

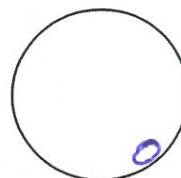
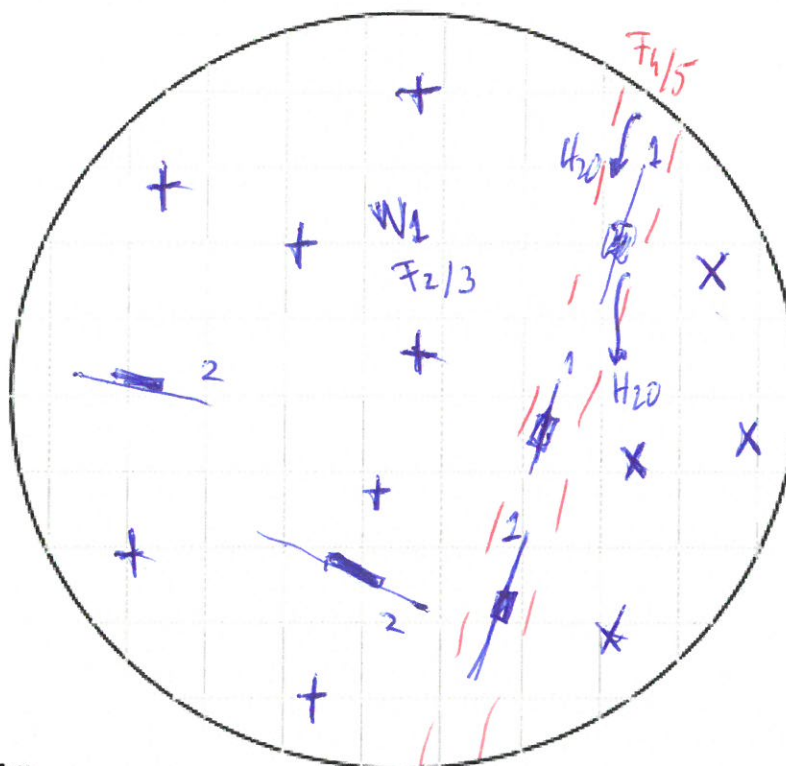
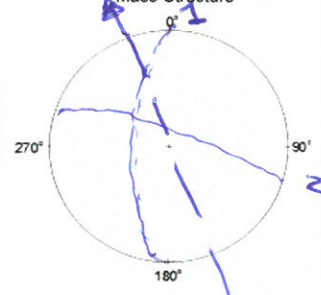
TUNNEL: <u>LAB. CONT 4</u>	MACHINE: <u>FEM 1</u>	DATE: <u>4/02-18</u>	REF. N°:
CHAINAGE: <u>5+720</u>	RING: <u>3363</u>	HOUR: <u>9:00</u>	<u>275</u>

Mapping performed:

☒ Yes☐ No

Plan view

Face of the Excavationm

Schematic position of  
the cutter head while  
mappingSchematic Rock  
Mass Structure

Light Gneiss	Dark Gneiss	Foliation	Joint Set (Strike/dip)	Weakness zone < 1m
Pegmatite	Amphibolite	Joint Set (sub. Vertical)	Geological Contact	Water
		Joint Set (Sub Horizontal)	Geological Contact (diffuse)	Weakness zone > 1m (thickness)

## DISCONTINUITIES

Fracture set	1	2				
Strike ( $\alpha_s$ )	<u>N-S</u>	<u>78-80</u>				
Dip ( $\alpha_f$ )	<u>70-80</u>	<u>80N</u>				
Spacing (cm)	<u>—</u>	<u>—</u>				
Length (m)	<u>3-5</u>	<u>1-3</u>				
Aperture (mm)	<u>4-10</u>	<u>1-10</u>				
Roughness	<u>R.P.L.V</u>	<u>R.P.L.V</u>				
Infilling	<u>SPOT</u>	<u>NONE</u>				
Weathering	<u>W2</u>	<u>NONE</u>				

## FACE CHARACTERISTICS

Quartz	Veins <input checked="" type="checkbox"/>	Masses <input type="checkbox"/>
Garnets	Low <input type="checkbox"/>	High <input type="checkbox"/>
Water	Dry <input type="checkbox"/>	Moist <input type="checkbox"/>
	Dripping <input checked="" type="checkbox"/>	Flowing <input type="checkbox"/>
	Quantity:	
Fracturing	RQD:	<u>80-90</u>
Overbreak	Depth (cm):	<u>10-15</u>
	Amount (%):	<u>1-5</u>
Mixed face	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

## NOTES

LG AND DG ON RIGHT SIDE. SMALL BAND ALONG  
ROCK CONTACT WITH FRACTURES CLOSELY SPACED  
SOME CLAY AND WATER DRIPPING ON THAT BAND.

AMP = Amphibolite, DG = Dark gneiss, LG = Light gneiss, PG = Pegmatite, OB = Overbreak, WZ = Weak zone, LS/RS = Left/Right side

## AGJV Geologist

Date	Name	Signature
<u>4/02-18</u>	<u>g.m.</u>	<u>g.m.</u>

## Bane NOR Geologist

Date	Name	Signature
<u>4/2-18</u>	<u>—</u>	<u>38</u>

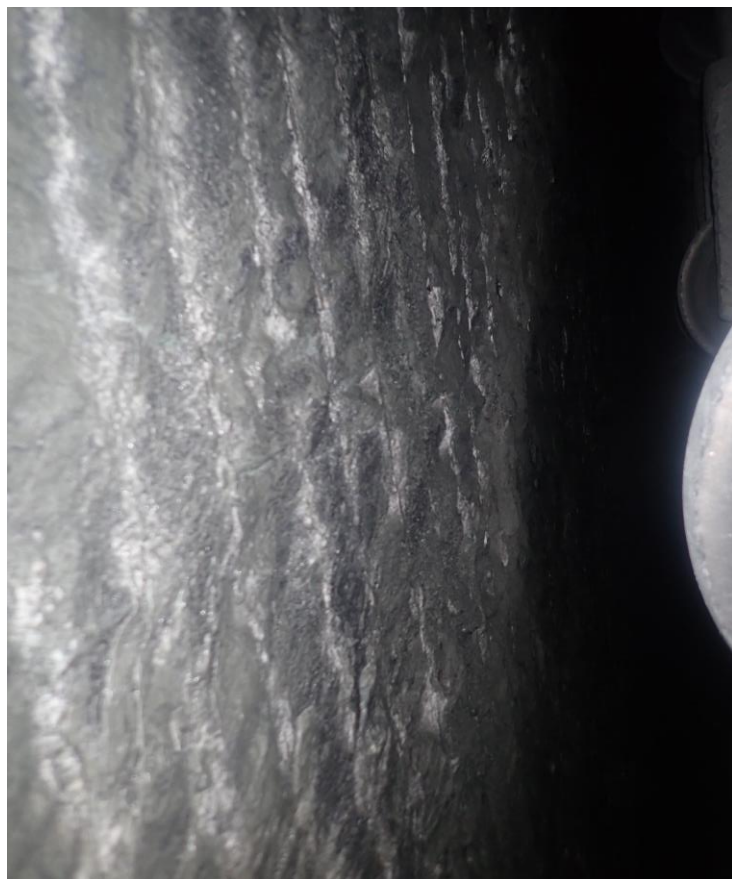
TUNNEL: INBOUND  
CHAINAGE: 05+720  
DIRECTION: NORTH

MACHINE: TBM 1  
RING: 3363

DATE: 04/01/2018  
HOUR: 09:00

REF. Nº:  
TBM1\_20180104\_05720\_275

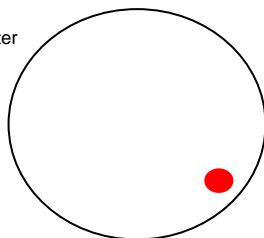
LEFT SIDE



RIGHT SIDE



Schematic position of the cutter  
head while mapping



UPPER PART



FACE



AGJV Geologist

Date	Name	Signature
04/01/2018	JM	

Bane NOR Geologist

Date	Name	Signature