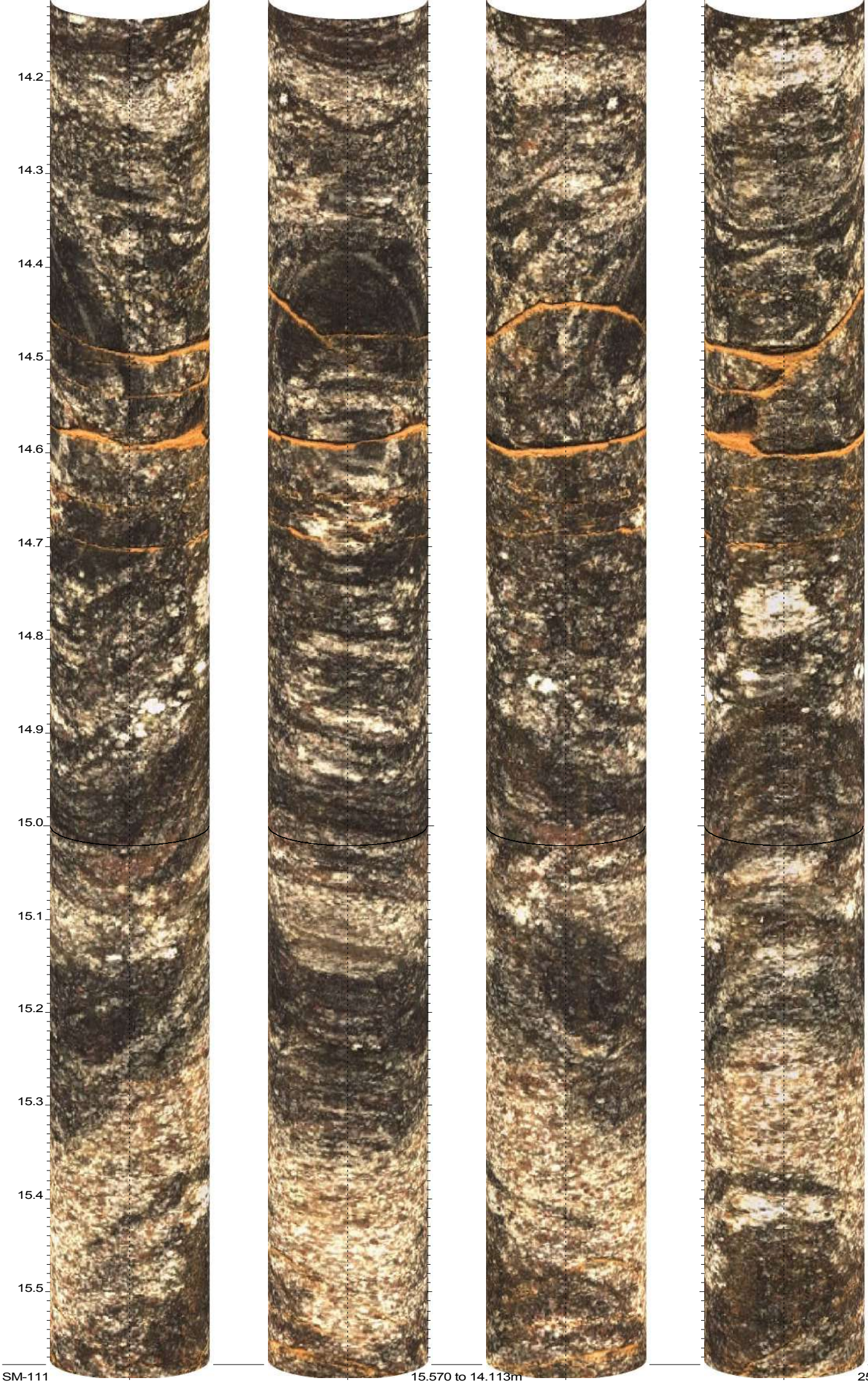
SM-111 8.283 to 6.826m 25 Sep 2015

SM-111 9.741 to 8.283m 25 Sep 2015

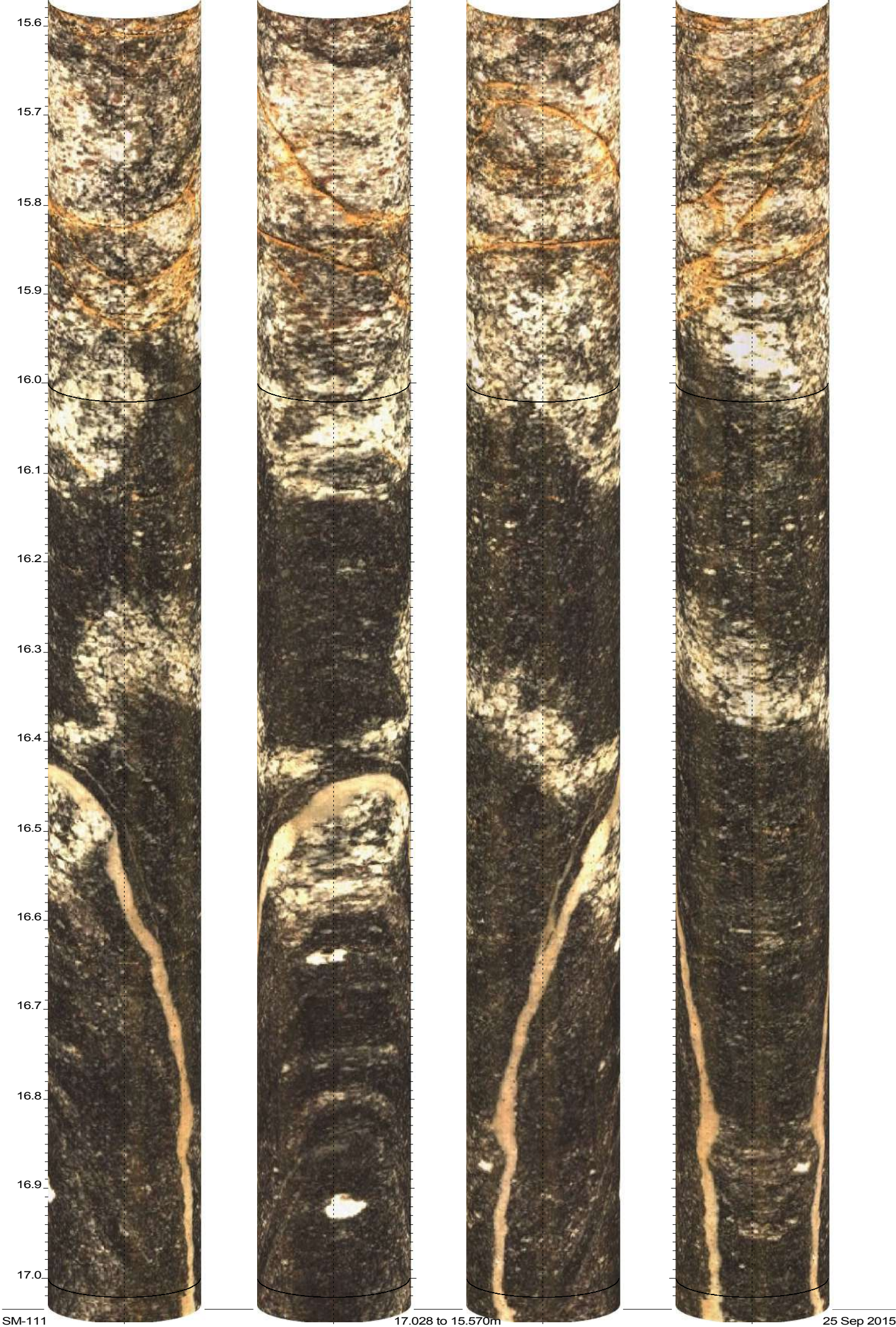
SM-111 11.198 to 9.741m 25 Sep 2015

SM-111 12.656 to 11.198m 25 Sep 2015

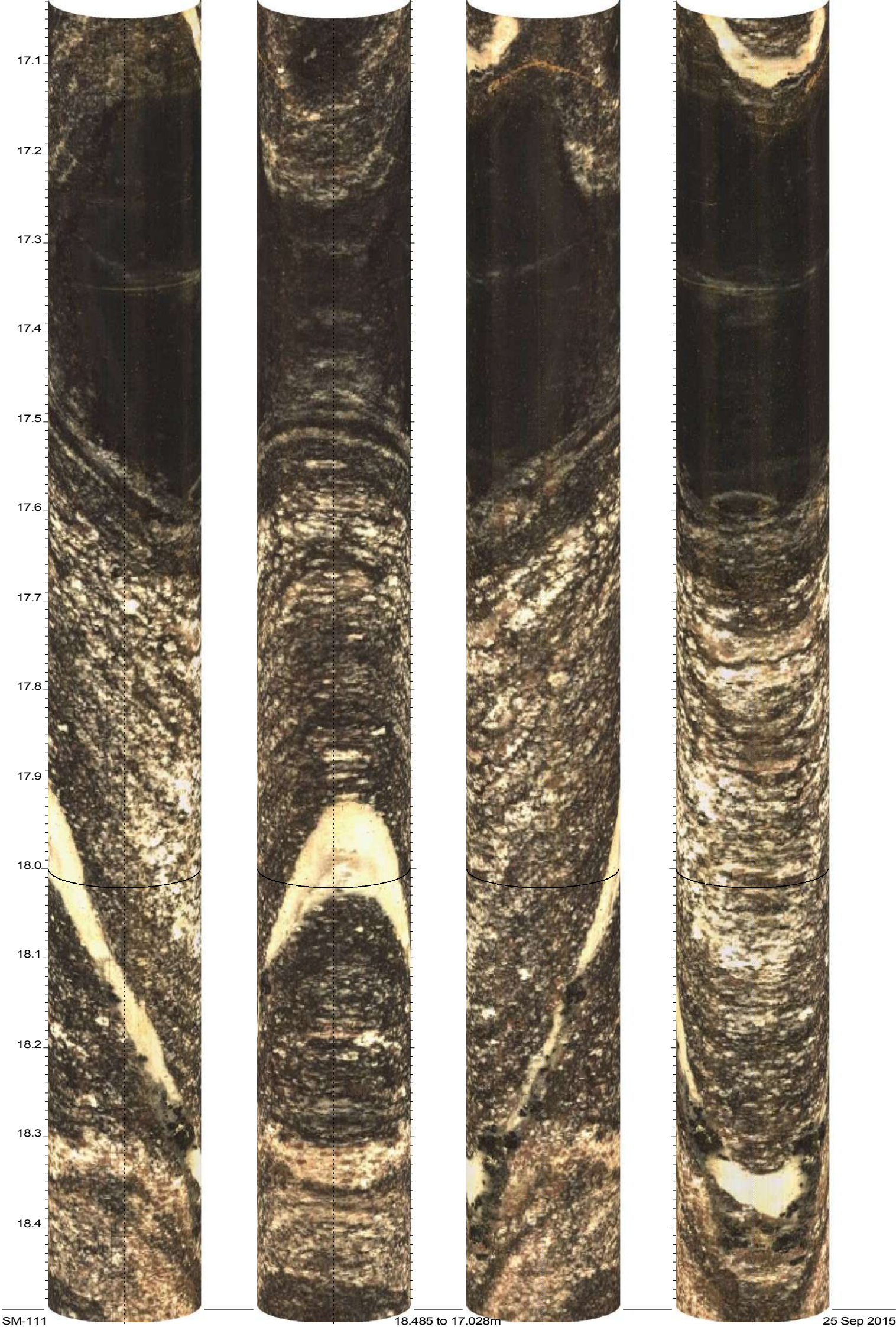
SM-111 14.113 to 12.656m 25 Sep 2015



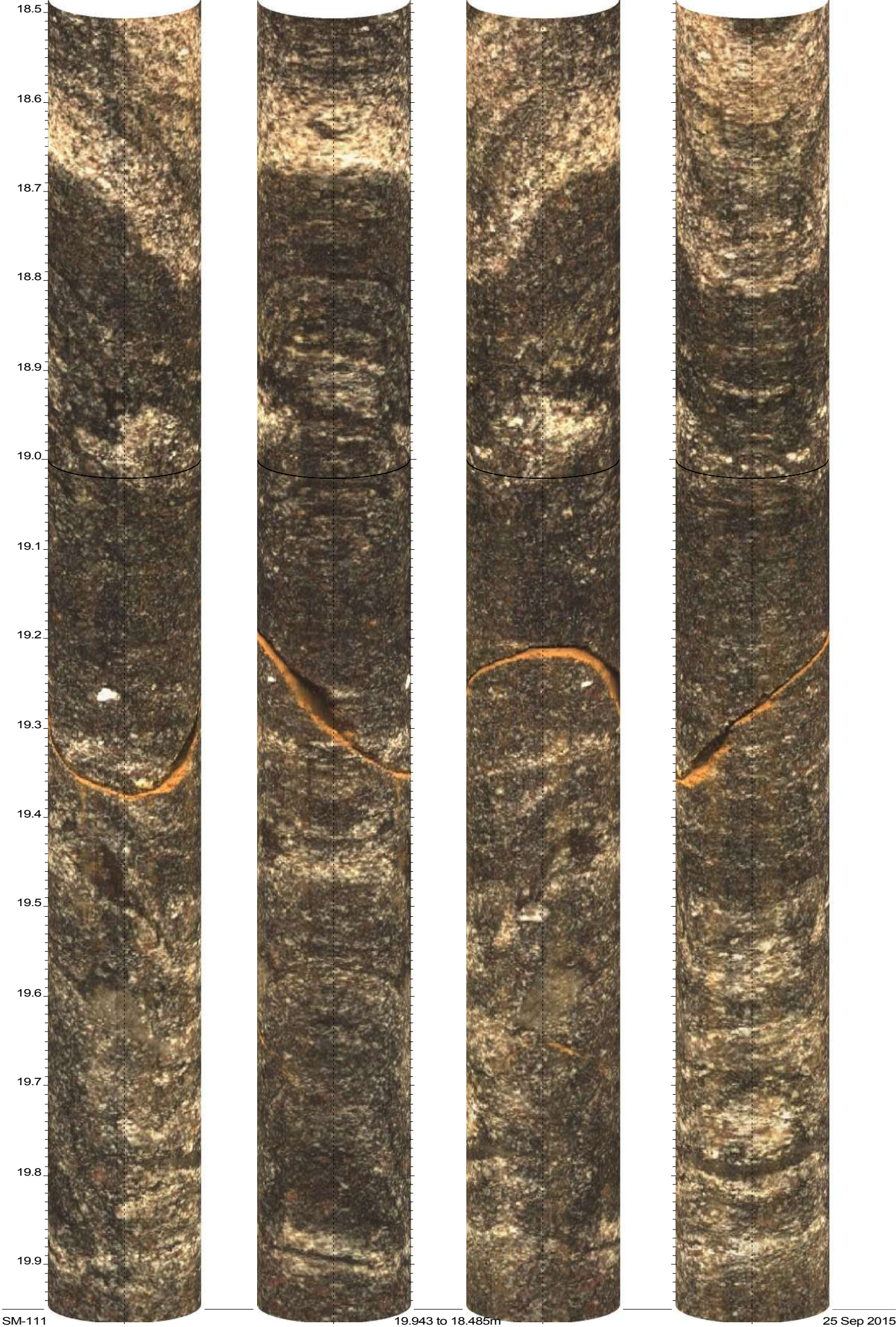
SM-111 15.570 to 14.113m 25 Sep 2015



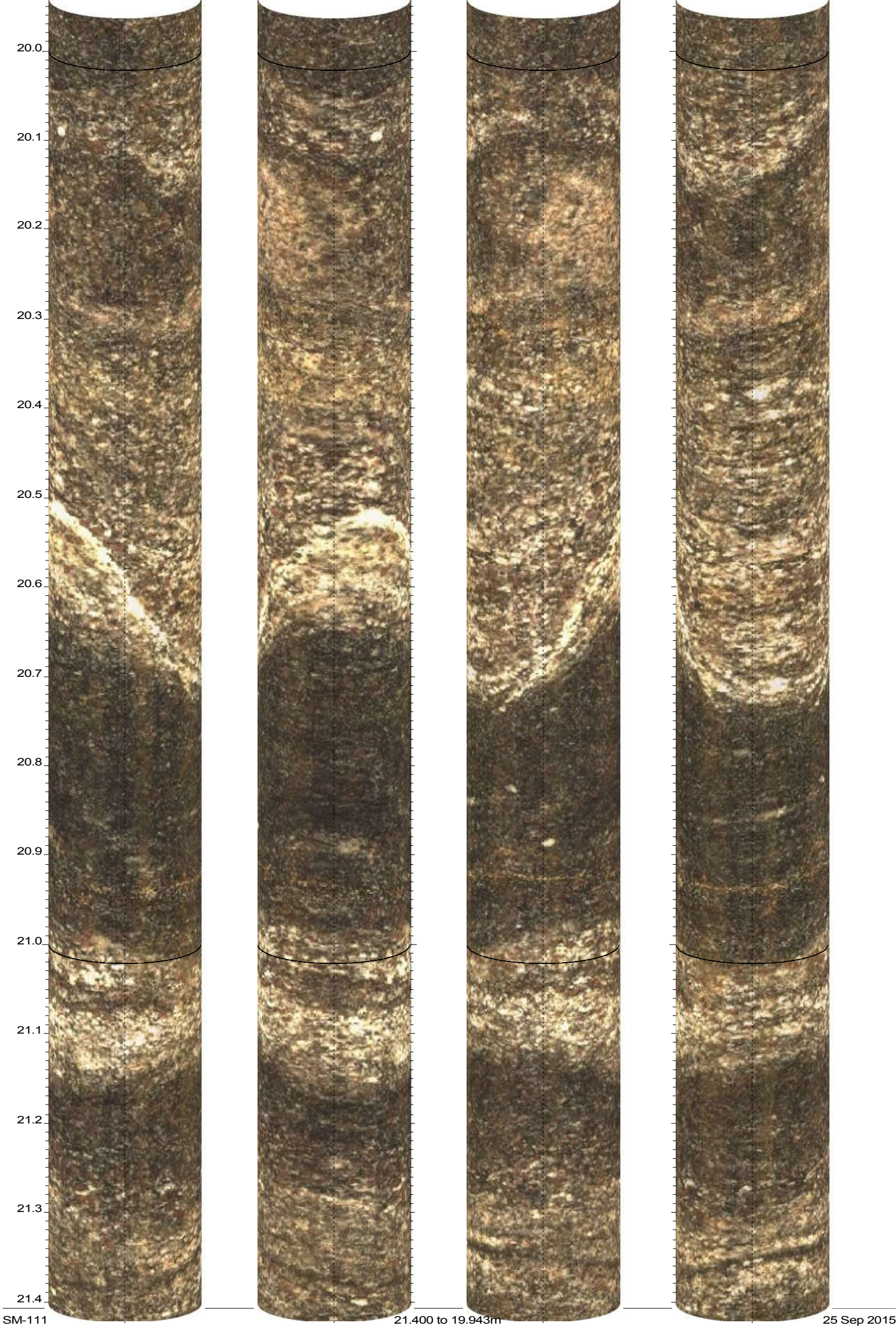
SM-111 17.028 to 15.570m 25 Sep 2015



SM-111 18.485 to 17.028m 25 Sep 2015

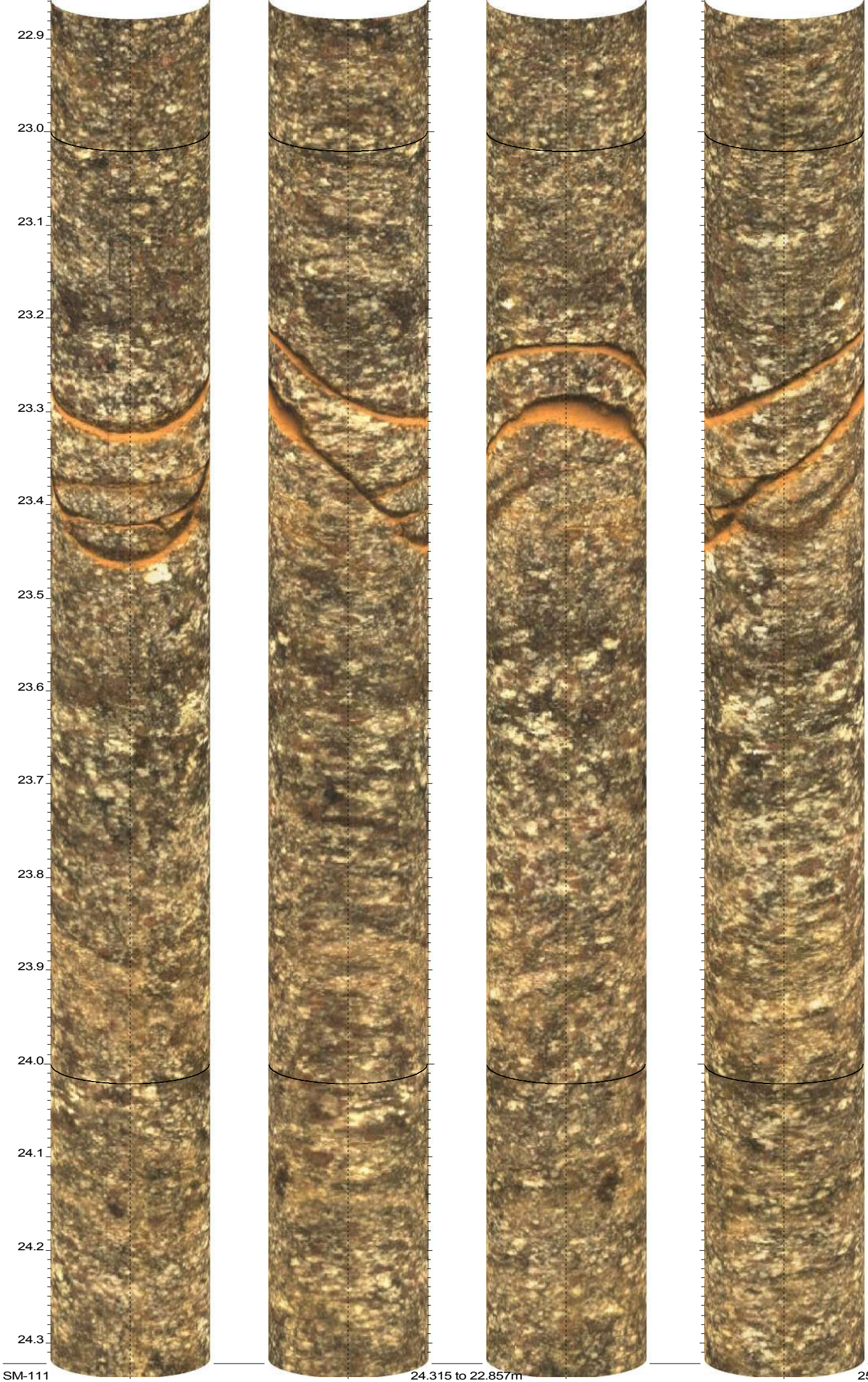


SM-111 19.943 to 18.485m 25 Sep 2015

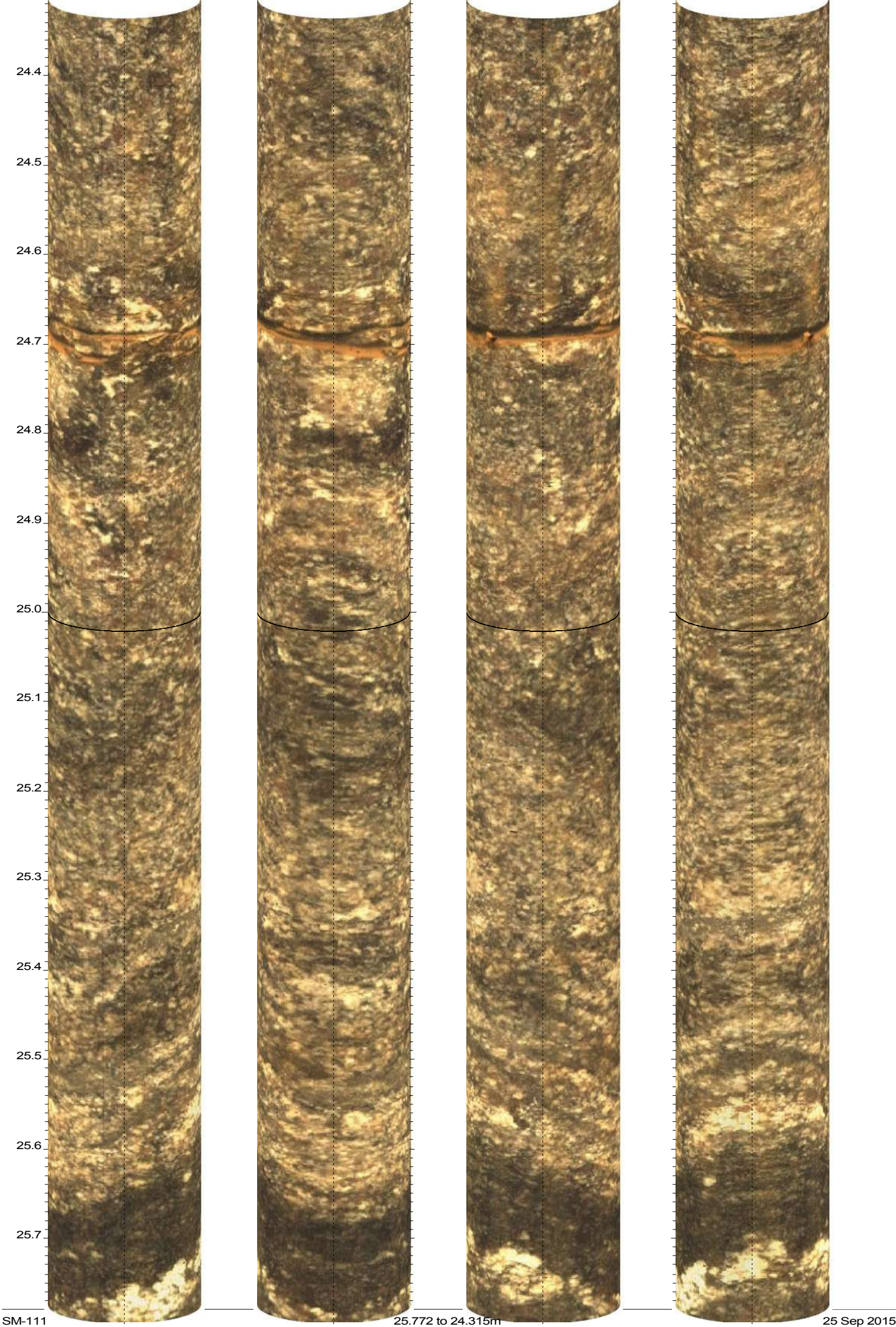


SM-111 21.400 to 19.943m 25 Sep 2015

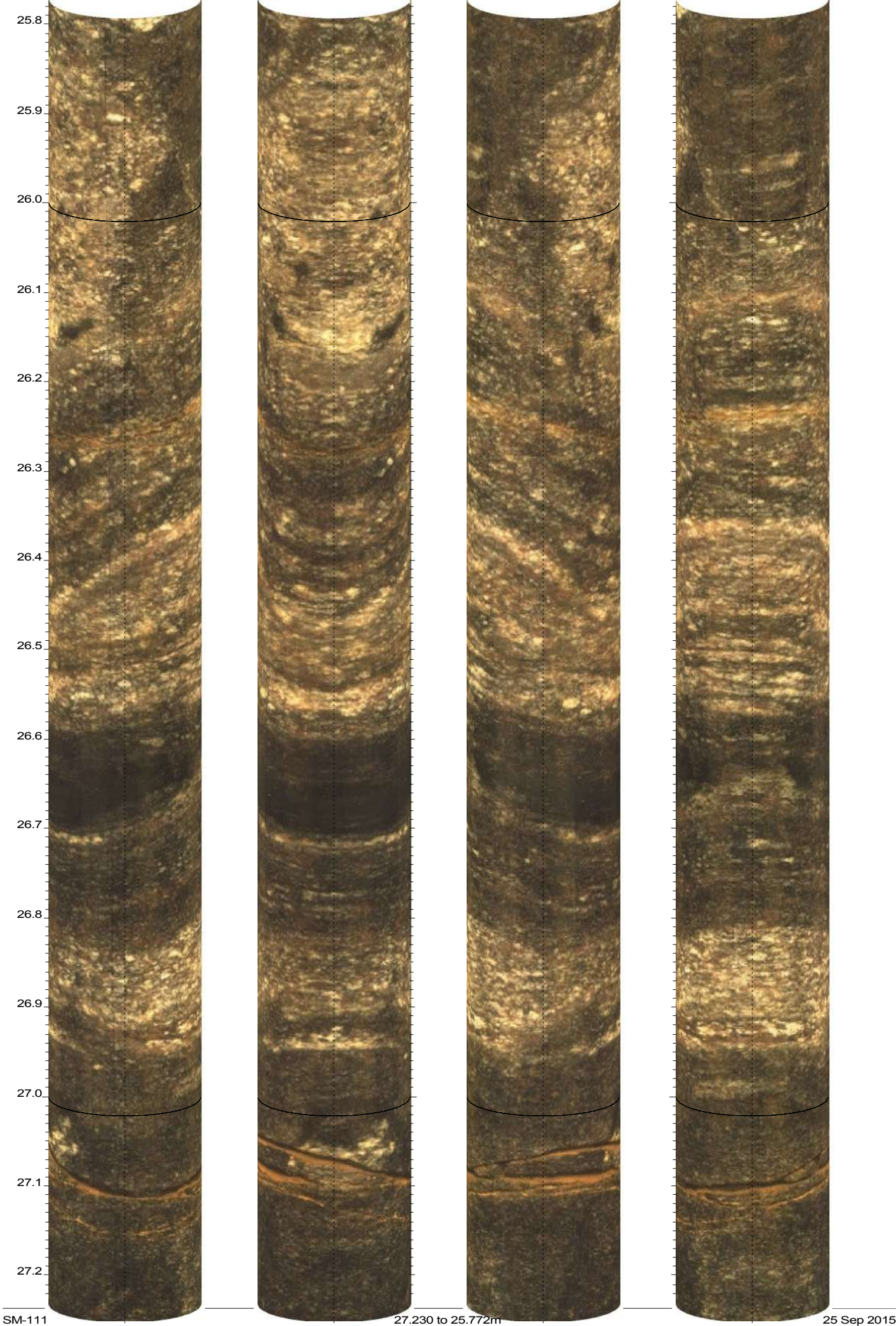
SM-111 22.857 to 21.400m 25 Sep 2015



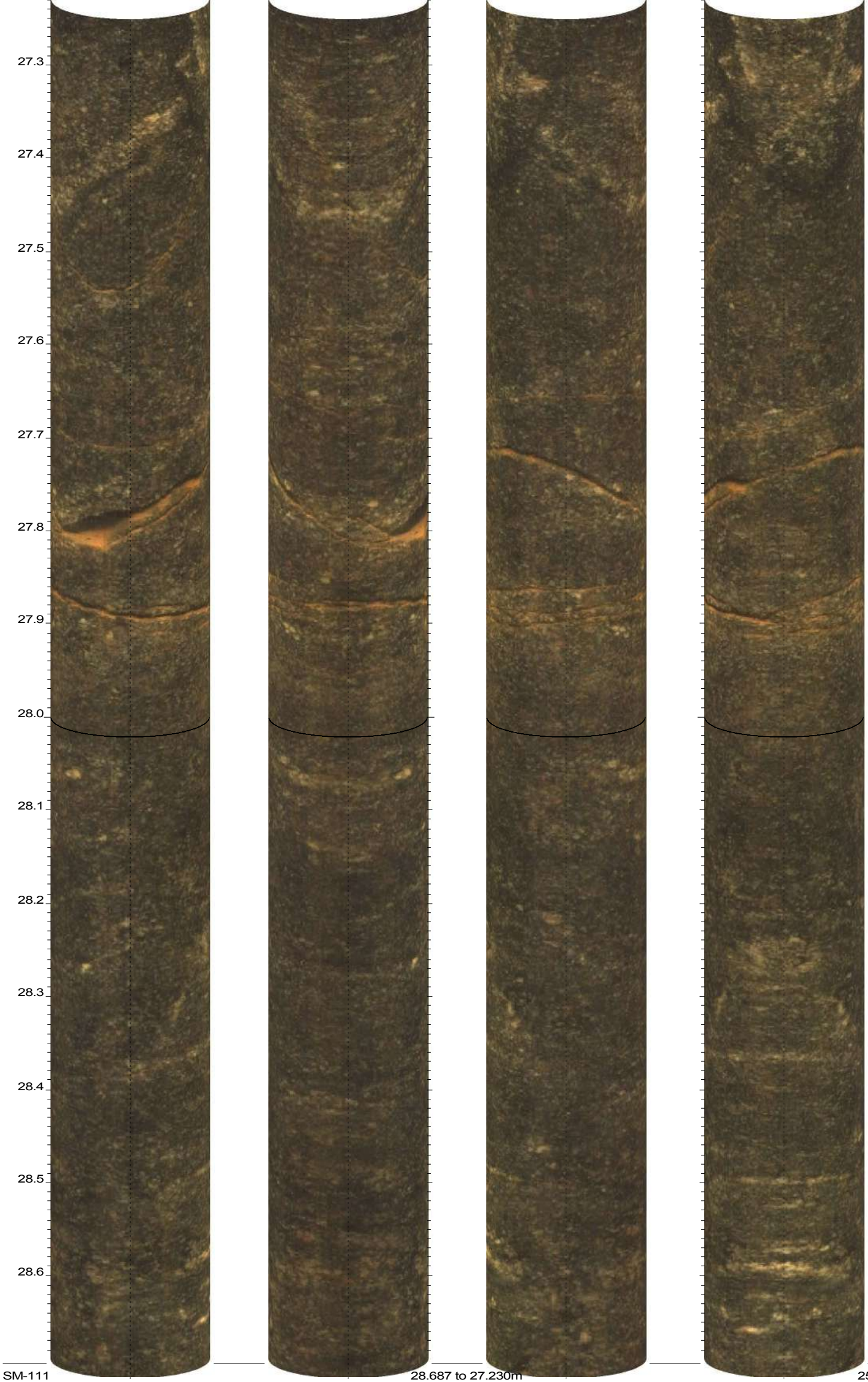
SM-111 24.315 to 22.857m 25 Sep 2015



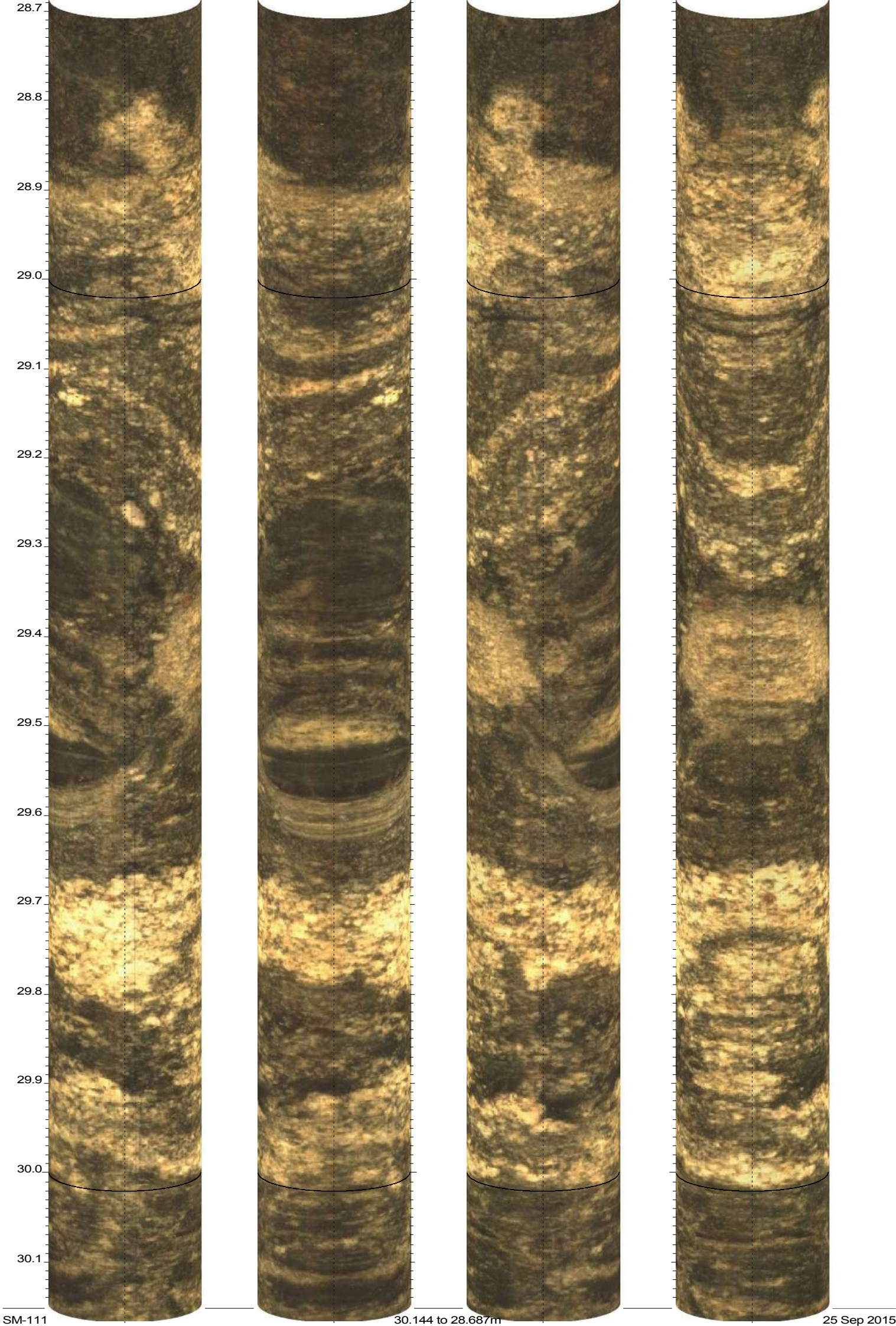
SM-111 25.772 to 24.315m 25 Sep 2015



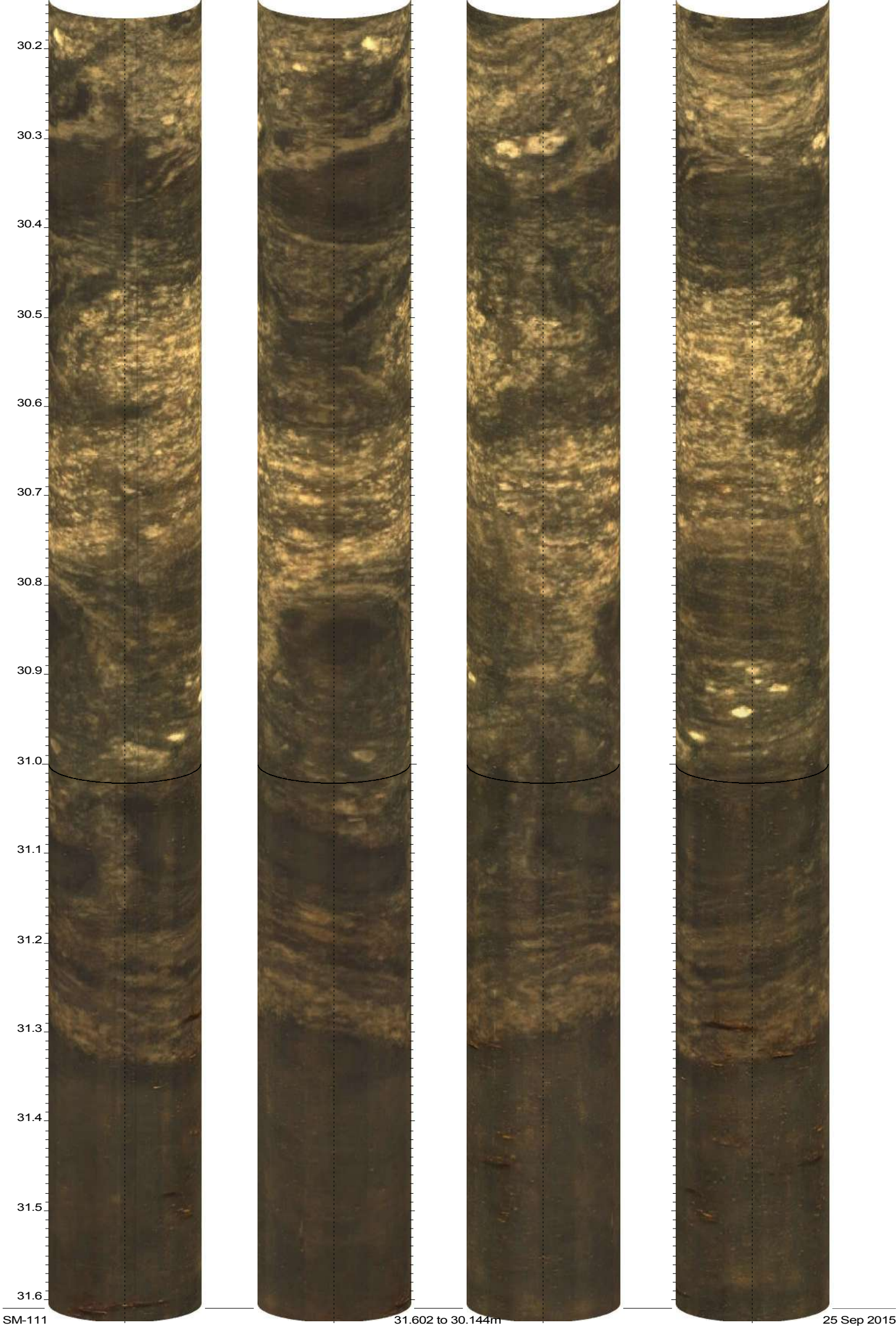
SM-111 27.230 to 25.772m 25 Sep 2015



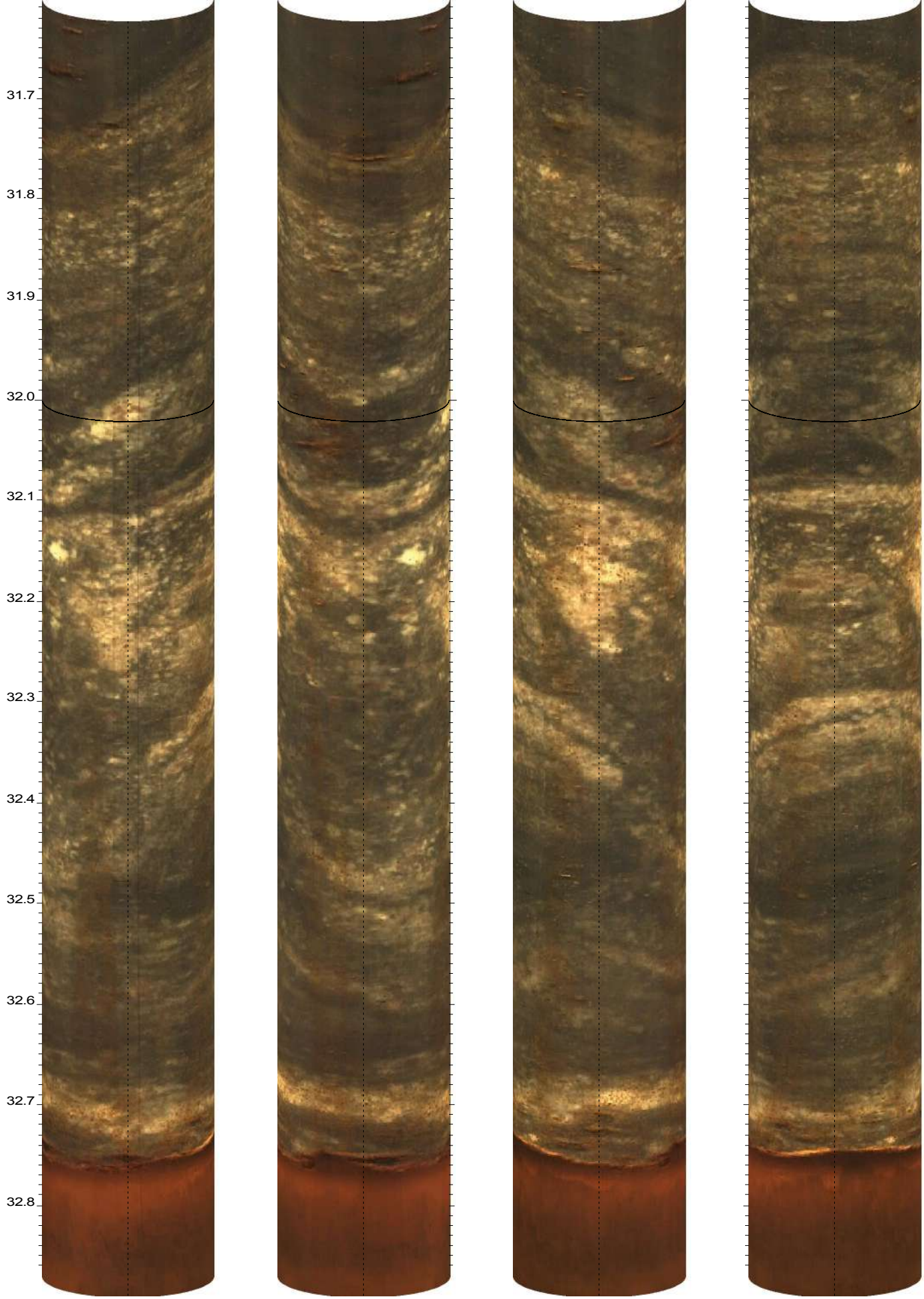
SM-111 28.687 to 27.230m 25 Sep 2015



SM-111 30.144 to 28.687m 25 Sep 2015



SM-111 31.602 to 30.144m 25 Sep 2015


31.7
31.8
31.9
32.0
32.1
32.2
32.3
32.4
32.5
32.6
32.7
32.8

ATITUDES

DESCONTINUIDADES

PROGEO

OPTV DATA PROCESSING
RGLDIP vsn 6.2
INTERPRETED OPTV DIPS LOG

15 Oct 2015

UHE ITAOCARA

Borehole: SM-111

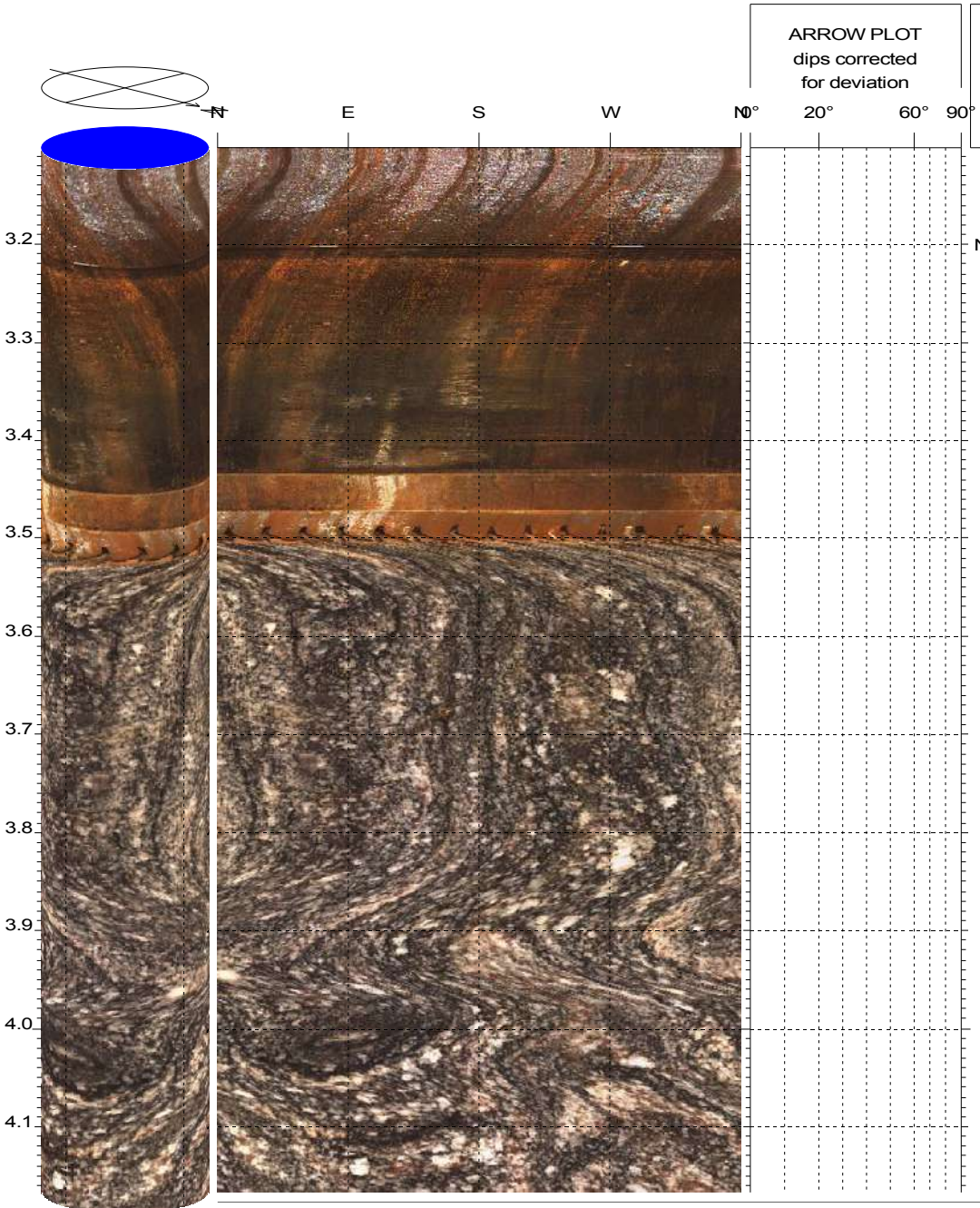
BARRAMENTO M.E.

top of borehole.....
East:
North:
Elev:

North ref. is magnetic
Depth units are metres
Vertical scale: 1/7

Zone from 32.860 to 3.100m
Format: BHTV-NESWN

Borehole diam: 10.000cm
Vertical = borehole-axis



4.2
4.3
4.4
4.5
4.6
4.7
4.8
4.9
5.0
5.1
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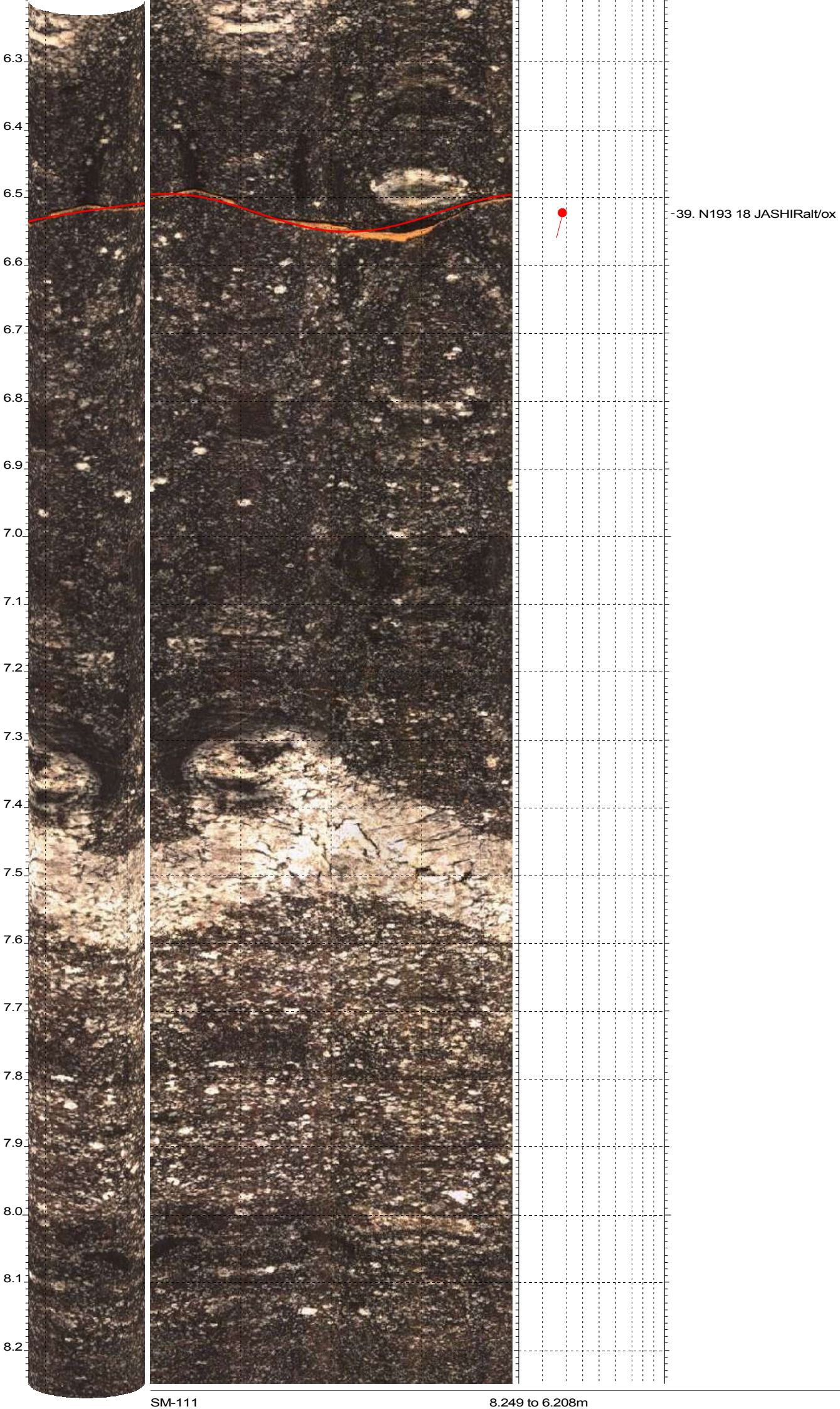
5.4
5.5
5.6
5.7
5.8
5.9
6.0
6.1
6.2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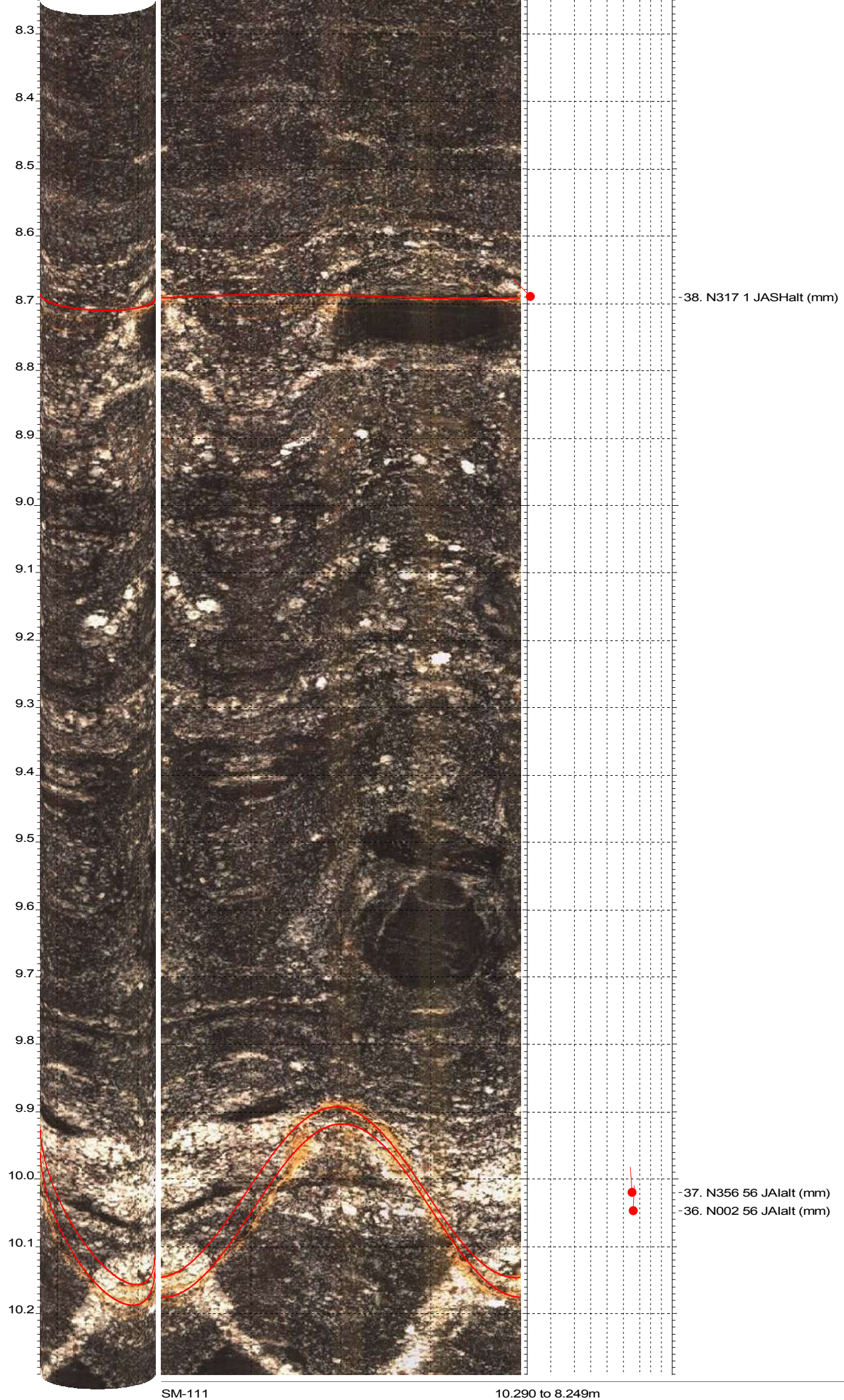
6.5
6.6
6.7
6.8
6.9
7.0
7.1
7.2
7.3
7.4
7.5
7.6
7.7
7.8
7.9
8.0
8.1
8.2
-39. N193 18 JASHIRalt/ox


8.3
8.4
8.5
8.6
8.7
8.8
8.9
9.0
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
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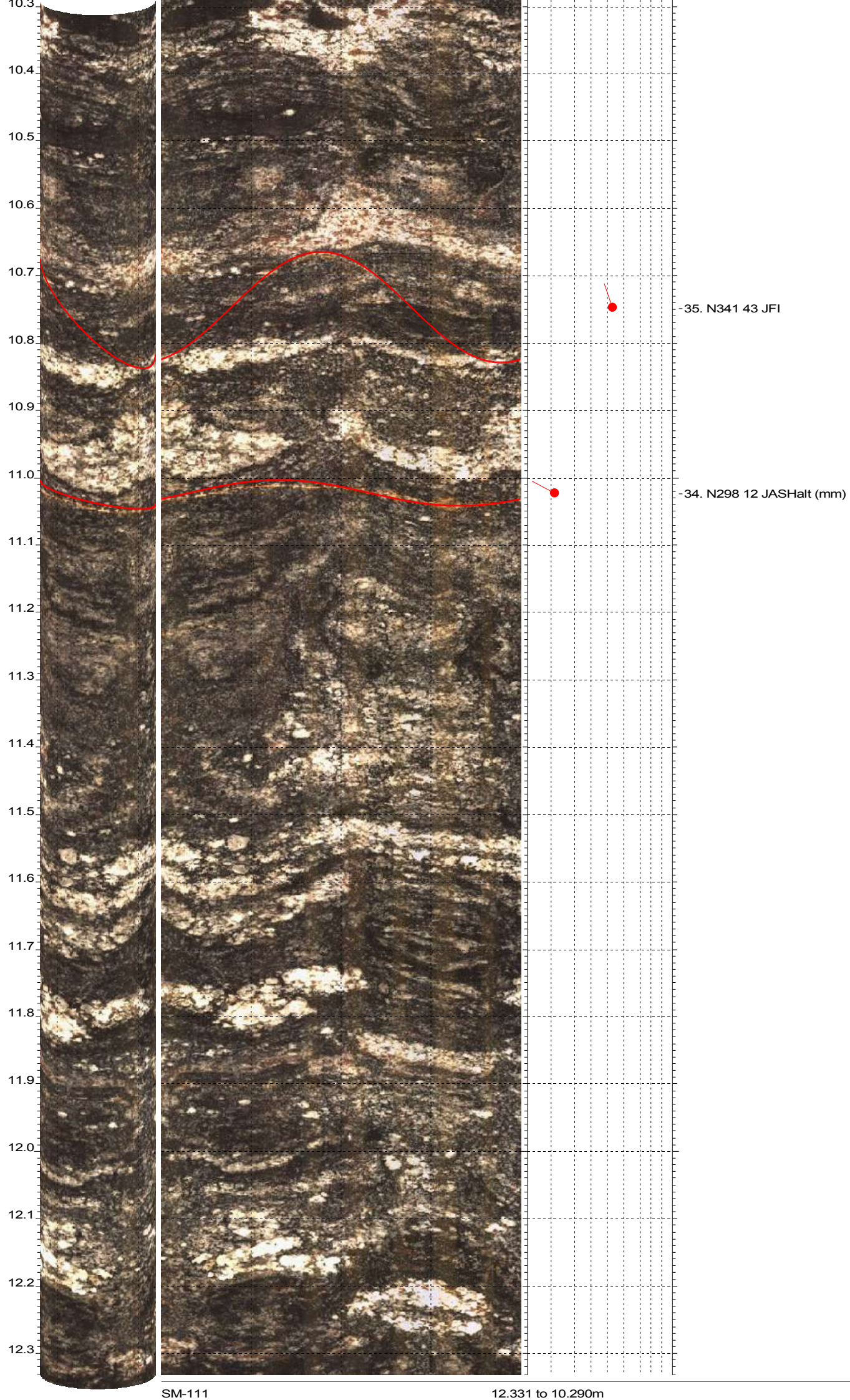
10.1
10.2
38. N317 1 JASHalt (mm)
37. N356 56 JAIalt (mm)
36. N002 56 JAIalt (mm)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11.5
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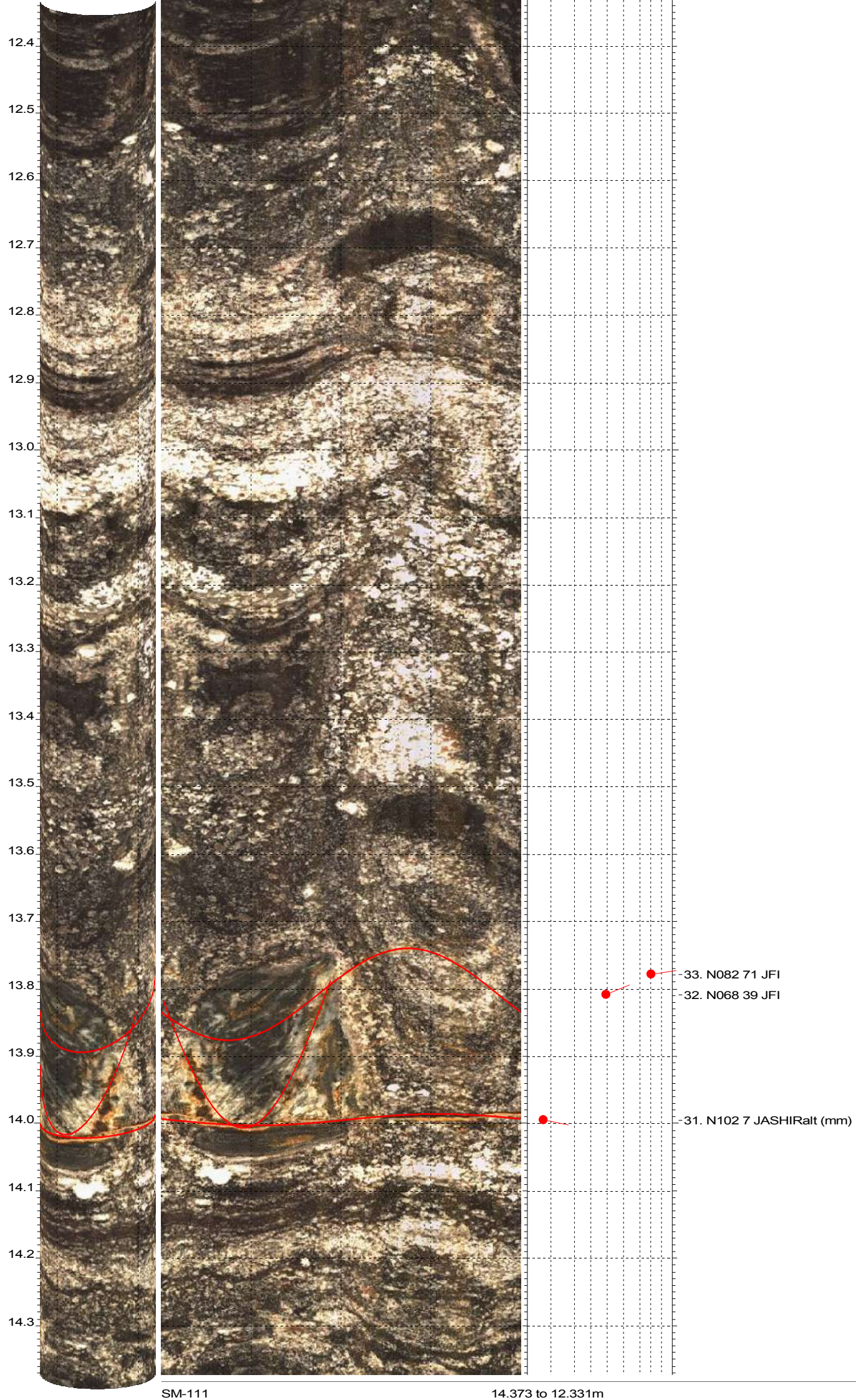
12.0
12.1
12.2
12.3
35. N341 43 JFI
34. N298 12 JASHalt (mm)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13.4
13.5
13.6
13.7
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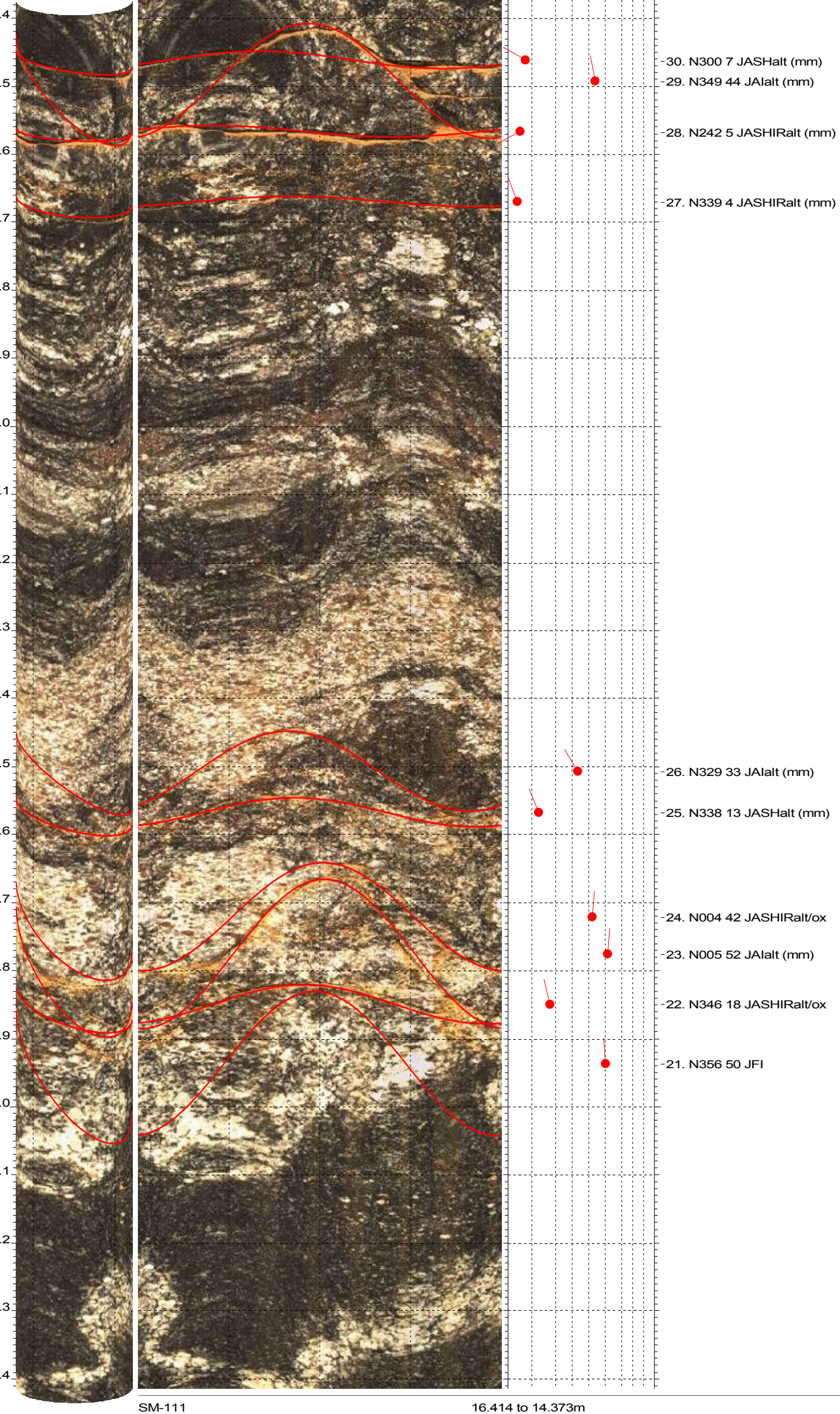
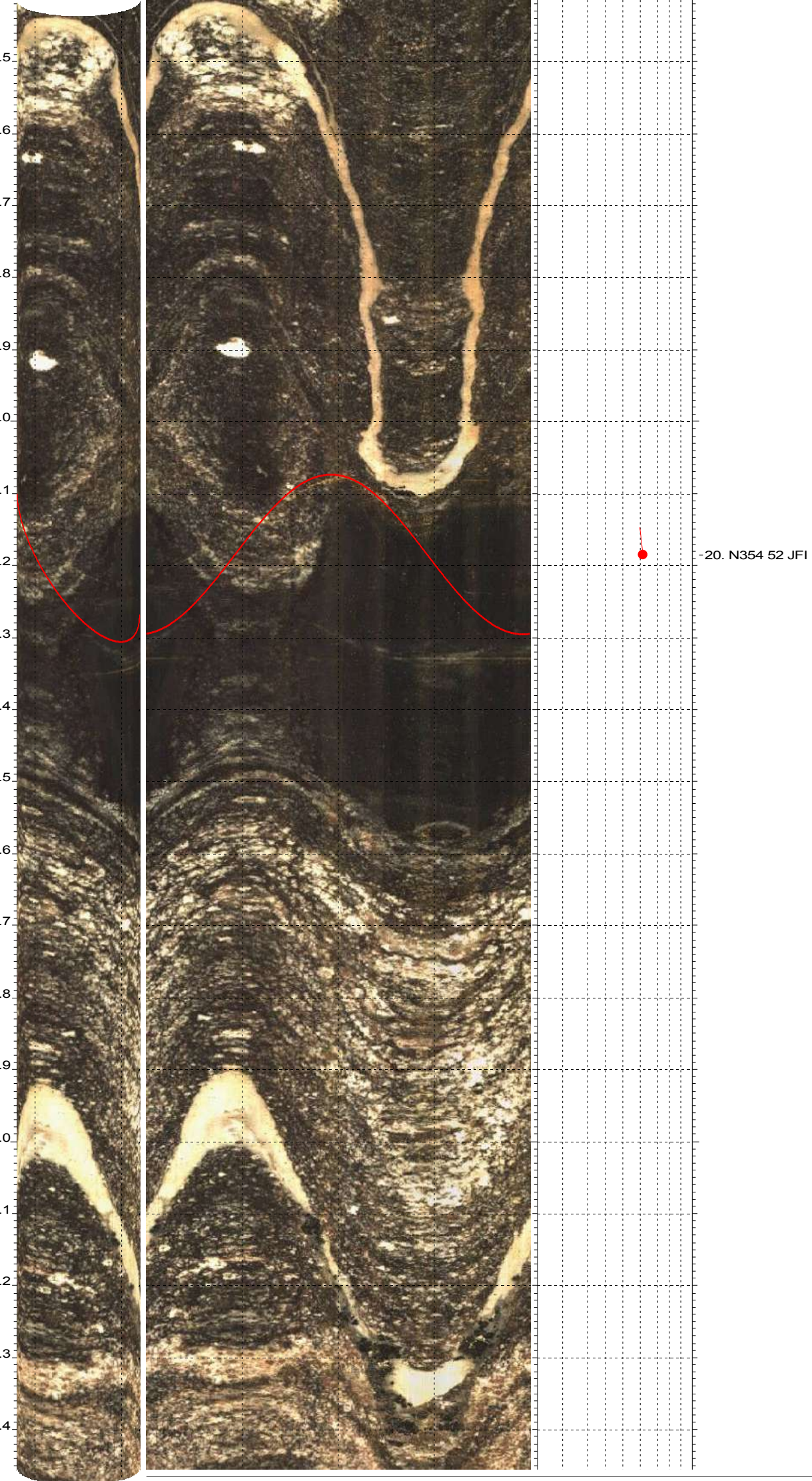
14.1
14.2
14.3
33. N082 71 JFI
32. N068 39 JFI
31. N102 7 JASHIRalt (mm)



SM-111 16.414 to 14.373m 15 Oct 2015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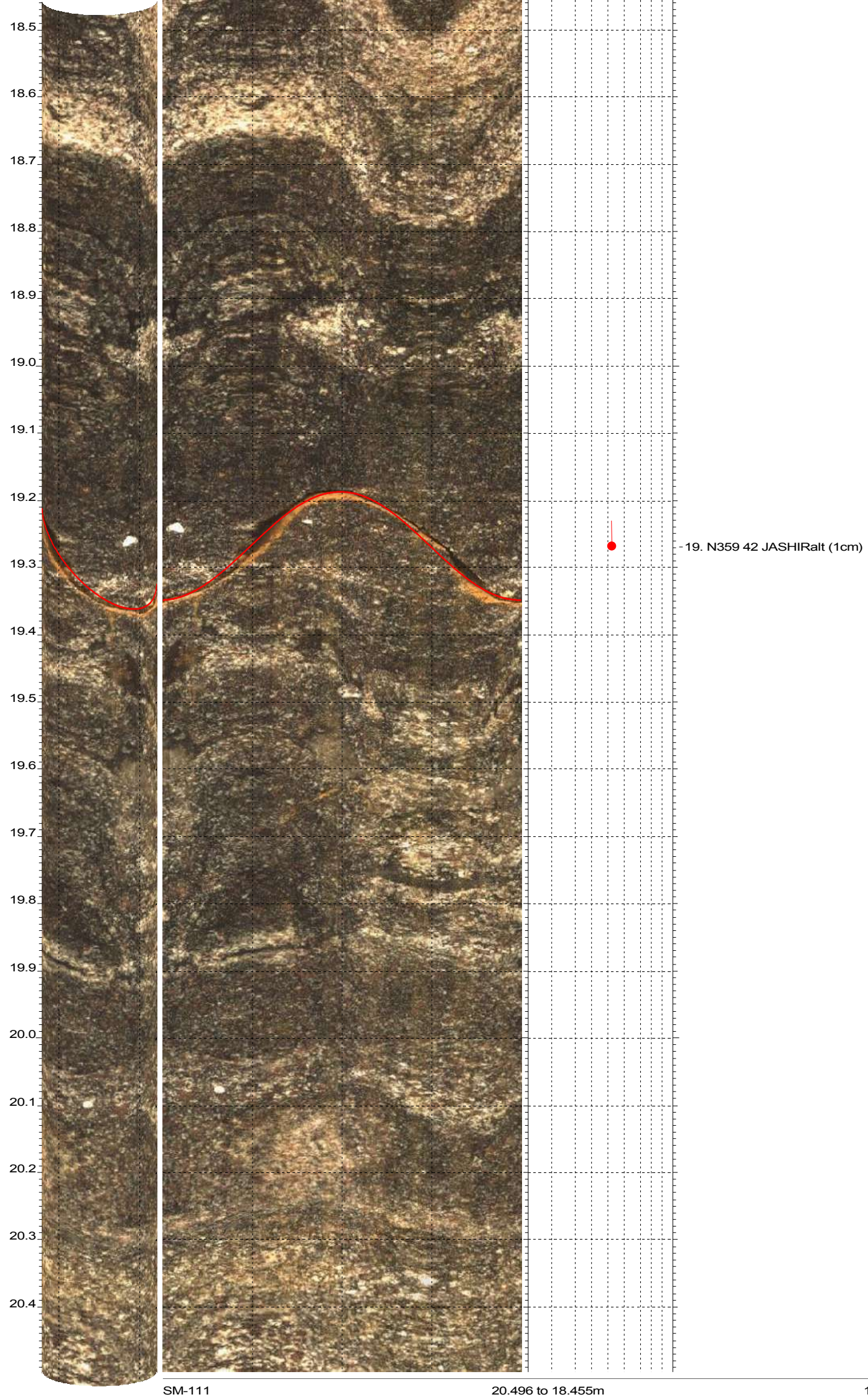
18.4
20. N354 52 JFI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19.4
19.5
19.6
19.7
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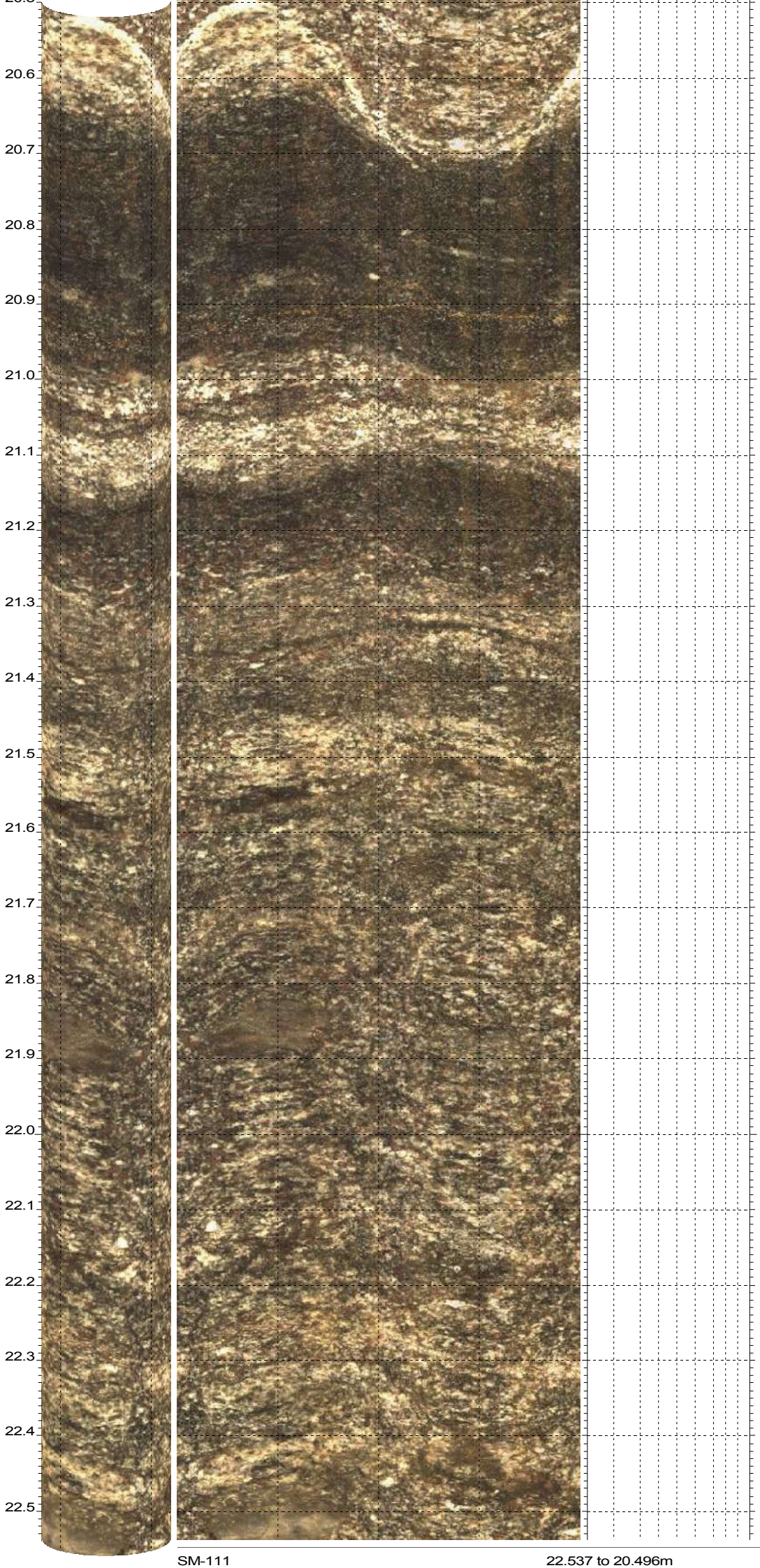
19.9
20.0
20.1
20.2
20.3
20.4
19. N359 42 JASHIRalt (1cm)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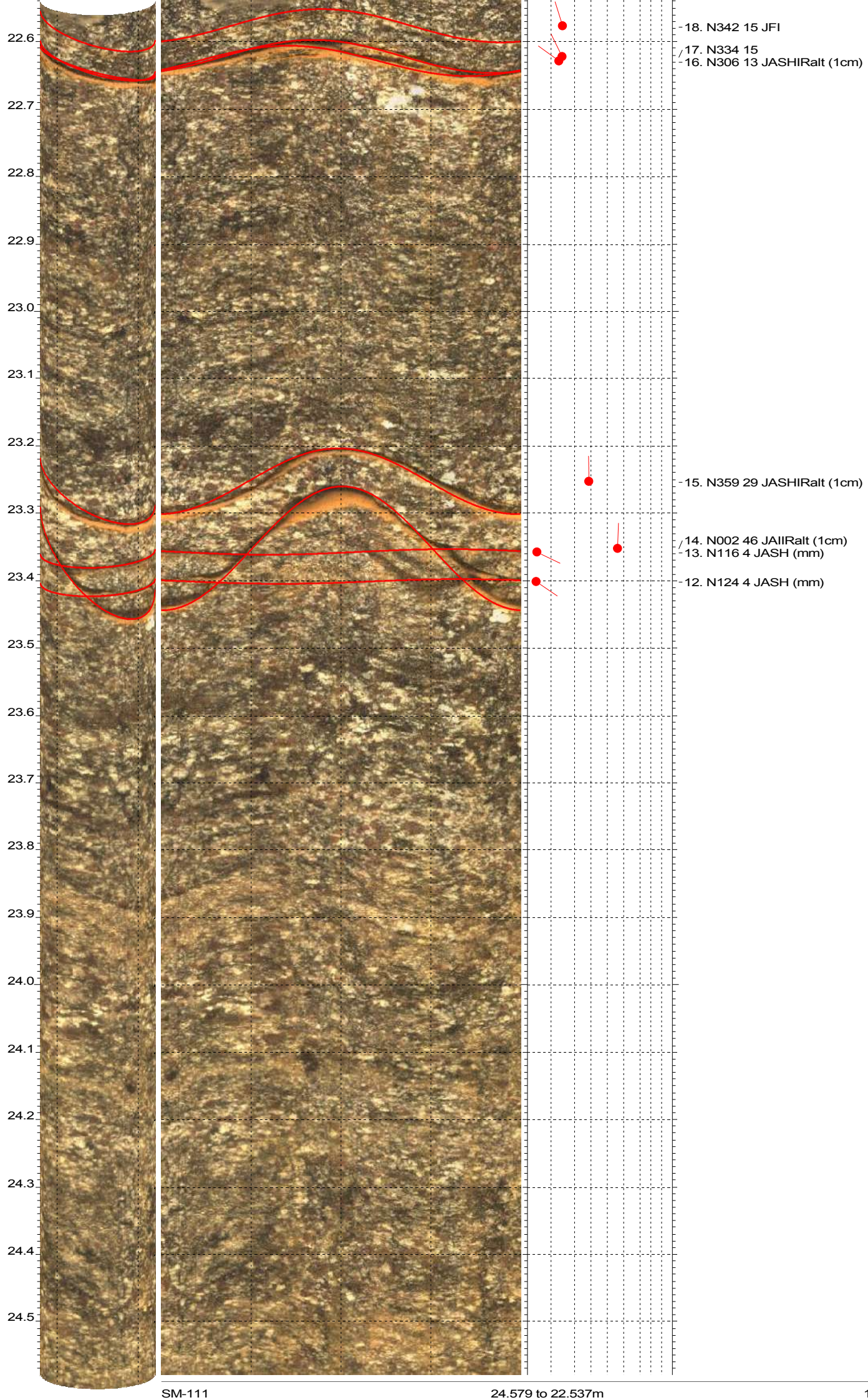
22.3
22.4
22.5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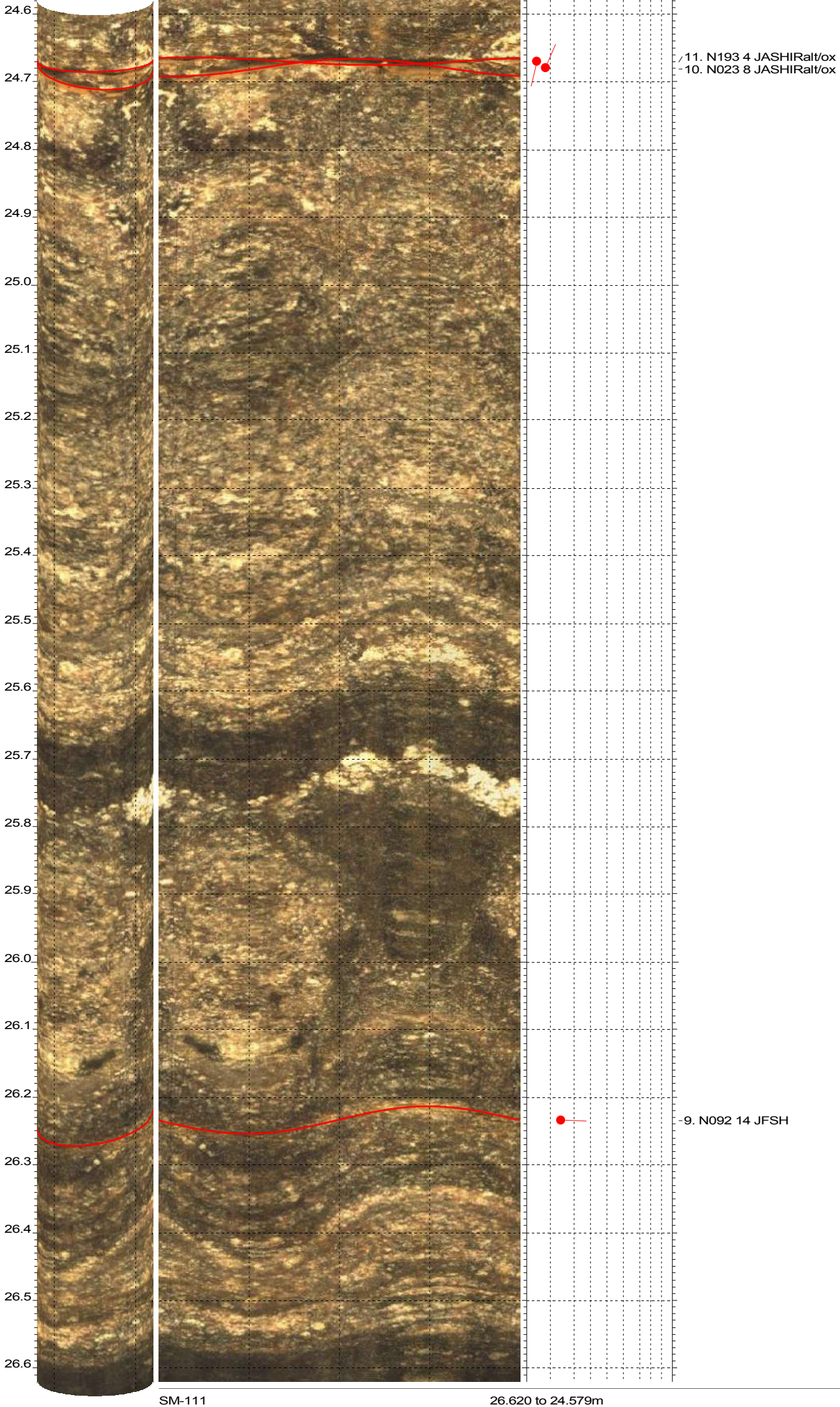
23.9
24.0
24.1
24.2
24.3
24.4
24.5
18. N342 15 JFI
17. N334 15
16. N306 13 JASHIRalt (1cm)
15. N359 29 JASHIRalt (1cm)
14. N002 46 JAIIRalt (1cm)
13. N116 4 JASH (mm)
12. N124 4 JASH (mm)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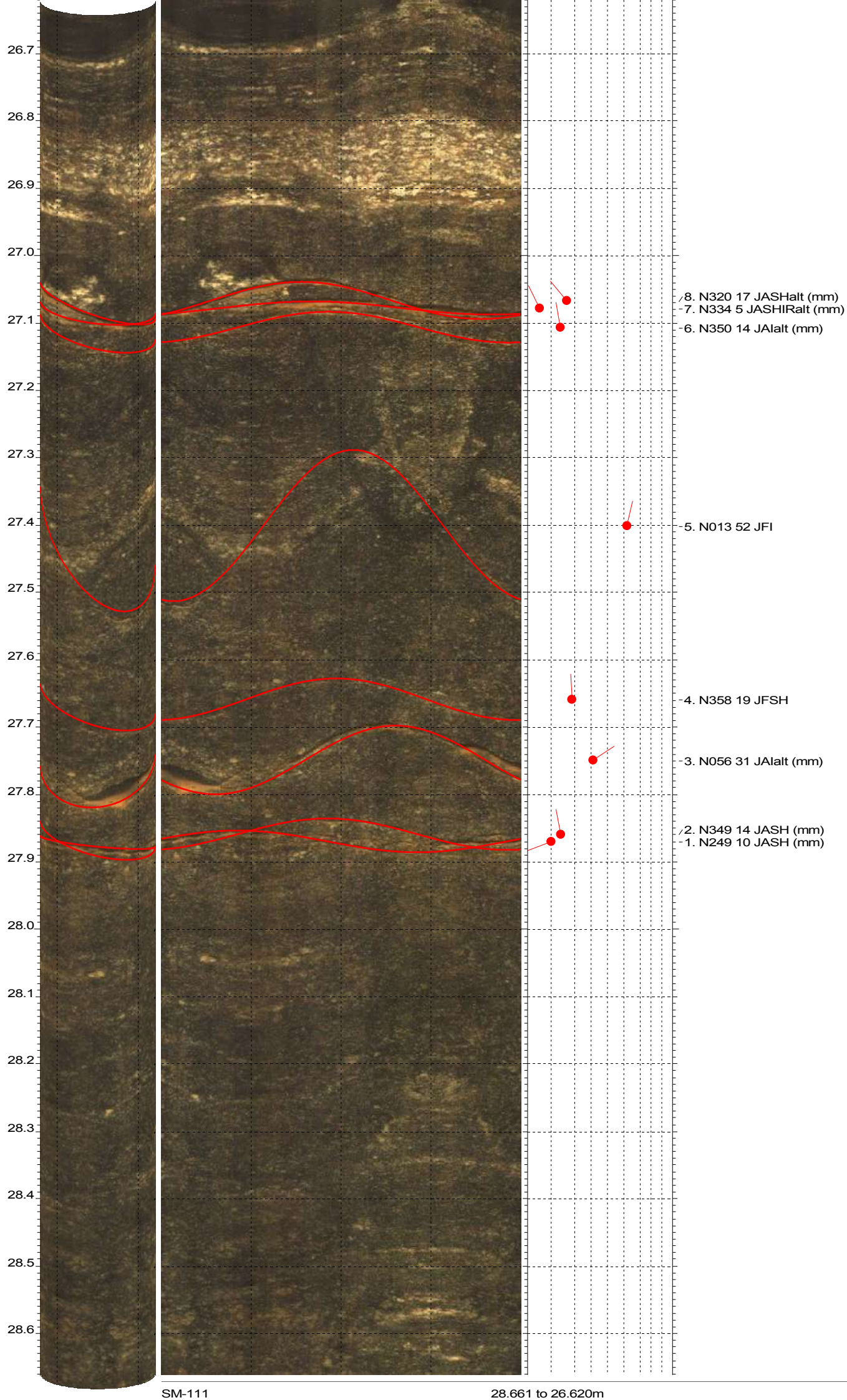
25.7
25.8
25.9
26.0
26.1
26.2
26.3
26.4
26.5
26.6
11. N193 4 JASHIRalt/ox
10. N023 8 JASHIRalt/ox
9. N092 14 JFSH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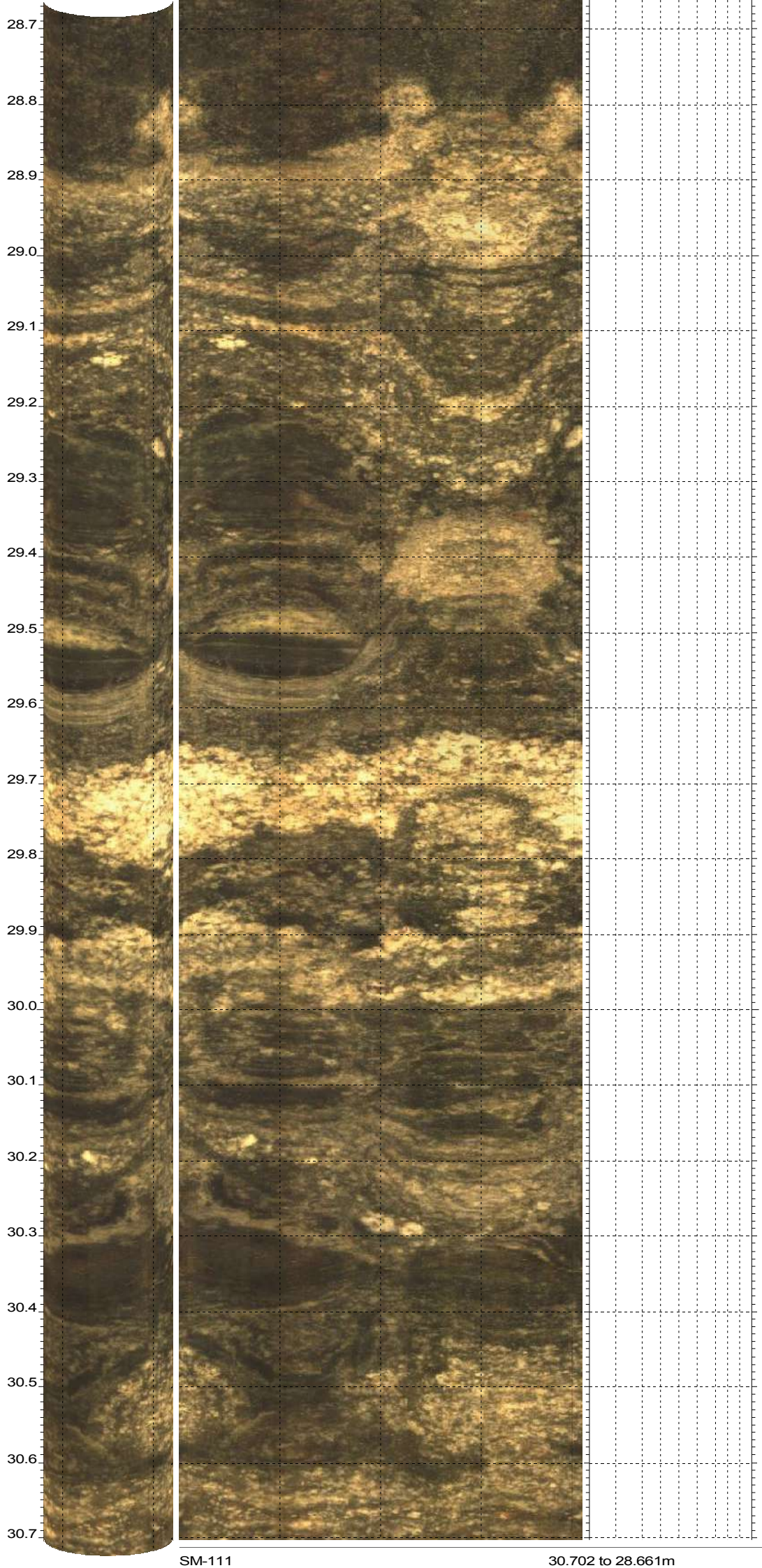
27.4
27.5
27.6
27.7
27.8
27.9
28.0
28.1
28.2
28.3
28.4
28.5
28.6
8. N320 17 JASHalt (mm)
7. N334 5 JASHIRalt (mm)
6. N350 14 JAIalt (mm)
5. N013 52 JFI
4. N358 19 JFSH
3. N056 31 JAIalt (mm)
2. N349 14 JASH (mm)
1. N249 10 JASH (mm)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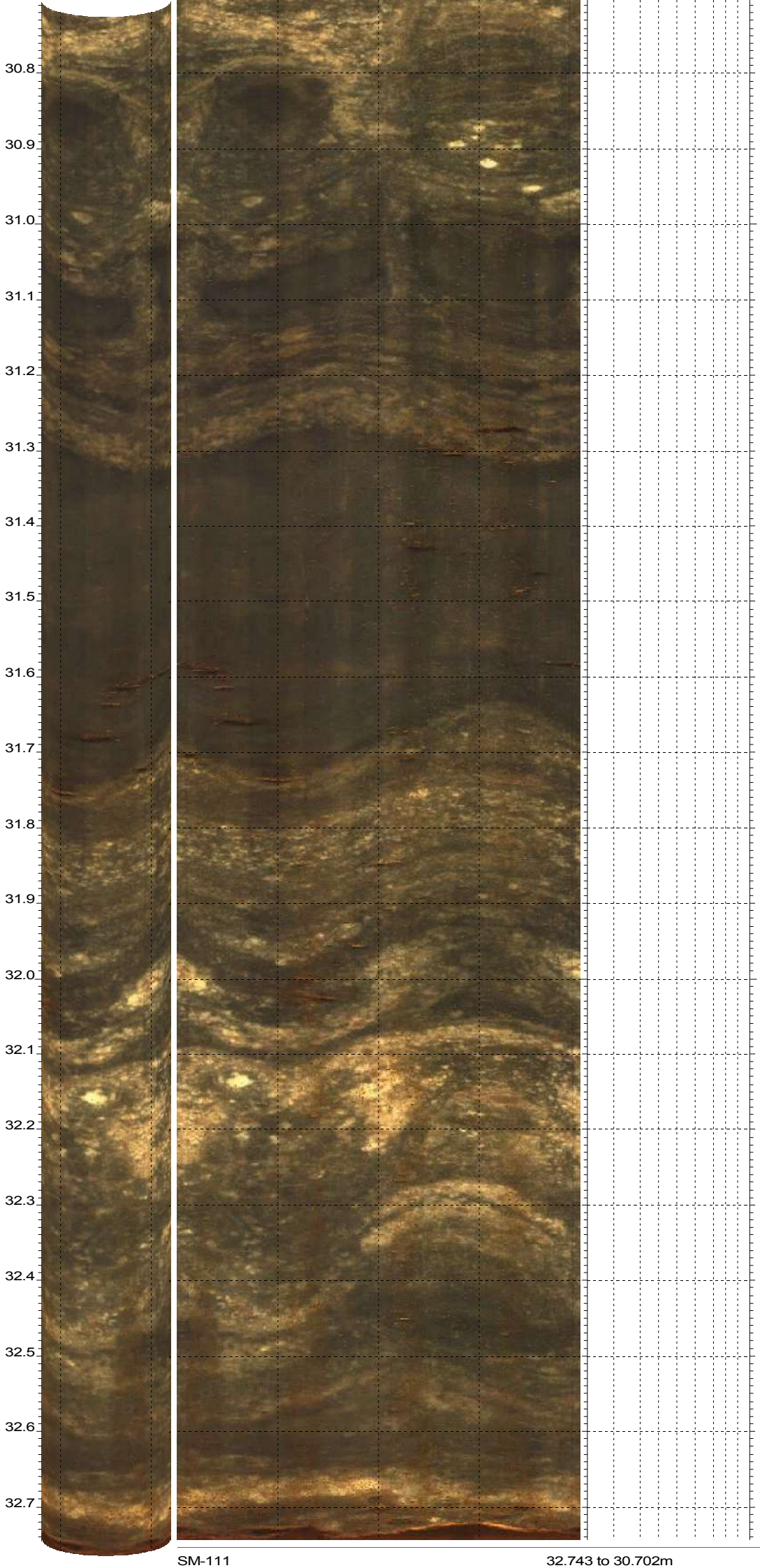
30.3
30.4
30.5
30.6
30.7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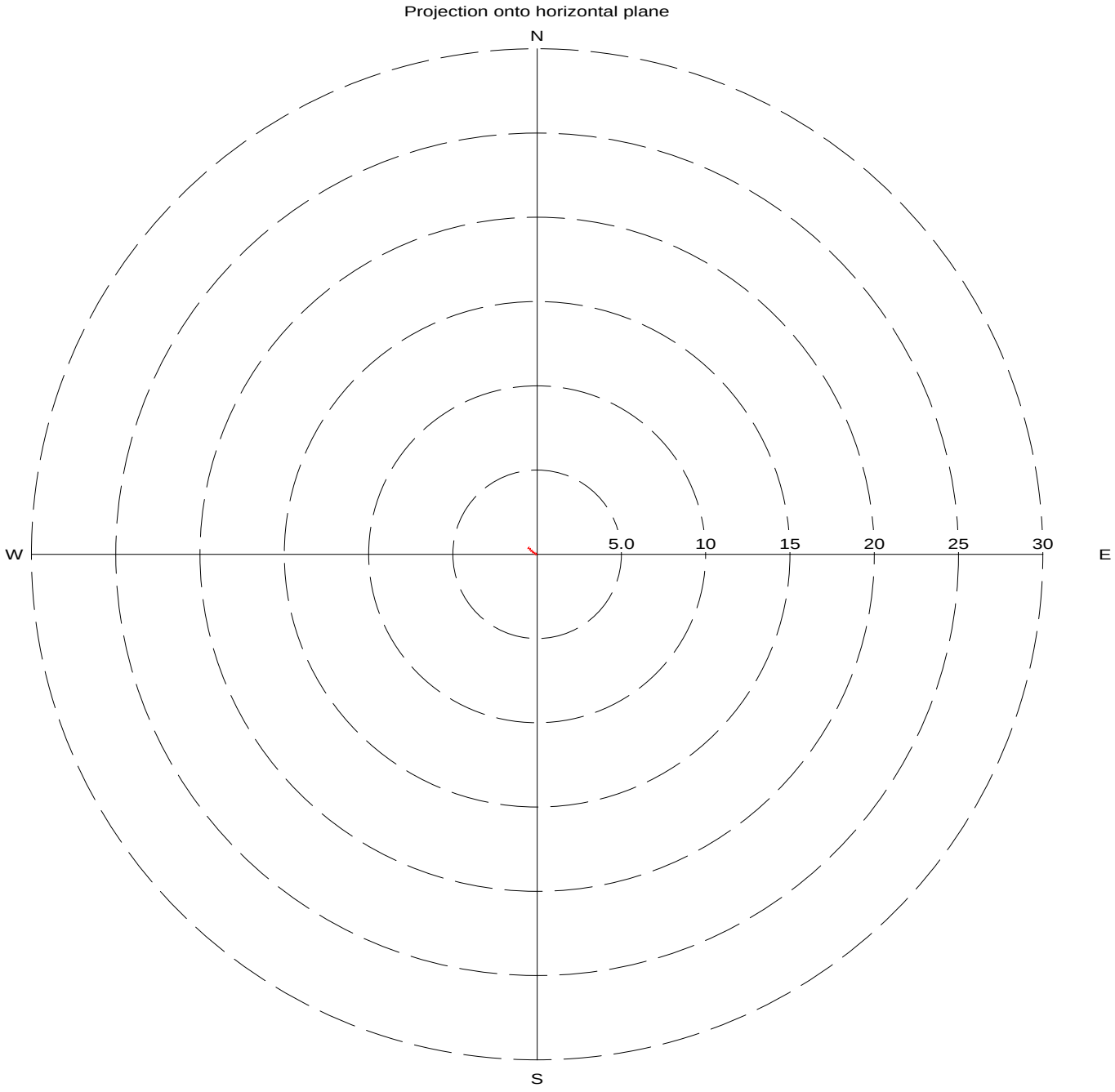
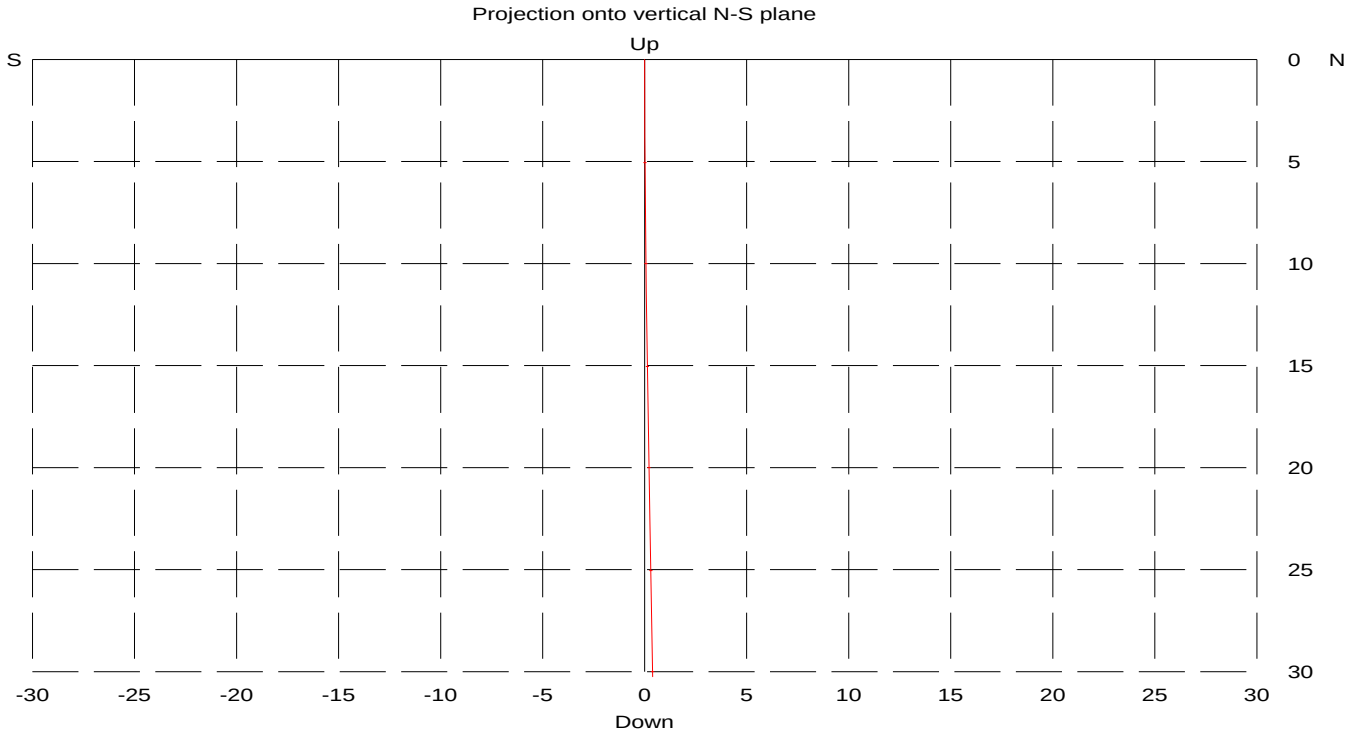
31.5
31.6
31.7
31.8
31.9
32.0
32.1
32.2
32.3
32.4
32.5
32.6
32.7

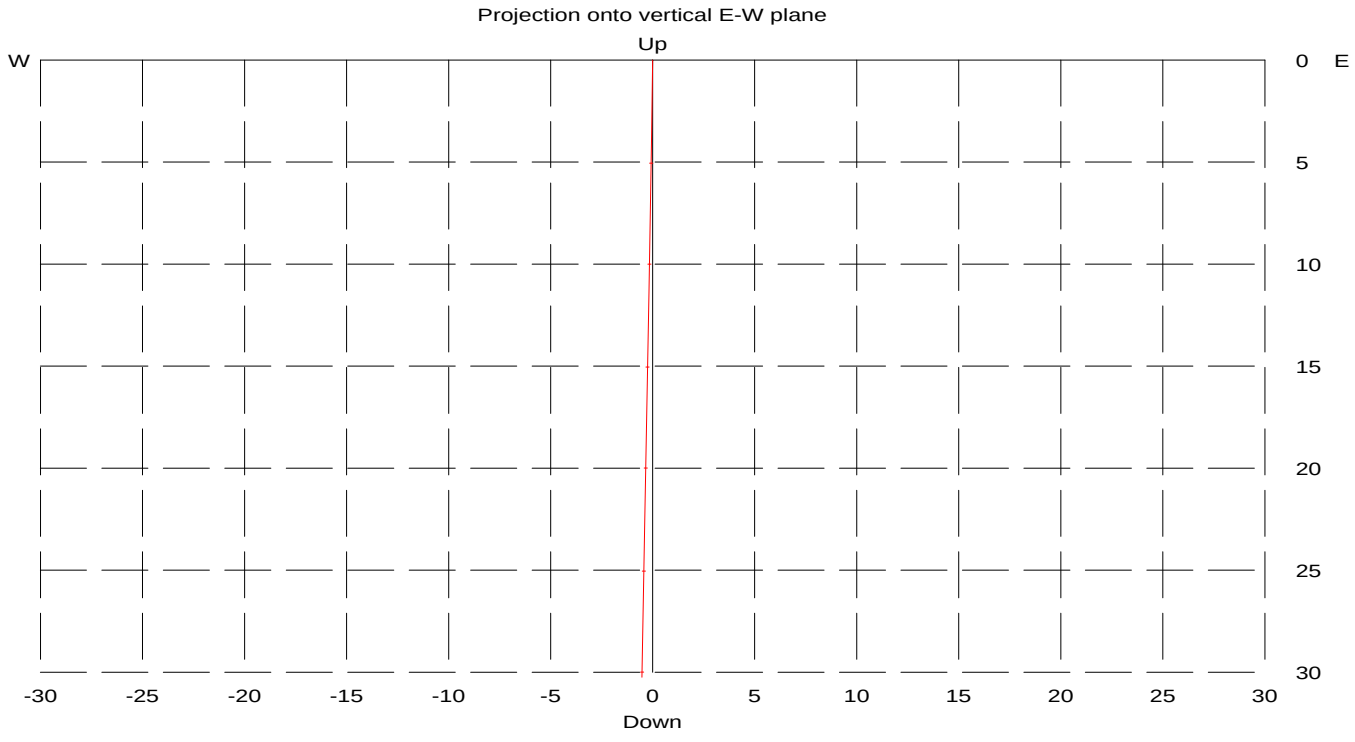
DESVIO SONDAGEM

Borehole: SM-111 Sonde: OPTV
Zone from: 2.454 to 32.800m
North ref is magnetic
Mean deviation: 1.24 to N306.95
End coordinates .....
North: 0.396
East : -0.528
Down : 30.338
Azimuth of end: N306.88
Distance start-end: 0.660m
Distance marks every 5m
15 Oct 2015

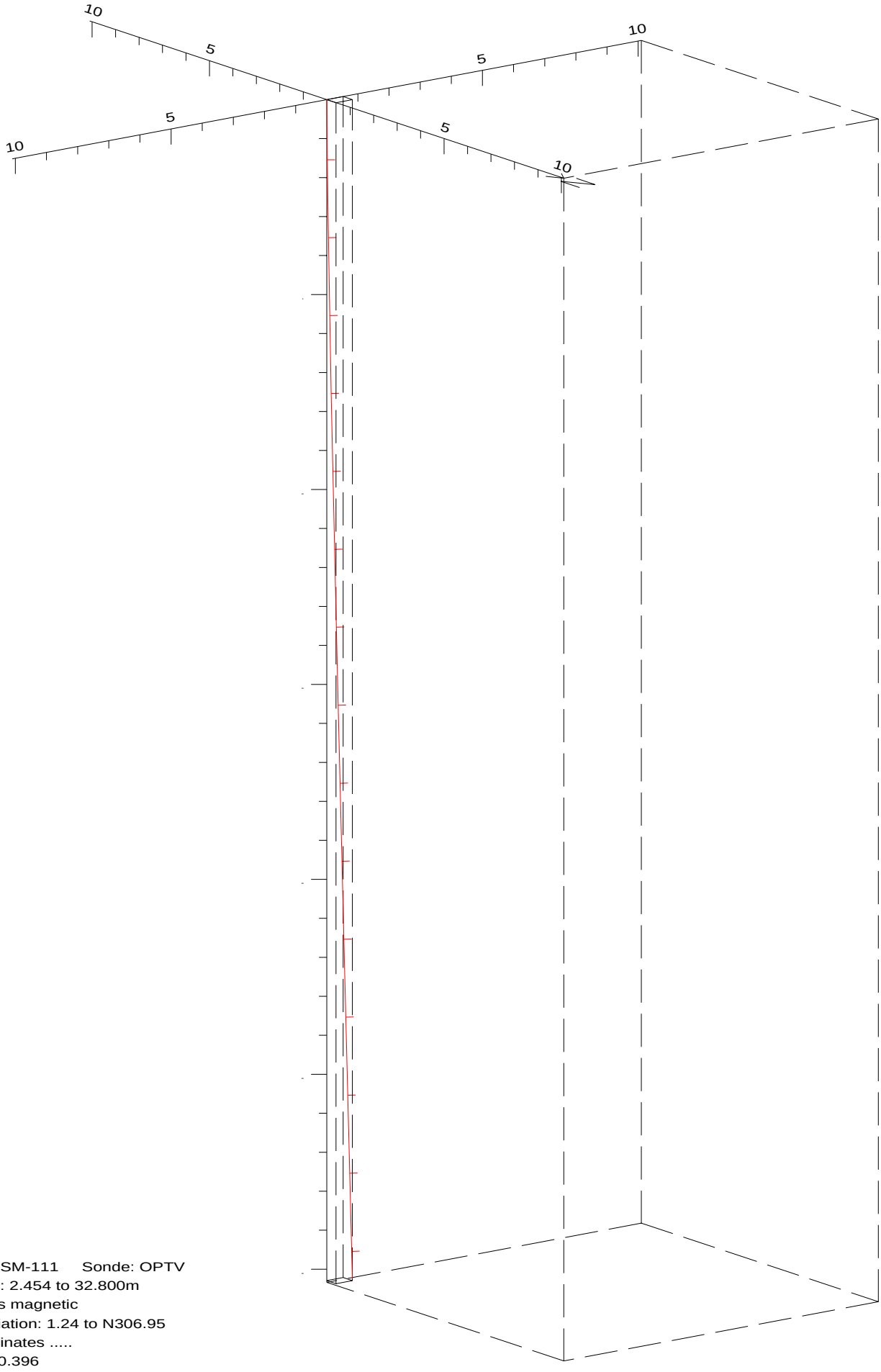


Borehole: SM-111 Sonde: OPTV
Zone from: 2.454 to 32.800m
North ref is magnetic
Mean deviation: 1.24 to N306.95
End coordinates .....
North: 0.396
East : -0.528
Down : 30.338
Azimuth of end: N306.88
Distance start-end: 0.660m
Distance marks every 5m
15 Oct 2015





Deviated borehole in orthographic projection, viewed from N37



Borehole: SM-111 Sonde: OPTV
Zone from: 2.454 to 32.800m
North ref is magnetic
Mean deviation: 1.24 to N306.95
End coordinates .....
North: 0.396
East : -0.528
Down : 30.338
Azimuth of end: N306.88
Distance start-end: 0.660m
Viewpoint: N37
15 Oct 2015

SM-116

IMAGEM 2D

OPTV DATA PROCESSING
RGLDIP vsn 6.2
BOREHOLE IMAGE LOG

27 Sep 2015

UHE ITAOCARA

Borehole: SM-116

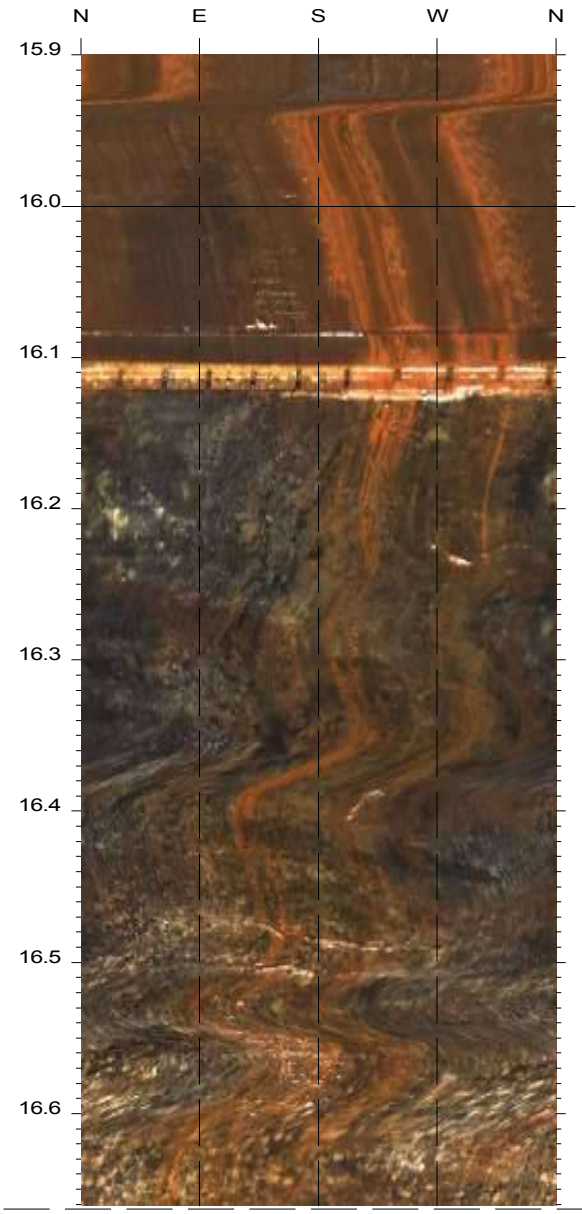
OMBREIRA ESQUERDA

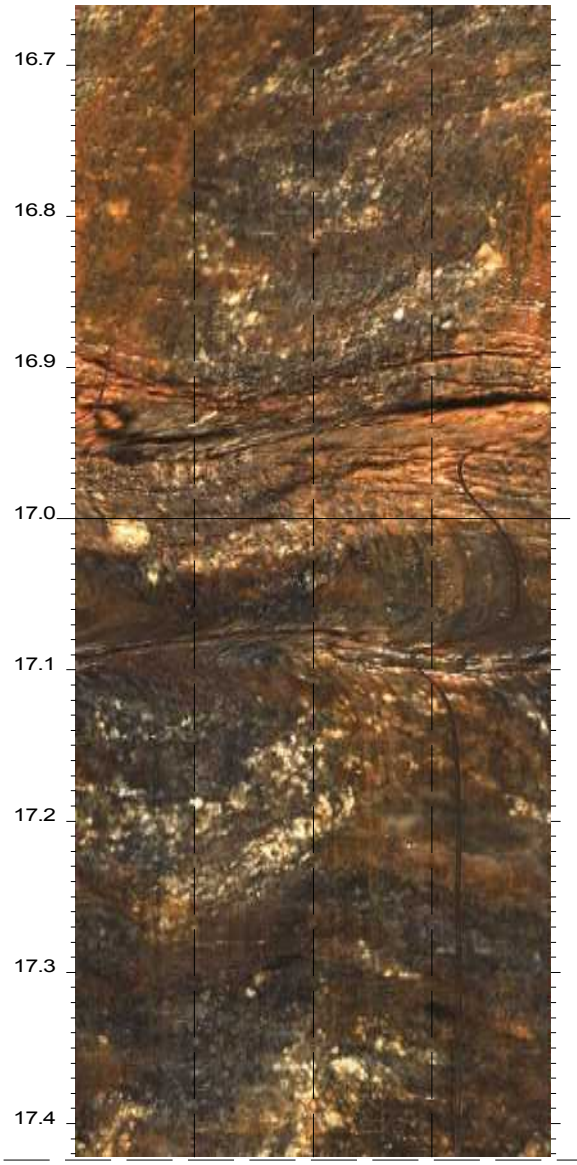
top of borehole.....
East:
North:
Elev:

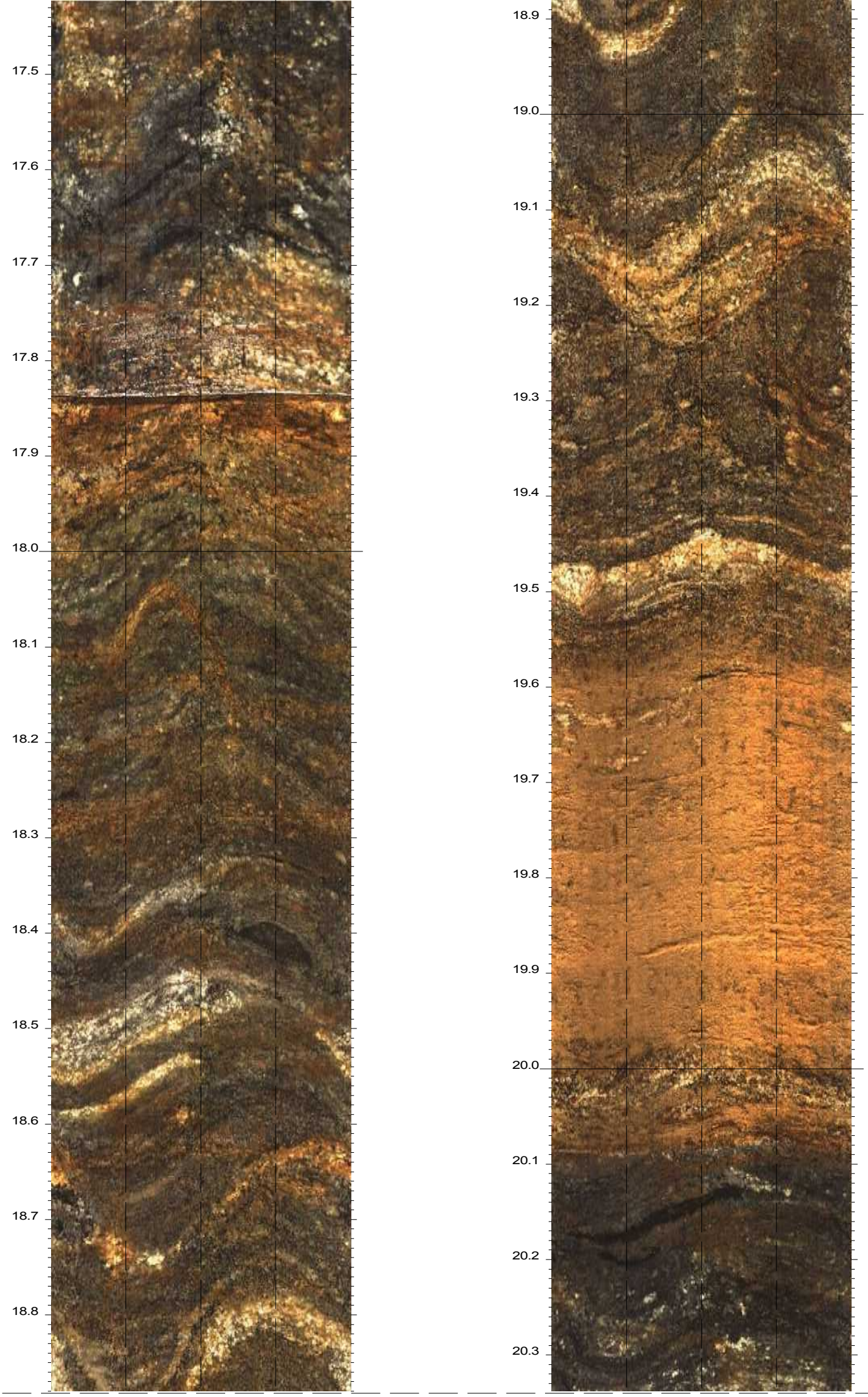
North ref. is magnetic
Depth units are metres
Vertical scale: 1/5
Horiz scale = vert scale

Zone from 26.1190 to 15.9000m
Format: BHTV NESWN

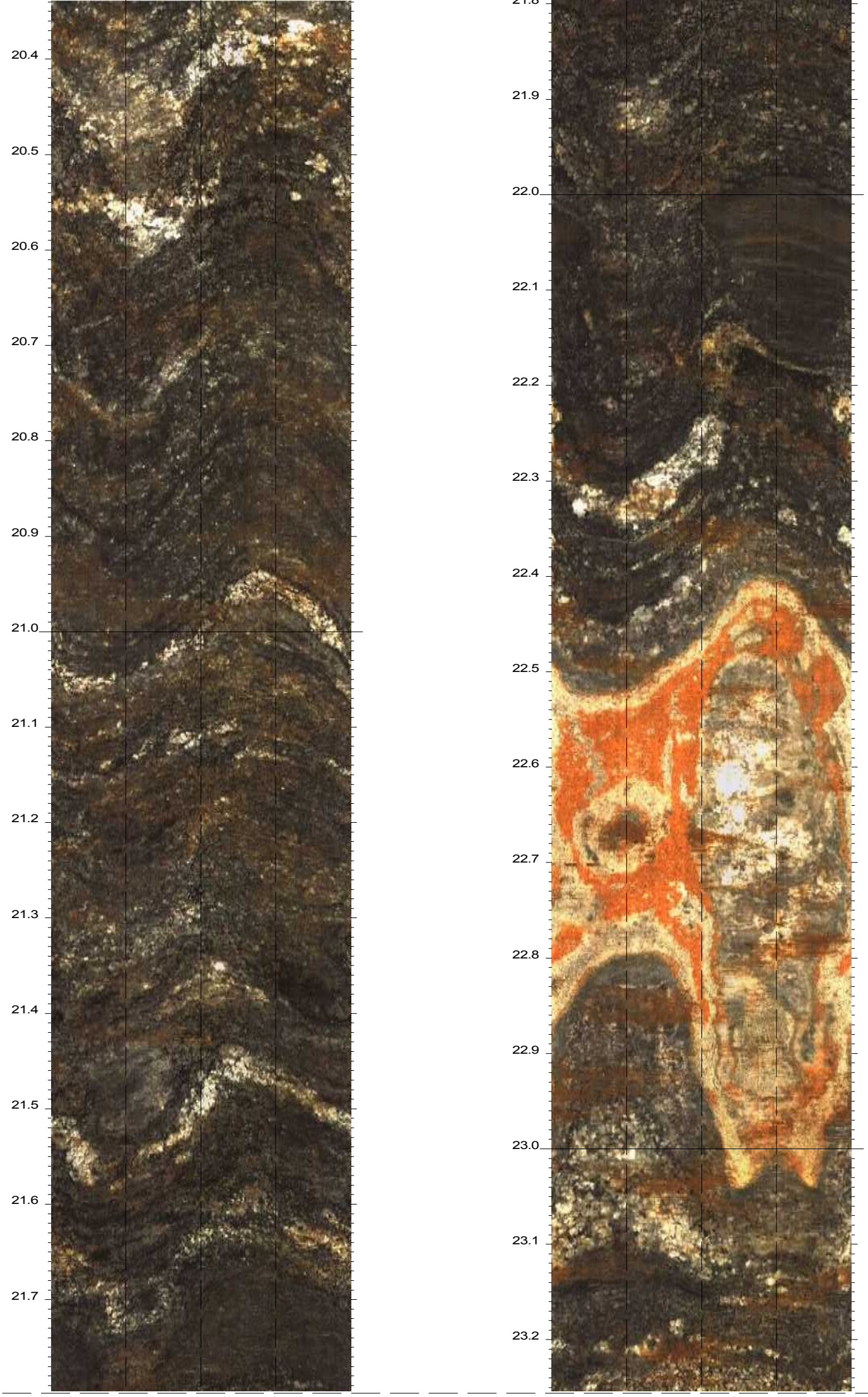
Borehole diam: 10.000cm
data intervals.....
Azimuth: 0.6667deg
Depth: 0.0010m



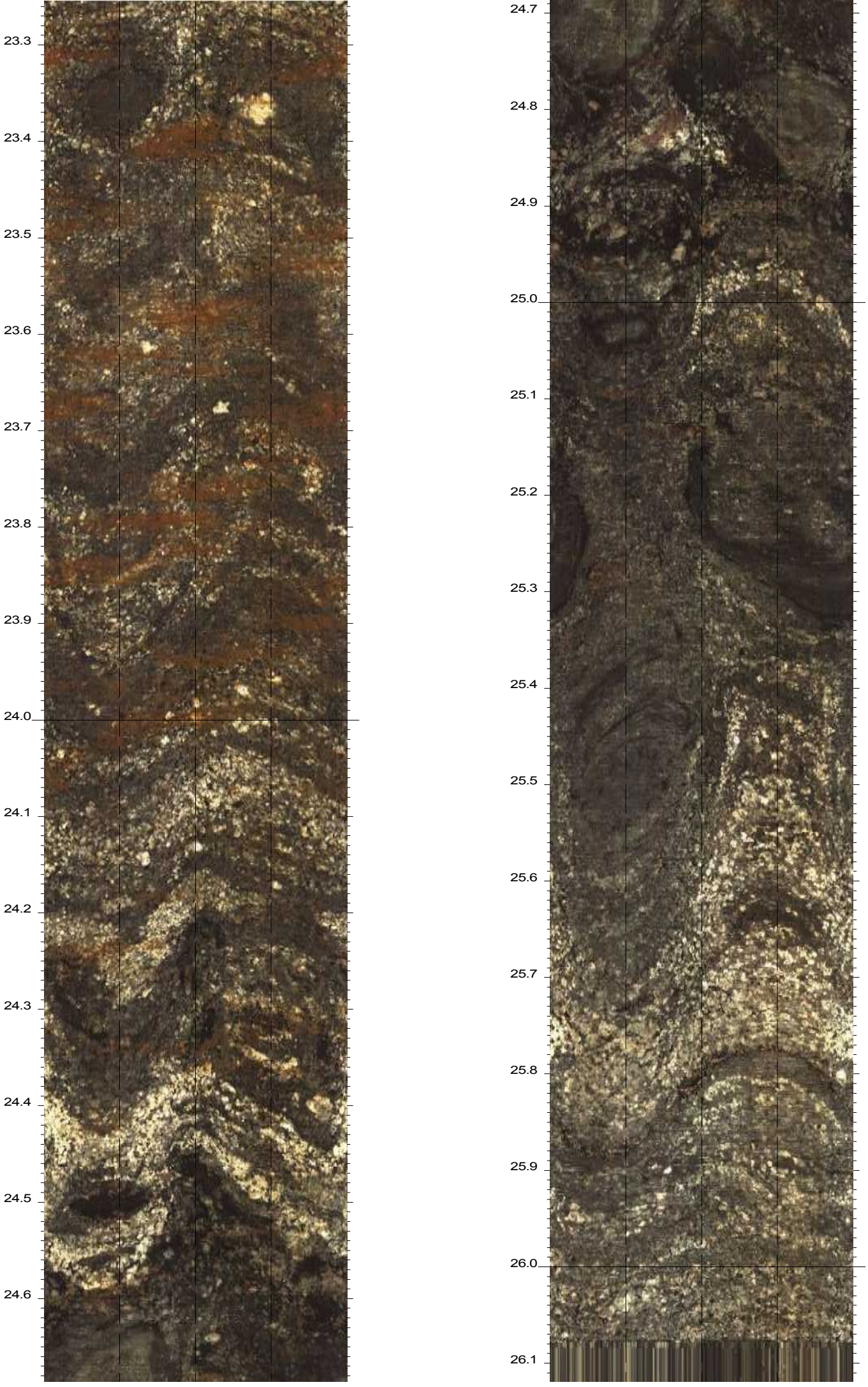




SM-116 20.3380 to 17.4220m 27 Sep 2015



SM-116 23.2540 to 20.3380m 27 Sep 2015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24.0
24.1
24.2
24.3
24.4
24.5
24.6
24.7
24.8
24.9
25.0
25.1
25.2
25.3
25.4
25.5
25.6
25.7
25.8
25.9
26.0
26.1

TESTEMUNHO VIRTUAL

OPTV DATA PROCESSING
RGLDIP vsn 6.2
CORE ORIENTATION LOG

27 Sep 2015

UHE ITAOCARA

Borehole: SM-116

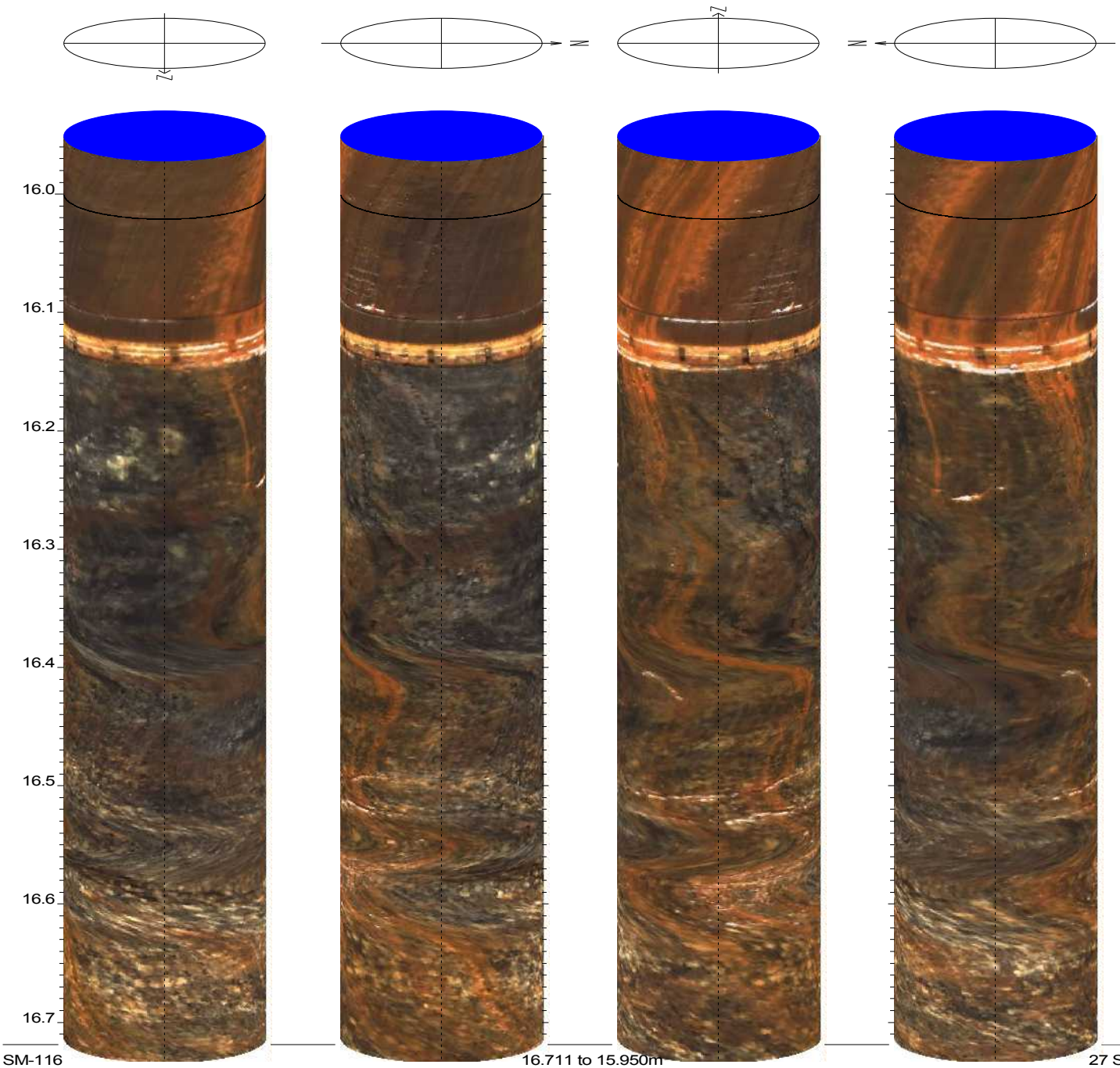
OMBREIRA ESQUERDA

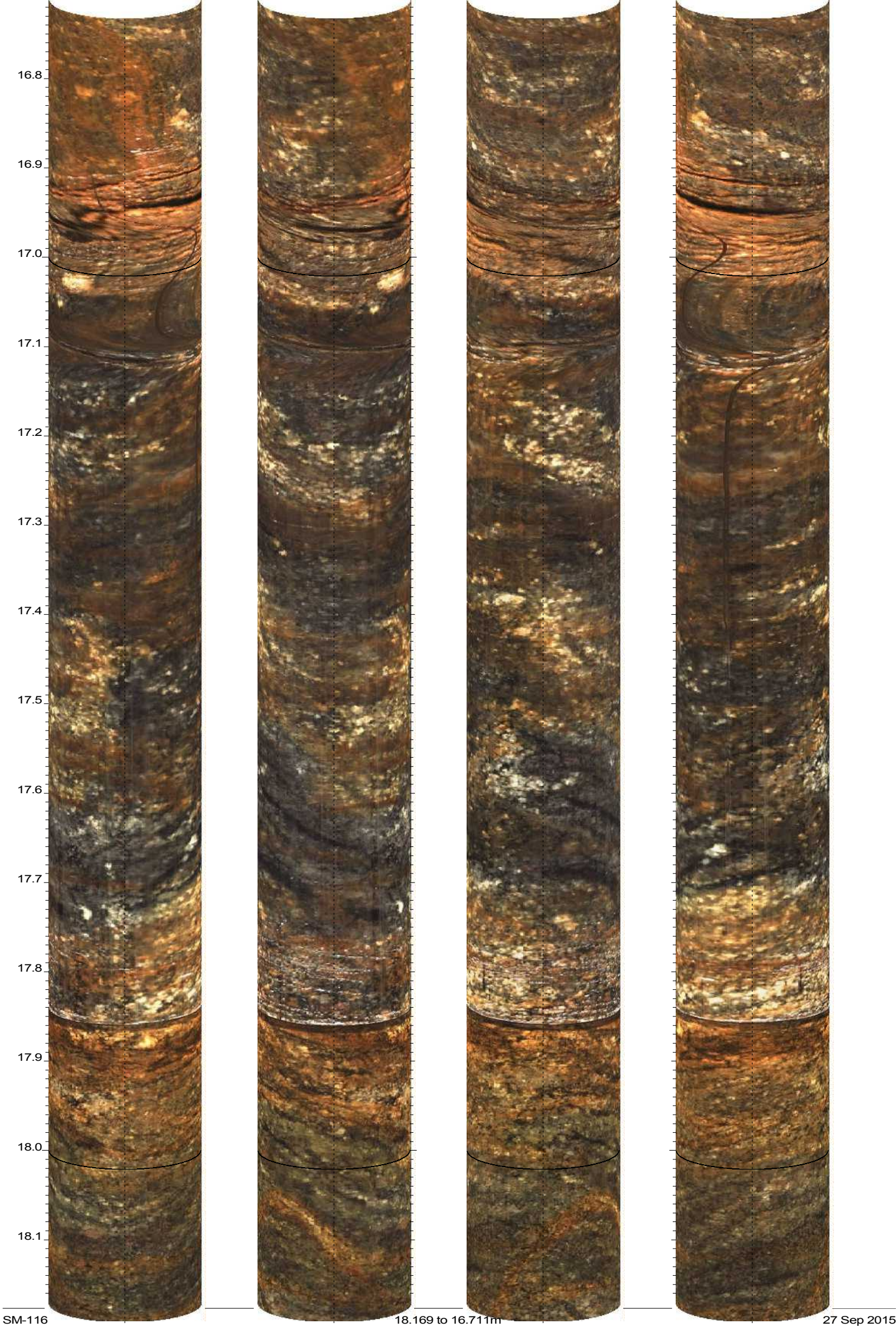
top of borehole.....
East:
North:
Elev:

North ref. is magnetic
Depth units are metres
Vertical scale: 1/5

Zone from 26.120 to 15.950m
Cores oriented: N000 N090 N180 N270

Borehole diam: 10.000cm
data intervals .....
radial: 0.6667deg
axial: 0.0010m




16.8
16.9
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17.1
17.2
17.3
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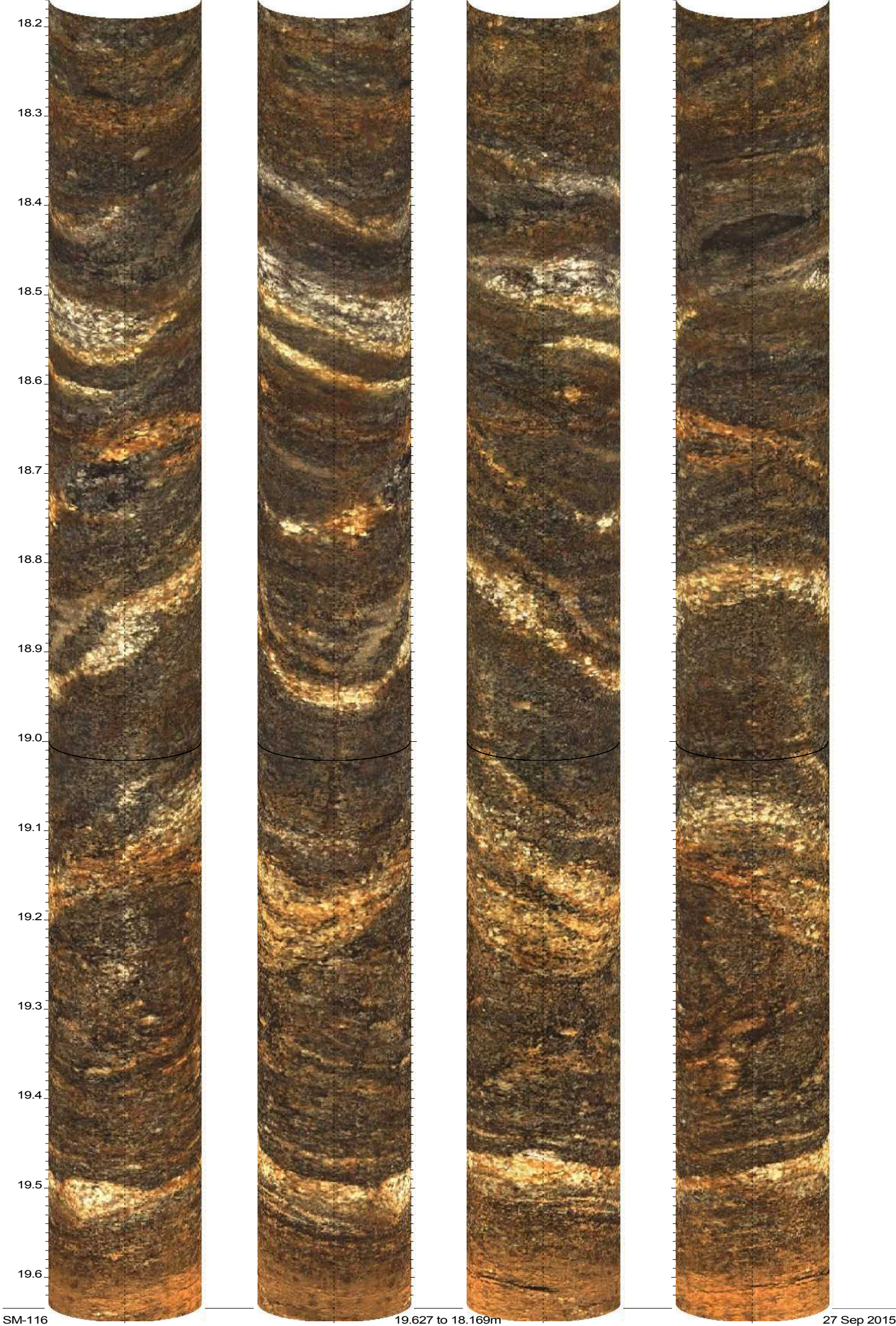
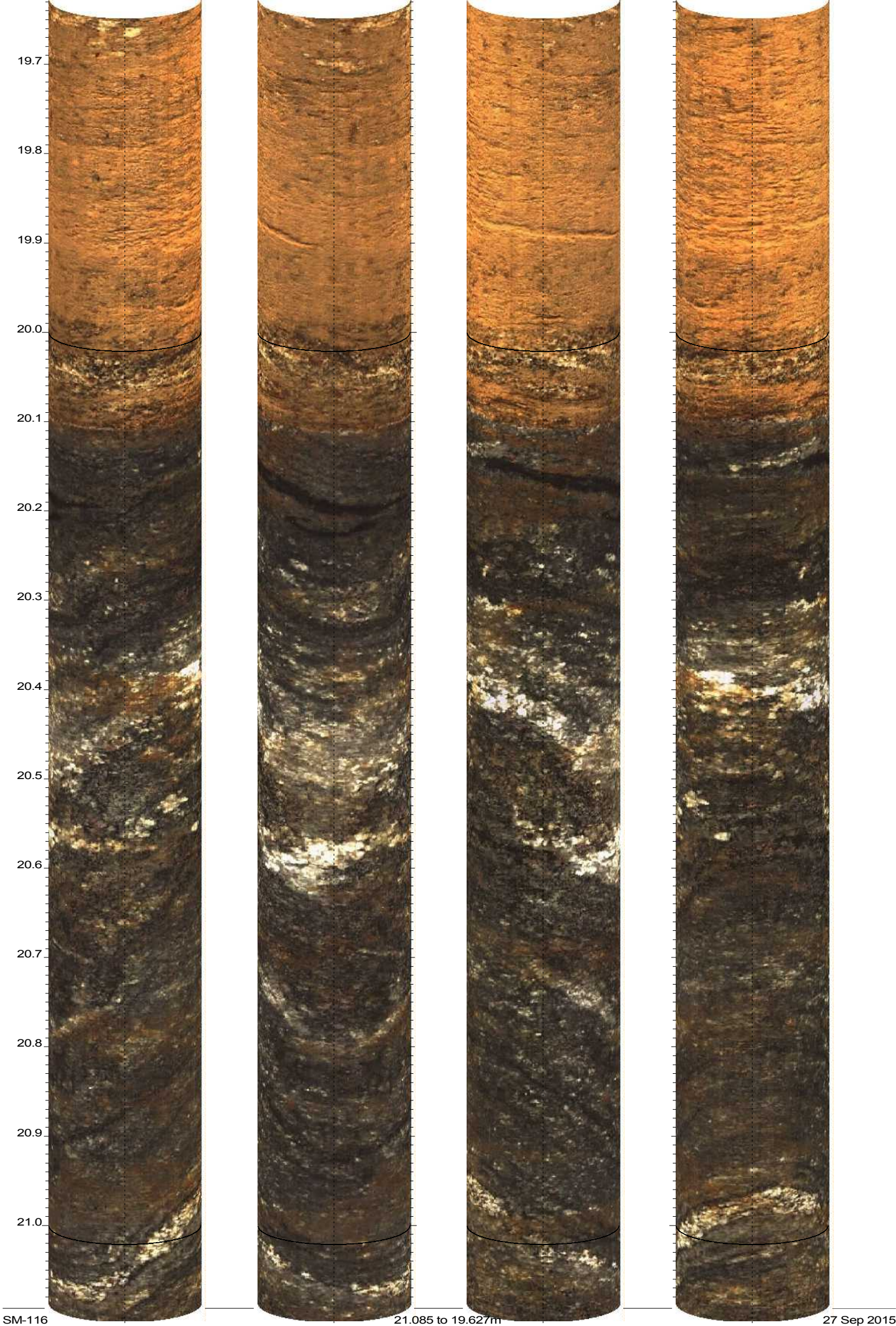
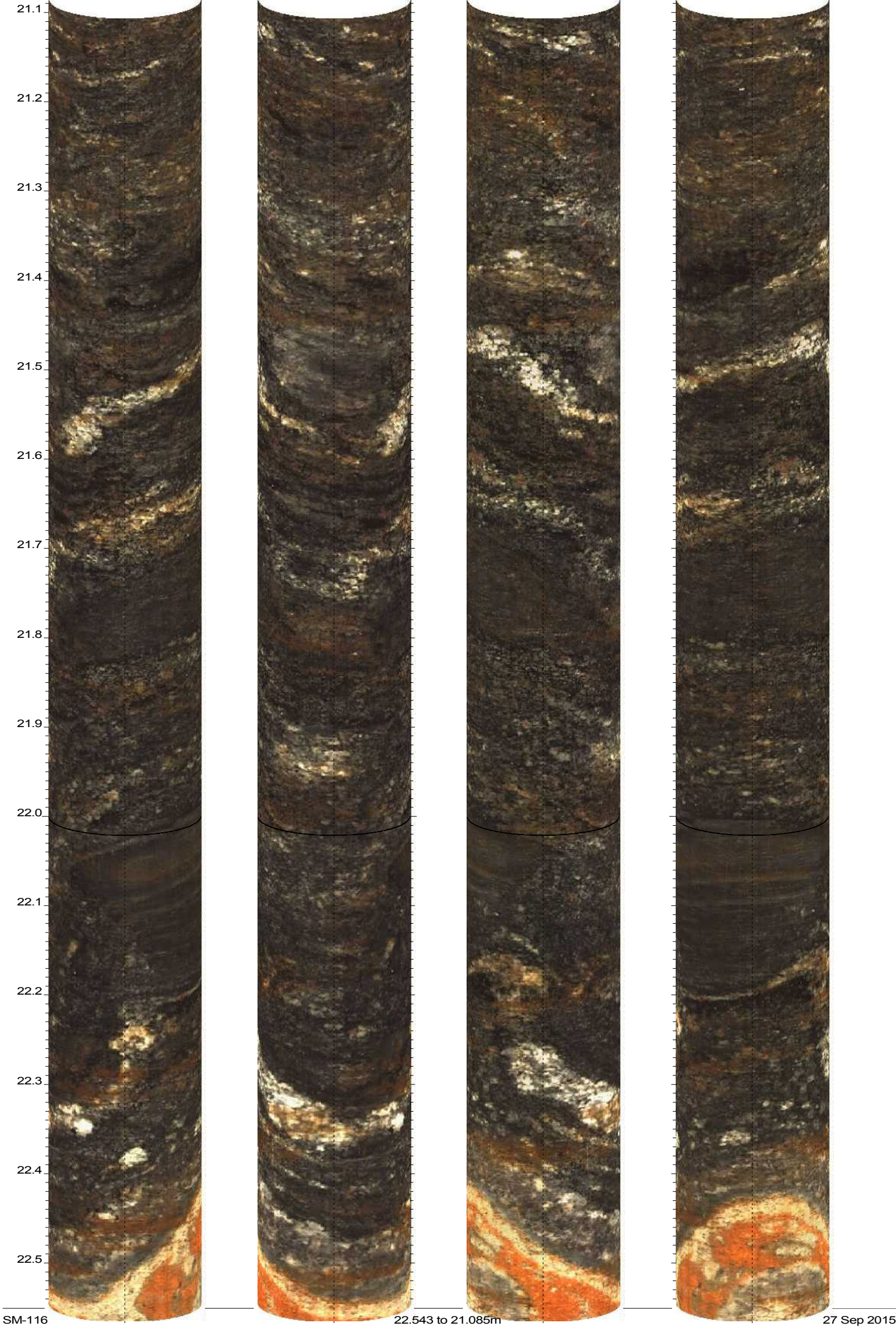
17.5
17.6
17.7
17.8
17.9
18.0
18.1



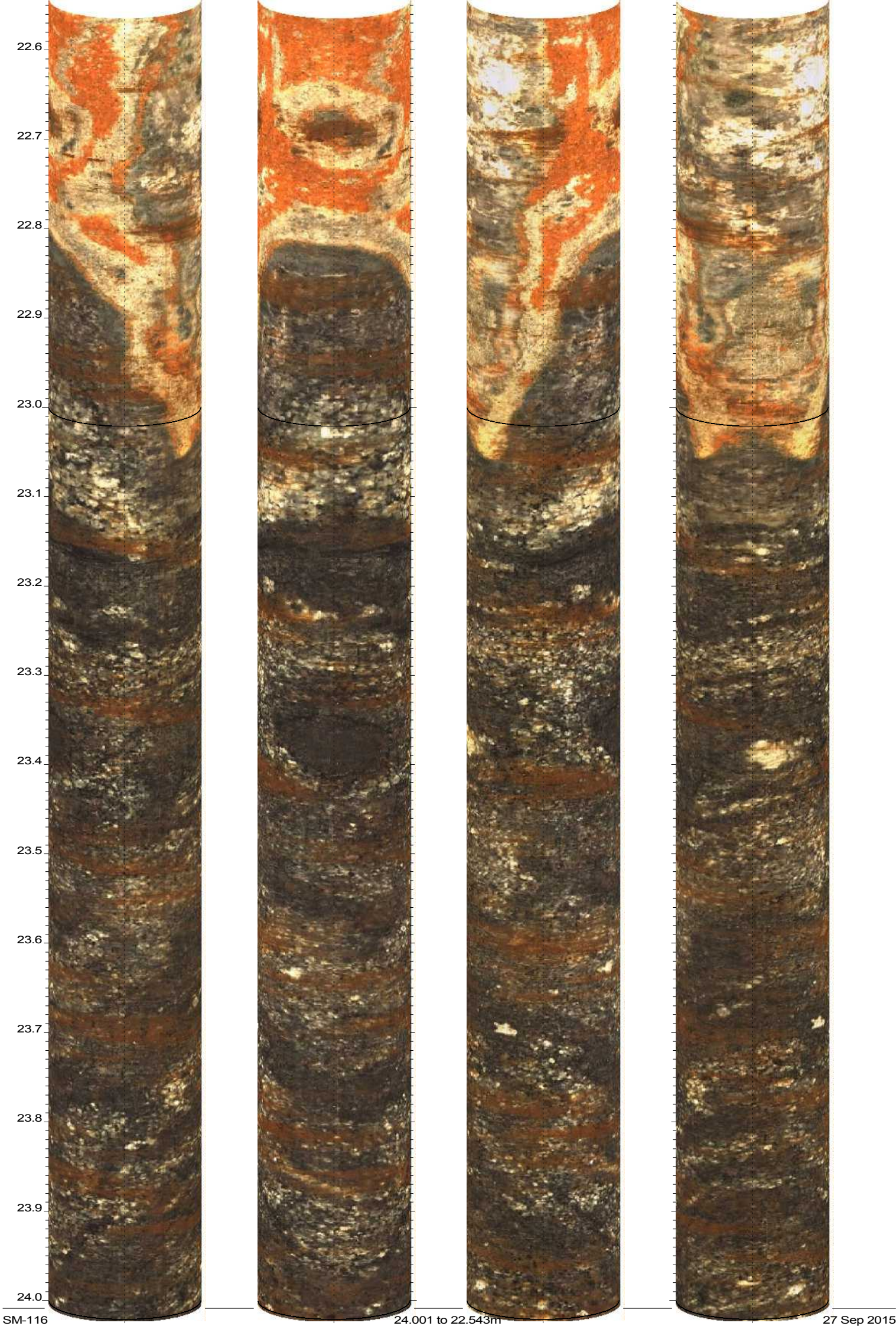
SM-116 19.627 to 18.169m 27 Sep 2015



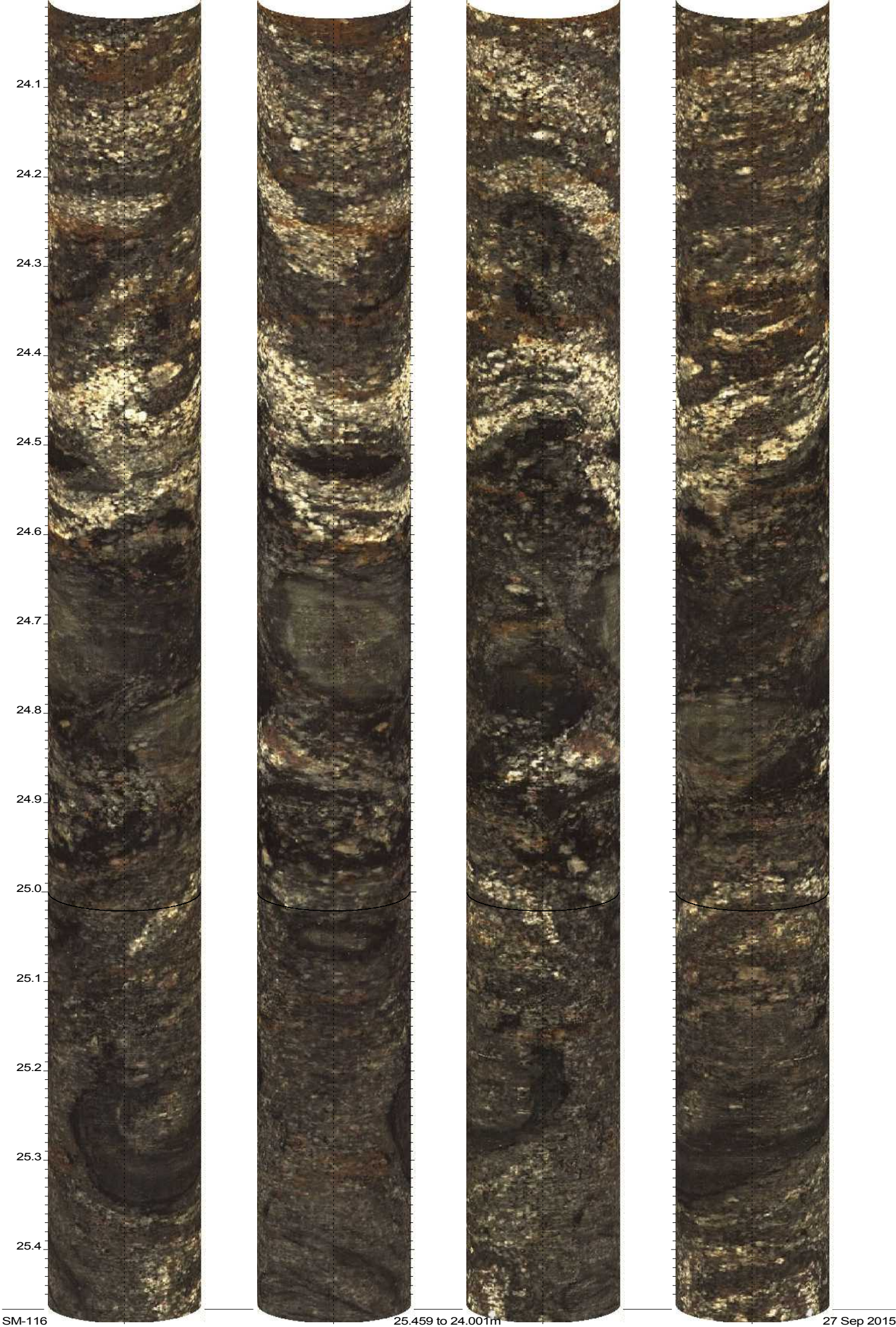
SM-116 21.085 to 19.627m 27 Sep 2015



SM-116 22.543 to 21.085m 27 Sep 2015



SM-116 24.001 to 22.543m 27 Sep 2015



SM-116 25.459 to 24.001m 27 Sep 2015

25.5
25.6
25.7
25.8
25.9
26.0
26.1

ATITUDES

DESCONTINUIDADES

OPTV DATA PROCESSING
RGLDIP vsn 6.2
INTERPRETED OPTV DIPS LOG

15 Oct 2015

UHE ITAOCARA

Borehole: SM-116

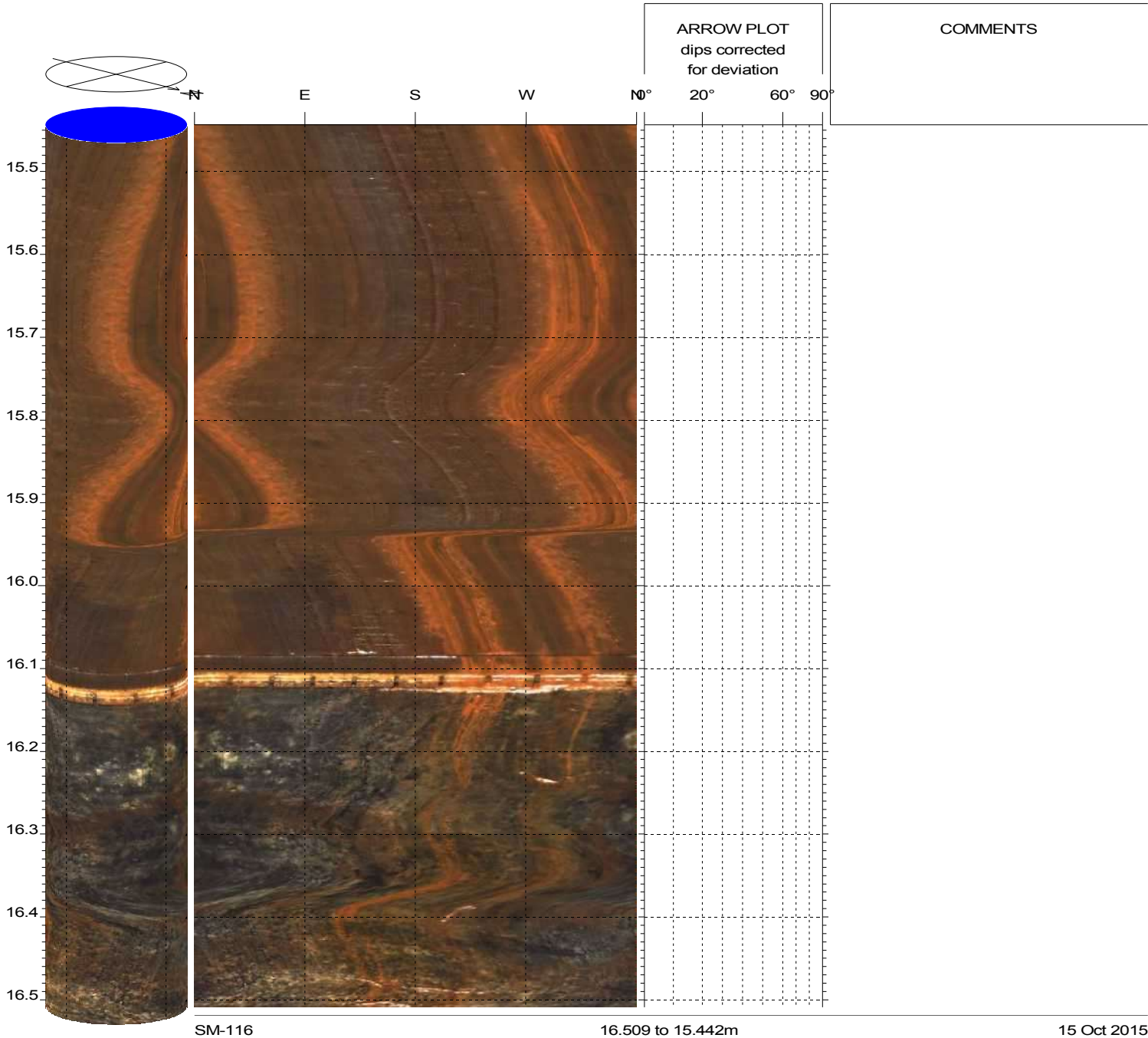
OMBREIRA ESQUERDA

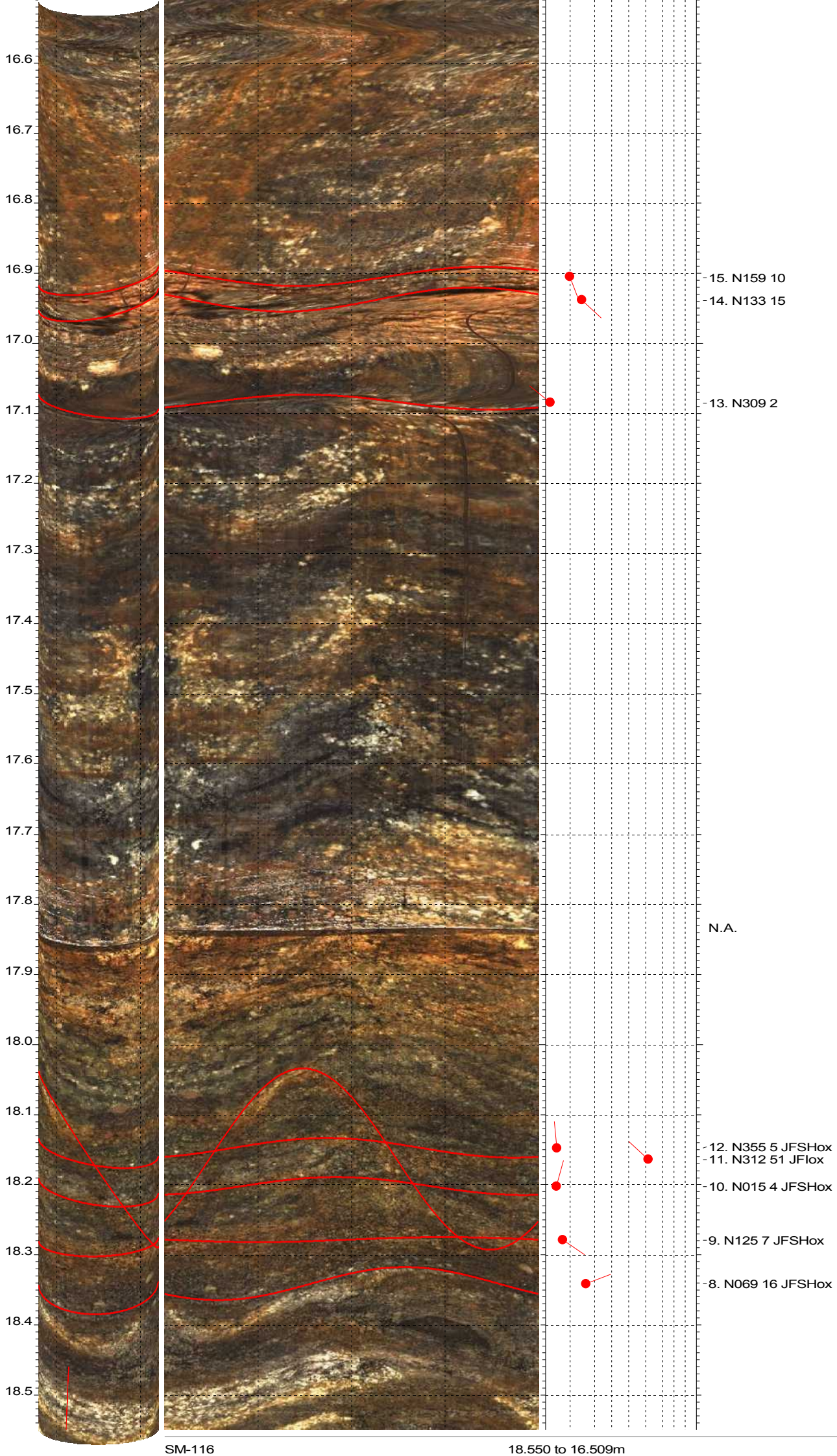
top of borehole.....
East:
North:
Elev:

North ref. is magnetic
Depth units are metres
Vertical scale: 1/7

Zone from 26.120 to 15.442m
Format: BHTV-NESWN

Borehole diam: 10.000cm
Vertical = borehole-axis

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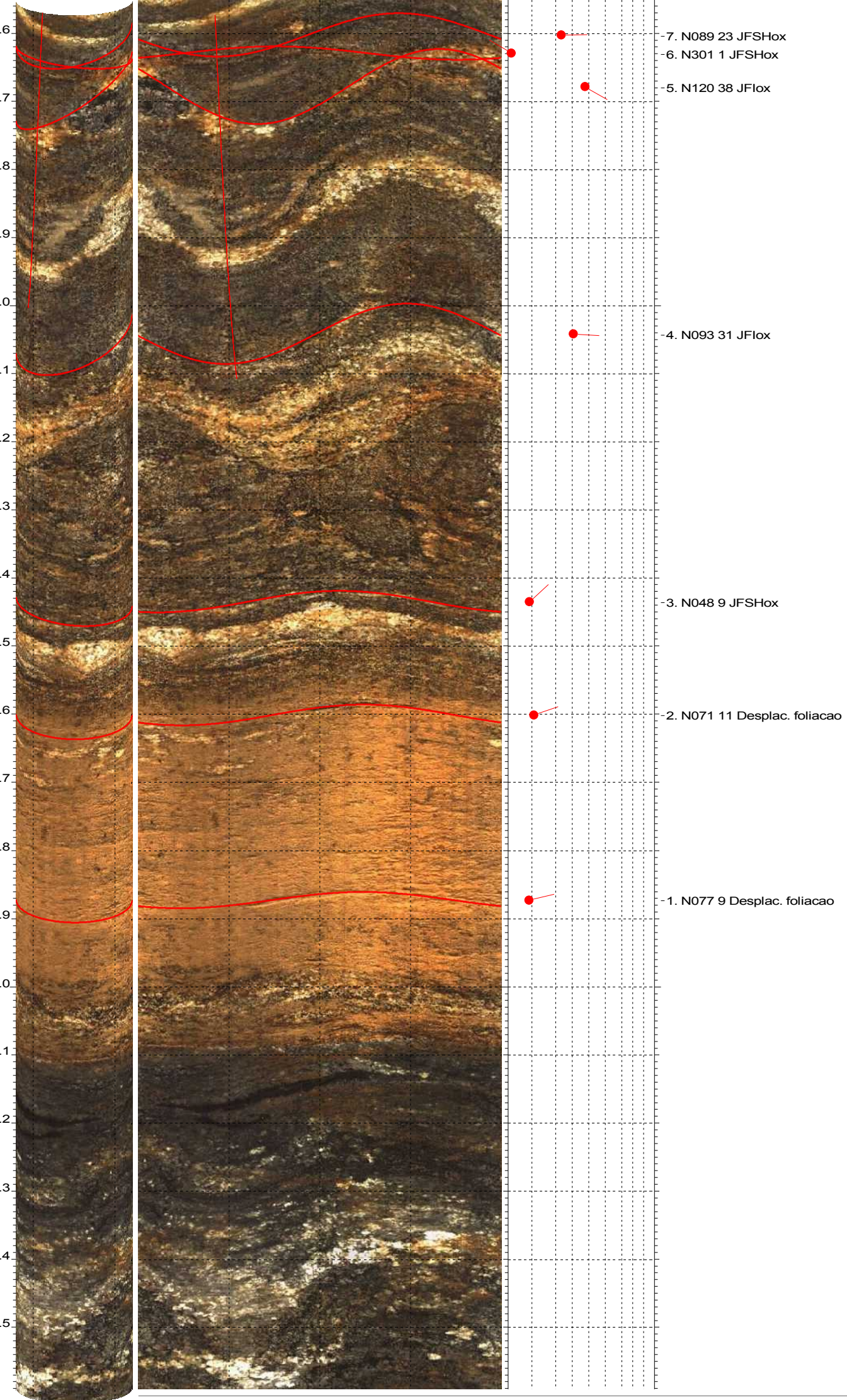
17.7
17.8
17.9
18.0
18.1
18.2
18.3
18.4
18.5
15. N159 10
14. N133 15
13. N309 2
N.A.
12. N355 5 JFSHox
11. N312 51 JFlox
10. N015 4 JFSHox
9. N125 7 JFSHox
8. N069 16 JFSHox



SM-116 20.591 to 18.550m 15 Oct 2015

20.6
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20.8
20.9
21.0
21.1
21.2
21.3
21.4
21.5
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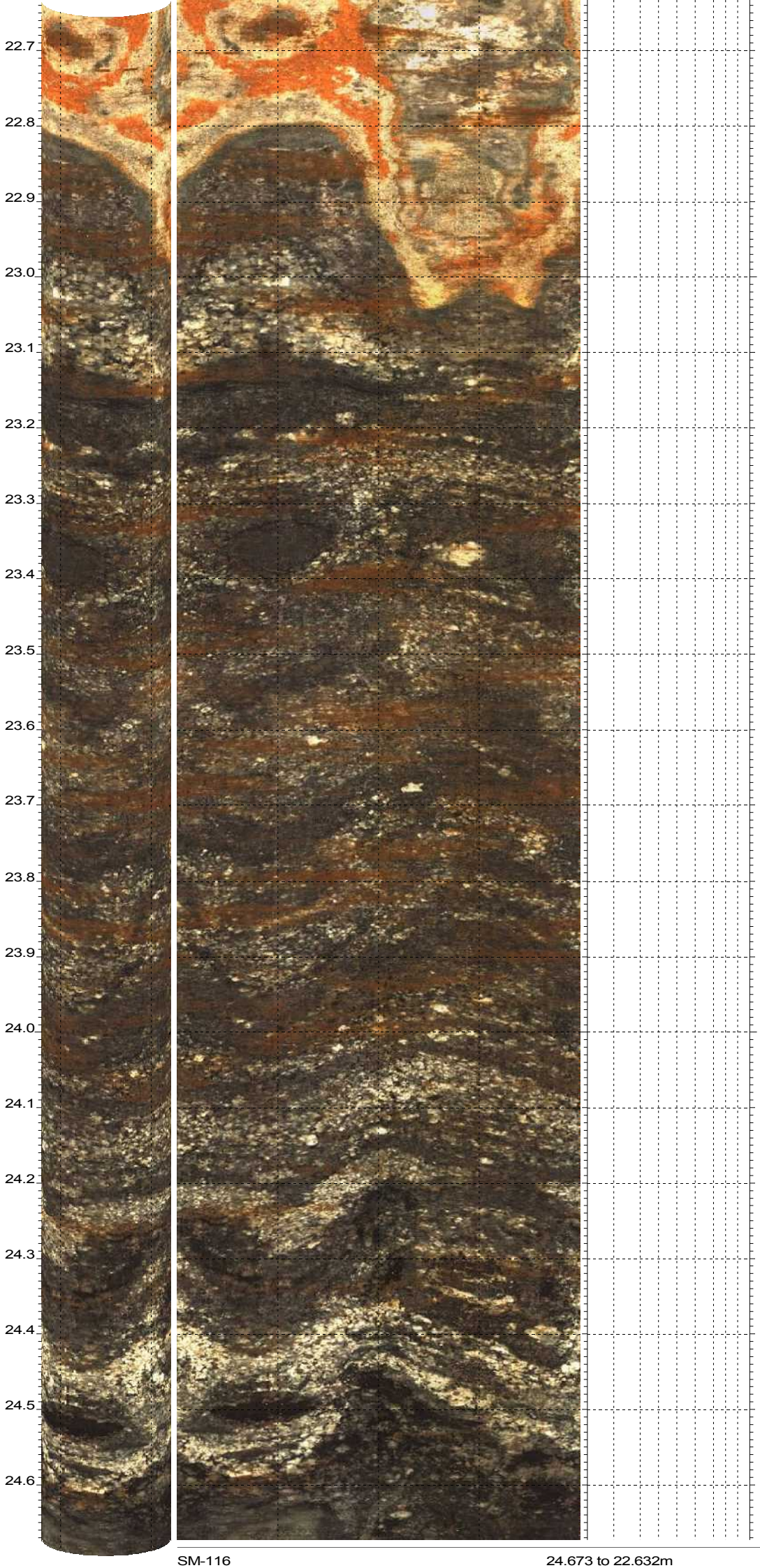
21.7
21.8
21.9
22.0
22.1
22.2
22.3
22.4
22.5
22.6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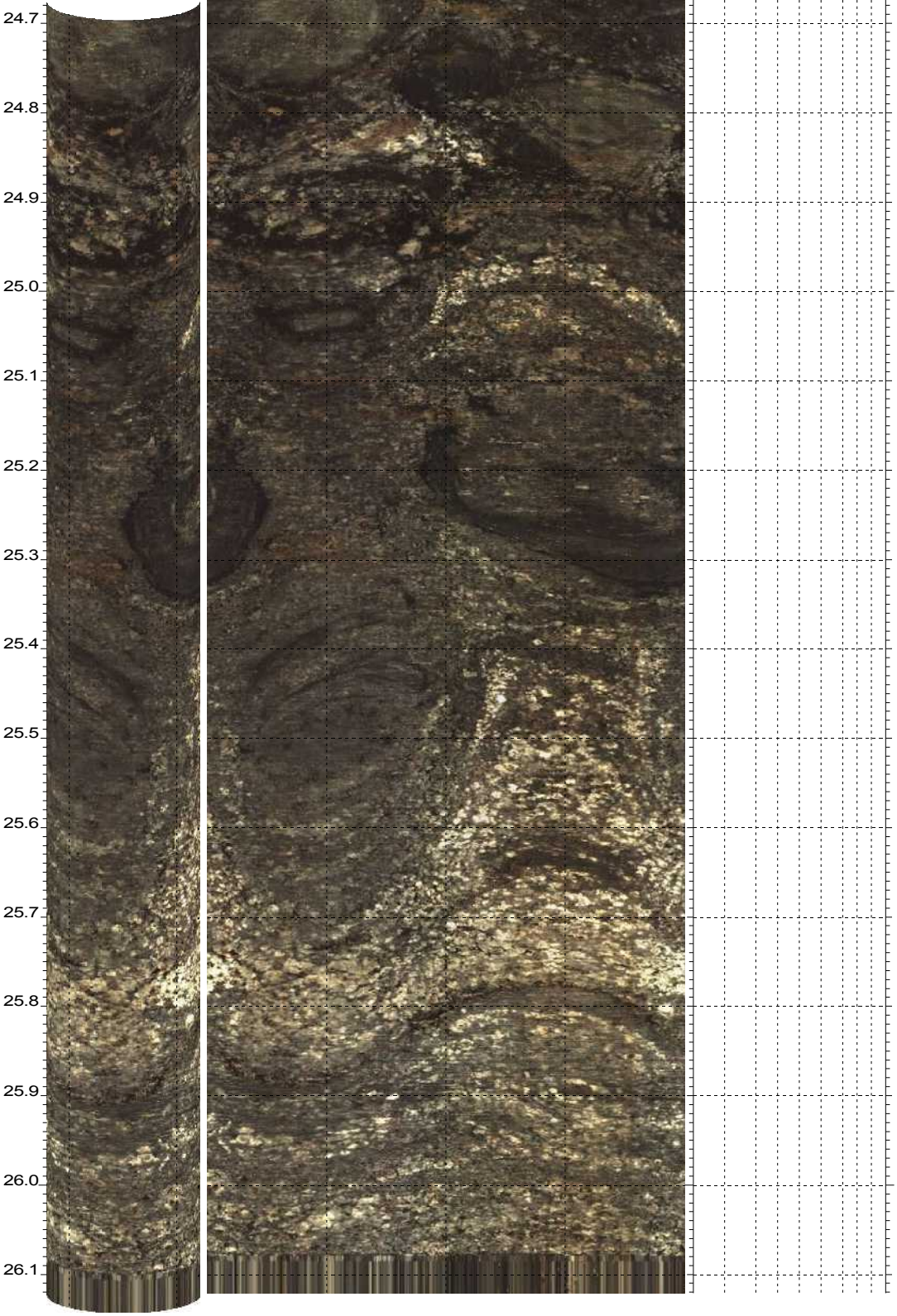
24.2
24.3
24.4
24.5
24.6


24.7
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25.2
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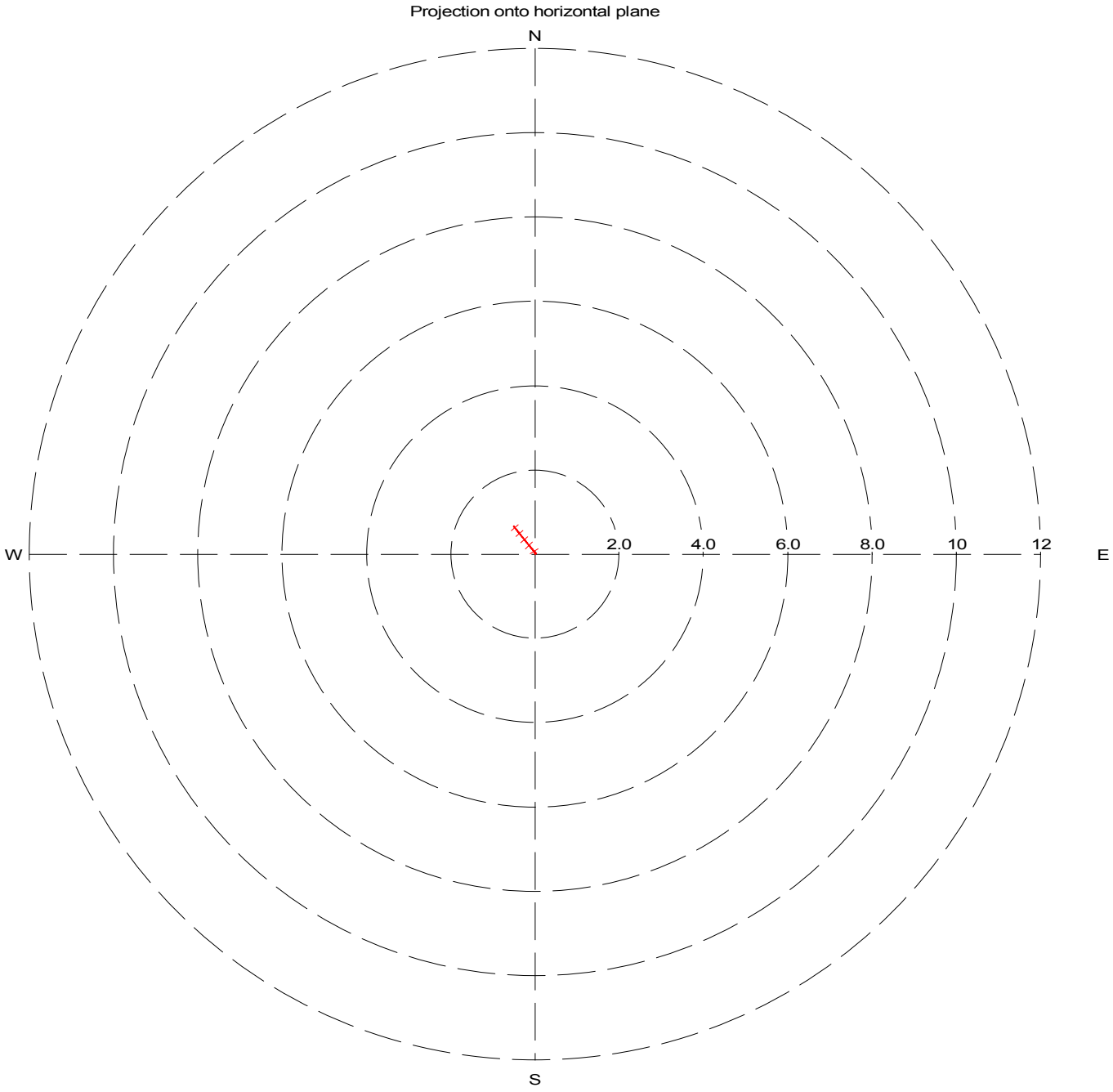
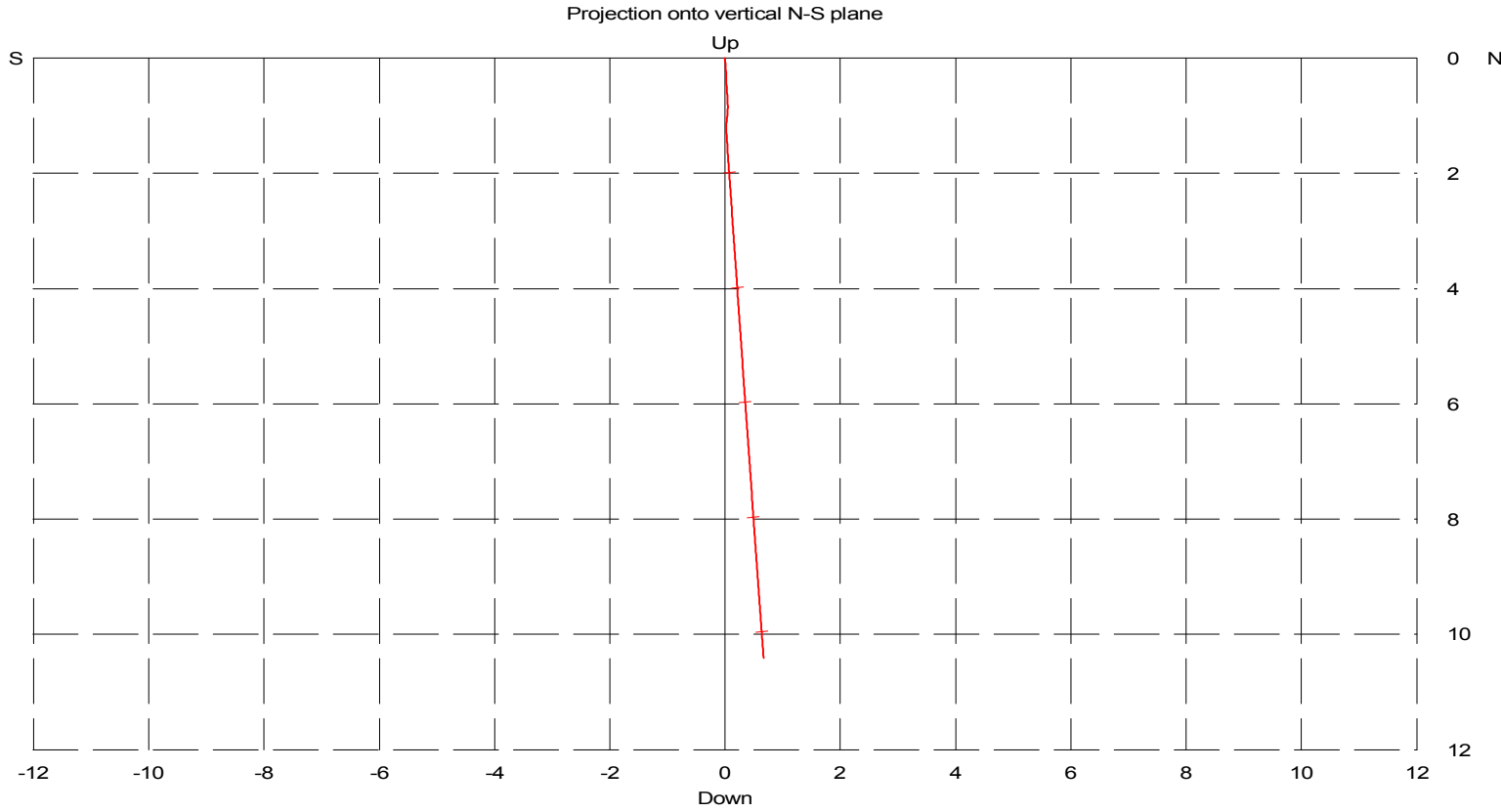
25.4
25.5
25.6
25.7
25.8
25.9
26.0
26.1

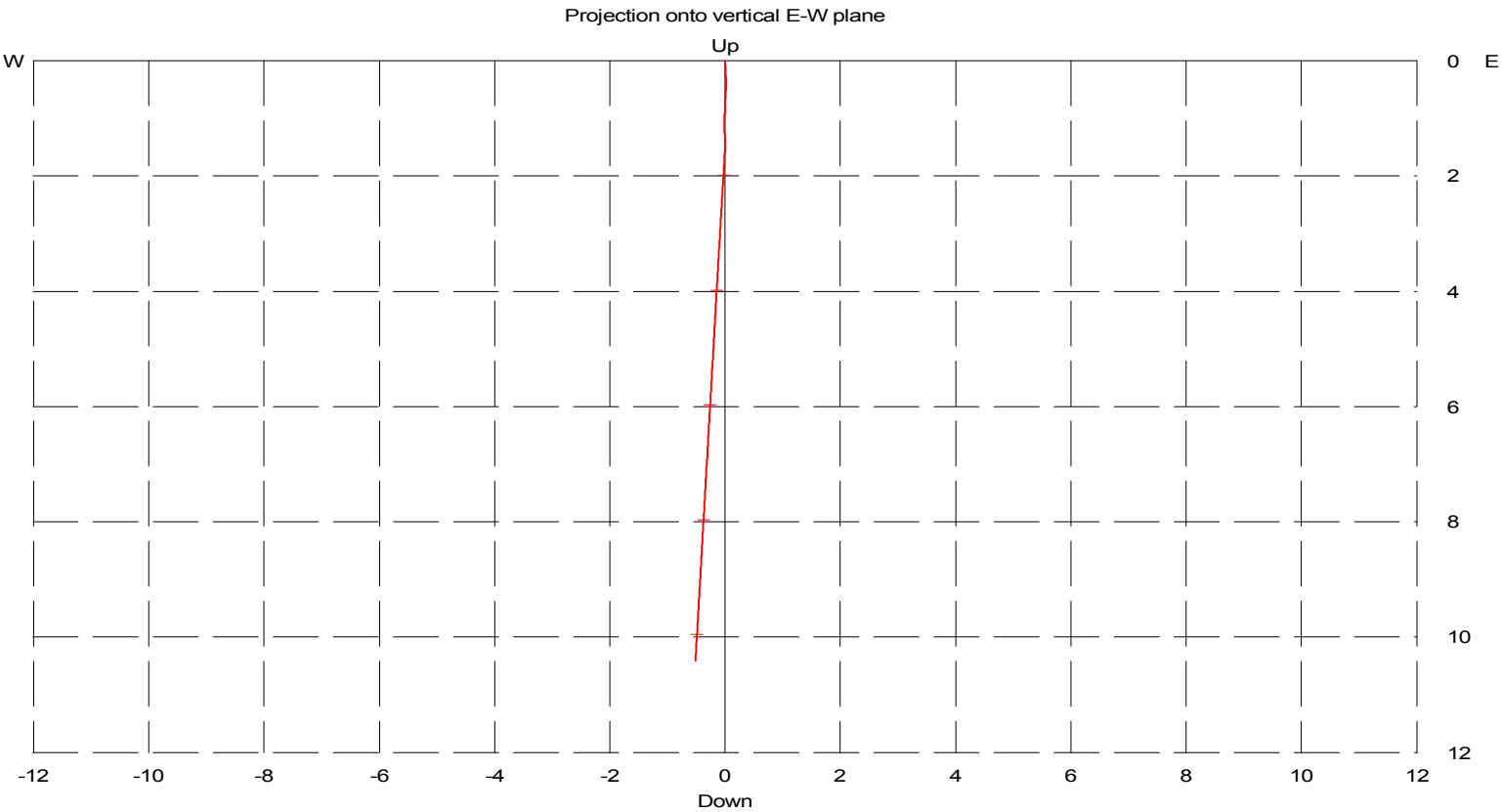
DESVIO SONDAGEM

Borehole: SM-116 Sonde: OPTV
Zone from: 15.454 to 26.050m
North ref is magnetic
Mean deviation: 4.63 to N322.52
End coordinates .....
North: 0.674
East : -0.522
Down : 10.502
Azimuth of end: N322.25
Distance start-end: 0.853m
Distance marks every 2m
15 Oct 2015

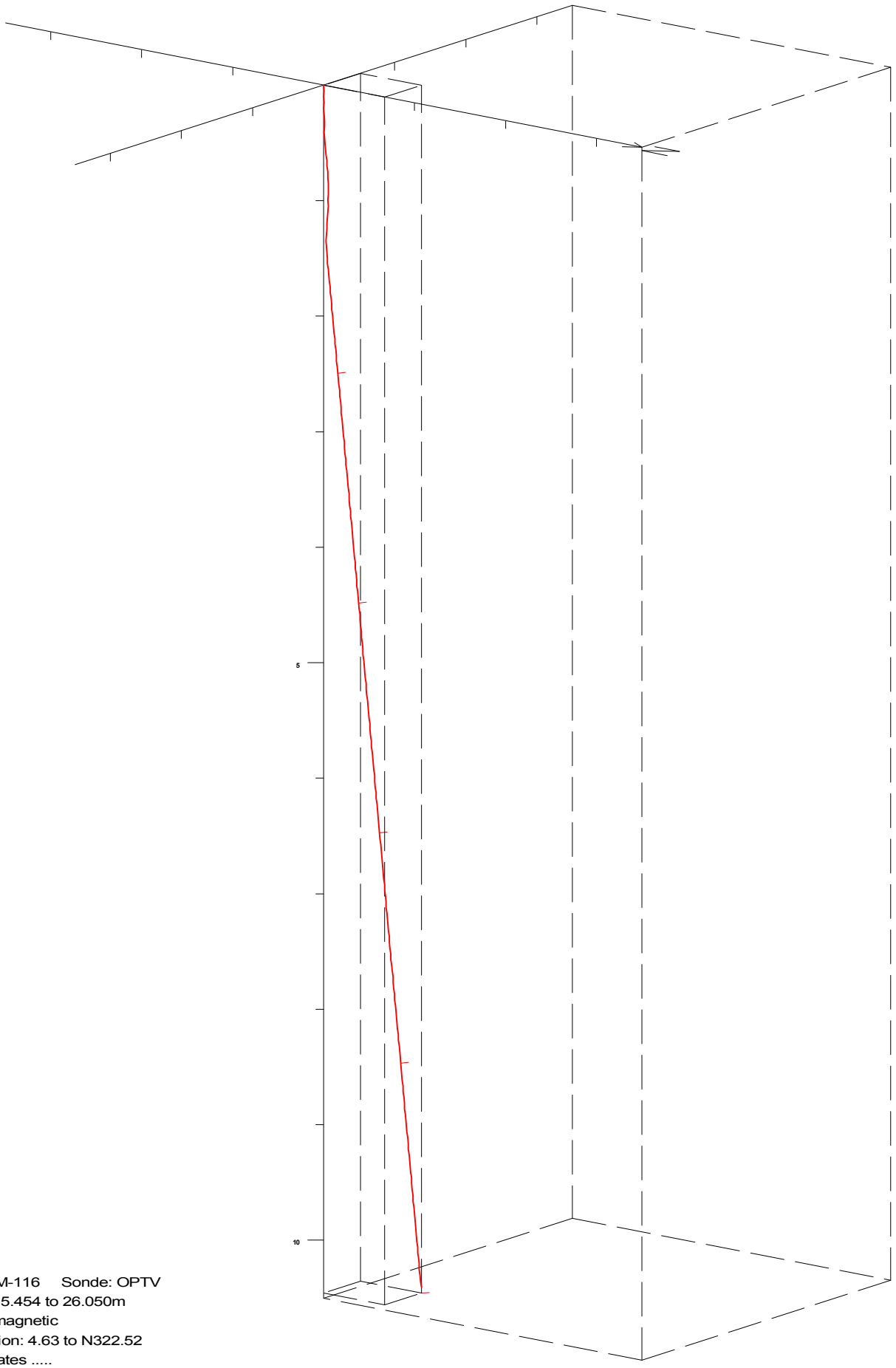


Borehole: SM-116 Sonde: OPTV
Zone from: 15.454 to 26.050m
North ref is magnetic
Mean deviation: 4.63 to N322.52
End coordinates .....
North: 0.674
East : -0.522
Down : 10.502
Azimuth of end: N322.25
Distance start-end: 0.853m
Distance marks every 2m
15 Oct 2015





Deviated borehole in orthographic projection, viewed from N52



Borehole: SM-116 Sonde: OPTV
Zone from: 15.454 to 26.050m
North ref is magnetic
Mean deviation: 4.63 to N322.52
End coordinates .....
North: 0.674
East : -0.522
Down : 10.502
Azimuth of end: N322.25
Distance start-end: 0.853m
Viewpoint: N52
15 Oct 2015