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Forsmark site investigation

Boremap mapping of percussion boreholes HFM13–15 and HFM19

Christin Nordman, Geosigma

June 2004

Svensk Kärnbränslehantering AB

Swedish Nuclear Fuel and Waste Management Co Box 5864 SE-102 40 Stockholm Sweden Tel 08-459 84 00 +46 8 459 84 00 Fax 08-661 57 19 +46 8 661 57 19



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This report concerns a study which was conducted for SKB. The conclusions and viewpoints presented in the report are those of the author and do not necessarily coincide with those of the client.

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1 Introduction

This document reports the data gained by Boremap mapping of four percussion boreholes drilled within the site investigation at Forsmark.

HFM14 and HFM15 are located at drill site 5 (Figure 2-1), while HFM13 is drilled to study the lineament XFM0133A0 and HFM19 is drilled to study the lineament XFM0099A0. The boreholes will also be used for groundwater level monitoring and to gain hydrogeochemical data. Borehole HFM13 also provided the flushing water needed for drilling the core drilled part of borehole KFM05A.

The percussion drilled boreholes were after completion of drilling investigated with several logging methods, for example, conventional geophysical logging, borehole radar and TV-logging. The latter method implies logging with a colour TV-camera to produce images of the borehole wall, so called BIPS-images (Borehole Image Processing System). The method is described in SKB MD 222.006 (Metodbeskrivning för TV-loggning med BIPS).

Mapping of percussion boreholes according to the Boremap method is based on the use of BIPS-images of the borehole wall, supported by the study of drill cuttings. Although the rock is crushed into fine-grained fractions, the mineralogical composition of the samples can still be studied. During drilling, the sampling of drill cuttings is discontinuous, and this introduces a degree of uncertainty in the classification of the rock composition between the sampling points. However, the combination of BIPS-images and samples of drill cuttings offers a reasonably efficient method for a continuous mapping of the geology along the borehole.

The BIPS-images also enable the study of the distribution of fractures along the borehole. Fracture characteristics like aperture, colour of fracture minerals etc are possible to study as well. Furthermore, since the BIPS software has the potential of calculating strike and dip of planar structures such as foliations, rock contacts and fractures intersecting the borehole, also the orientation of each planar structure is documented with the Boremap method. Important to keep in mind is that the mappings only represent the thin lines of the boreholes that intersect the rock body.

2 Objective and scope

The aim of this activity was to document lithologies, ductile structures and the occurrence and character of fractures and fracture zones in the bedrock penetrated by the four percussion drilled boreholes HFM13–15 and HFM19, see Figure 2-1. Data were collected in order to obtain a foundation for a preliminary assessment of the bedrock conditions adjacent to the telescopic drilled borehole KFM05A and to study the lineaments XFM0133A0 and XFM0099A01 down to about 150 m depth. Other data obtained from the percussion drilled boreholes, such as thickness of soil cover, soil stratigraphy, groundwater level and groundwater flow, will not be treated in this paper.

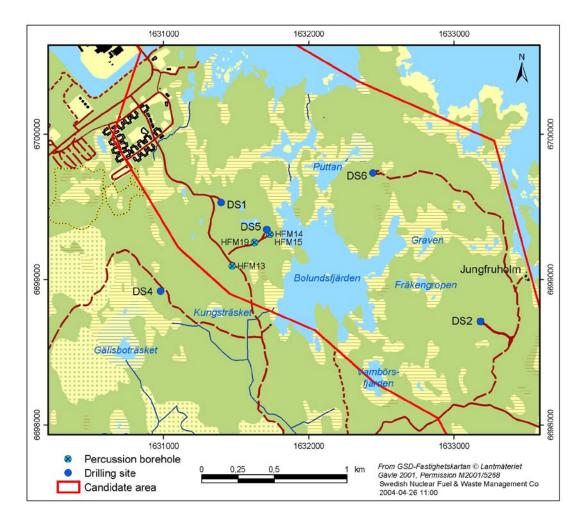


Figure 2-1. Borehole locations at drill site 5, Forsmark. DS 1 = drill site 1, DS 2 = drill site 2, DS 4 = drill site 4, DS 5 = drill site 5, DS 6 = drill site 6.

3 Equipment and methods

3.1 Software

Mapping was performed with the software Boremap v 3.3.5. The Boremap software calculates actual directions (strike and dip) of planar structures penetrated by the borehole (foliations, fractures, fracture zones, rock contacts etc). Data on inclination, bearing and diameter of the borehole are used as in-data for the calculations (Table 4-1). The Boremap software is loaded with the bedrock and mineral standard used by the Geological Survey of Sweden for surface mapping at the Forsmark investigation site to enable correlation with the surface geology.

Results from the investigaton of drill cuttings were documented in an Excel database, while the stereographic projections were plotted in StereoNet. Schematic presentations of the boreholes were presented in WellCad.

3.2 Other equipment

Stereo microscope, a day light lamp and an ordinary kitchen strainer were used to investigate drill cuttings.

3.3 BIPS-image quality

The BIPS-image quality of HFM13 is good. In the lower part of the borehole a very thin cover of precipitated suspensions cover 40–50% of the image. Still most geological features can be discerned through the covered parts.

The BIPS-image quality of HFM14 looks good at first, but the exposure of the BIPS-camera varies quite a lot. The section 67–83 m is probably overexposed, resulting in difficulties in interpreting fractures as open or sealed.

The BIPS-images of HFM15 are of poor quality, although the borehole has been logged three times with longer intervals between the loggings. The borehole fluid is rich in suspensions, which makes the BIPS-image diffuse and therefore only larger fractures can be discerned. The section 70–80 m has lowest quality. From approximately 87 m and downwards only 50% of the borehole wall is visible, while the other 50% is covered by mud. The BIPS-images of HFM15 are not good enough for mapping, resulting in relatively few observations.

The mapping of HFM19 was performed on two BIPS-images of the borehole. The first BIPS-image of HFM19 is relatively good to bad. The image is somewhat diffuse and in places only larger structures can be observed, i.e. rock contacts can be observed but not grain size, texture and thin fractures. The image seem to be of better quality from 115 m borehole length and downwards. Some stick-slip movements occur of the probe, but they are not disturbing the mapping.

Because of the poor quality of the BIPS-image of HFM19 the borehole was logged once more in May 2004. The mapping was then revised on the basis of the new BIPS-image. The new BIPS-image is of excellent quality with a few exceptions: the lightning of the image is poor in a few places: at approximately 109.5 m, 149.3 m and 150.1 m borehole length (rec depth) and the image is black from the crush zone at 170.2–170.5 m depth till the end of the borehole. Since the first BIPS-image of the borehole is good in this interval this is not considered to be a problem.

4 Execution

Boremap mapping of the percussion drilled boreholes HFM13–15 and HFM19 was performed and documented according to activity plan AP PF 400-03-106 (SKB, internal document) referring to the SKB method description for Boremap mapping (SKB MD 143.006, Version 1.0, Metodbeskrivning för Boremap-kartering).

4.1 Preparations

The lengths of the boreholes are listed in Table 4-1. Length corrections of the BIPS-images were made for all the boreholes. The BIPS-image of HFM13 was originally 174.43 m long but was corrected to 175.30 m long. The corresponding corrections for HFM14, HFM15 and HFM19 were 148.58 m to 149.33 m, 98.56 m to 99.06 m and 184.22 m to 184.9 m, respectively. The length of HFM19 is adjusted relative to the first BIPS-image. The corrections were made since it is known that the registered length in the BIPS-images in general deviates with approximately 0.5 m per 100 m from the real length, and that the last 30 cm of the boreholes cannot be logged with BIPS.

Background data collected from SICADA prior to the Boremap mapping included:

- borehole diameter (Appendix 10),
- total borehole length (Appendix 10),
- borehole deviation data (Appendix 11),
- drilling penetration rate (Appendix 12).

Geophysical logs from Geovista AB were used as supporting data for the boreholes HFM13–15 and HFM19 (Appendix 13).

Measurements of borehole directions were refined using deviation data from the SKB SICADA database (Field note no Forsmark 210, 258). Geometric data for boreholes HFM13–15 and 19 are given in Table 4-1.

Table 4-1. Borehole data for HFM13–15 and HFM19 (values from starting point).	

ID-code	Northing	Easting	Bearing (degrees)	Inclina- tion (degrees)	Diameter (mm)	Borehole length (m)	BIPS-image interval (adj. length in m)	End of casing	Appr. depth to bedrock surface (m)
HFM16	6699721	1632466	327.9	-84.2	140	132.50	12.0-129.47	12.0	2.6
HFM17	6699462	1633261	318.6	-84.1	137	210.65	8.0-209.21	8.0	0.5
HFM18	6698327	1634037	313.3	-59.4	139	180.65	8.0-180.34	9.0	1.7

4.2 Execution of measurements

Available geological information is more limited for Boremap mapping of percussion drilled boreholes than core drilled boreholes, where the drill core can be directly compared with BIPS-images of the borehole wall. During mapping of percussion boreholes, fractures can only be seen on the BIPS-images and rock samples are merely available as crushed fragments. As solid rock samples are not accessible, certain assumptions and simplifications have to be made during mapping. These are described below.

4.2.1 Fractures

As fractures could be studied only in the BIPS-image they could not be confidently classified as rough, smooth or slickensided, nor could their mineralogy or alteration be reliably determined. Hence, classifications of fracture minerals in the percussion boreholes should be treated with caution. The following assumptions were made:

- Width of very thin fractures (< 1 mm) were impossible to measure accurately and was therefore, as a rule, interpreted as 0.7–1 mm thick or, if only vaguely observed, as 0.5 mm thick.
- Fractures were assumed to be open if not clearly observed to be sealed.
- Dark coloured fractures were interpreted to contain some amount of chlorite (such colouration may, however, also be caused by shadows in the fracture walls or by other dark coloured minerals).
- Bright white (commonly sealed) fracture fillings were interpreted to contain calcite.
- White to greyish fracture material was interpreted as quartz and sometimes feldspar. In some cases the white strike in fractures seems to be a result of good light reflection and not of a white fracture mineral.
- Light green-grey fracture fillings were interpreted as prehnite.
- The fracture minerals in fractures that were only indicated by shadows were mapped as unknown mineral. Some fractures were mapped with unknown mineral fill, but has the colour of the fracture fill mentioned in the comments.
- Red fracture fills were mapped as hematite or oxidized walls, although pure hematite probably does not occur in the borehole. Hematite occurs as pigmentation in other minerals, for example feldspars and laumontite.
- A light grey fracture filling was mapped as X7 (stored in Boremap). No further judgment of the nature of this fracture filling has been made.

4.2.2 Rock colour and oxidation

Rock colour and oxidation documented during Boremap mapping was mainly classified from the observations of drill cuttings (dry samples). Minor differences in colour of drill cutting samples were usually not recognizable in the BIPS-images and were therefore not documented in Boremap.

Rock colours in the BIPS-images appear somewhat modified and bleached, and the classification of the colour of minor rock occurrences only observed in the BIPS-image is therefore likely to be less accurate. The varying exposure of the BIPS-camera as well as suspensions in the borehole water complicates the interpretation of oxidized sections, since sections with higher exposure are less reddish than sections with lower exposure and sections rich in suspensions look more brownish/reddish in BIPS than other sections.

4.2.3 Rock contacts

Orientation of irregular or diffuse rock contacts may be difficult to observe and measure with the Boremap method, since only planar and discrete features can be accurately measured.

4.2.4 Lithologies

Lithological classifications of minor rock occurrences were sometimes difficult, since the boreholes consist mostly of different granitic rocks. From the BIPS-image and the drill cuttings it is not easy to determine whether fine- or fine- to medium grained granites are "granite, fine- to medium grained" (D-type, code 111058), "granite, granodiorite and tonalite, metamorphic, fine- to medium grained" (C-type, code 101051) or "granite, metamorphic, aplitic" (C-type, code 101058). Even very thin occurrences of pegmatite (code 101061) can sometimes be difficult to separate from the rock occurrences mentioned earlier. Therefore some misinterpretations must be accounted for.

At the outcrop at drill site 5 fine- to medium grained granite, granodiorite and tonalite (C-type, code 101051) was quite frequently observed, but only few occurrences of 101051 were observed in the adjacent boreholes HFM14 and HFM15. Perhaps they were missed because of the low colour contrast between the two rock types at the locality. Usually they can also be separated by structural appearance, but in HFM14 and HFM15 it was difficult to see sharp transitions in structural appearance of the rock in the BIPS-images, and therefore most of the rock has been mapped as metagranite-granodiorite (code 101057).

Thin bands, veins or segregates of felsic rocks were commonly observed in the BIPSimages, but were often severely difficult to recognize in the drill cutting samples. The classification of these rock occurrences was therefore mainly based on observations in the BIPS-images.

When BIPS-images were not available, i.e. at the upper, cased part of the boreholes, rock classification was based on the observations of drill cuttings only. Therefore the exact positions of rock contacts are not certain.

4.2.5 Grain size

Classification of grain size can be difficult, especially for minor rock occurrences. If the mineralogy of the rock type in question does not differ from the dominating rock in which it is included, it may be difficult to separate the two lithologies in the fine-grained drill cutting samples. When the rock is composed of minerals of similar colours, the grain size can be overestimated when relying too much on the BIPS-images, since single grains are hard to distinguish.

Also classification of grain size in the drill cuttings can be treacherous. During drilling the rock has a tendency to break up through individual grains and not along grain boundaries, making the rock look more fine-grained in the drill cuttings than it actually is. This phenomenon is typical for the metagranite-granodiorite in the candidate area.

4.2.6 Foliation and lineation

Foliation and lineation are difficult to separate from each other in the BIPS-image, unless the deformation is strong. Some attempts have been made to separate the two in the Boremap mapping, but usually moderately dipping deformation has been interpreted as lineation, while steeply dipping deformation has been interpreted as foliation. This relation has been observed during regional mapping but the relationship is not definite and therefore some misinterpretations may occur.

The Boremap software does not yet calculate trend and plunge of linear features. Therefore the strike in Boremap for lineations should be recalculated with +90 in order to get the trend of the lineation. The dip in Boremap is equal to the plunge of the lineation.

4.2.7 Supporting data in Boremap-mapping

Data from investigation of drill-cuttings (Appendix 14) were used to support the classification of mineralogy and the extent of secondary alteration or deformation in lithological units observed in the BIPS-image.

Drilling penetration rate was used as supporting data for the geological interpretation (Appendix 12). For example, major anomalies of drilling penetration rate correlated well with crush zones.

After the Boremap mapping of HFM13–15 and HFM19 was completed, the boreholes were investigated with geophysics (Appendix 13). The new information from the geophysical logs was used to check and revise the earlier Boremap mappings.

4.3 Data handling

The mappings of drill cuttings and the Boremap mappings of HFM13–15 and HFM19 were performed on a local computer disk. When the mapping of drill cuttings was finished, the mapping was saved on Geosigma's network, while a back-up of the Boremap mapping was saved on Geosigma's network before each break exceeding 15 minutes. When the mappings were finished and quality checked by the author, the data was submitted to SKB.

Quality of mapping was also checked by a routine in the Boremap software before saving and exportation to SICADA.

All data, both the Boremap mapping and the investigation of the drill cuttings, are stored in the SKB SICADA database under Field note no Forsmark 322.

5 Results

Geology of the percussion drilled boreholes HFM13–15 and 19 corresponds well with the geology in the candidate area. See also P-report on detailed fracture mapping at drill site DS 5 /1/, and P-report on field data from bedrock mapping in the Forsmark area during 2002 /2/.

Results from the Boremap mapping are briefly described in Sections 5.1–5.4 below, and graphical presentations of the data are given in Appendices 1–8 (WellCad- and BIPS-images). Equal area stereo diagrams showing fractures are shown in Appendix 9.

5.1 HFM13

Lithologies

The dominant rock type of HFM13 is a medium-grained, lineated, greyish red, metagranitegranodiorite (86.3%). This is cut by several minor rock occurrences of pegmatite (6.2%), amphibolite (6.0%), fine-grained granites (codes 101058 and 111058, 0.9%) and an unknown granitic rock type here interpreted as the fine- to medium grained metagranite, -granodiorite to -tonalite (code 101051, 0.6%).

Fractures

Frequency of interpreted open fractures in HFM13 is calculated to about 1.4 open fractures/m from BIPS-images of the borehole (available between 14.9–175.3 m). Four densely fractured intervals were observed: 52.0-52.9 m (11.1 fractures/m), 74.5–76.0 m (8.0 fractures/m), 138.9–141.2 m (7.0 fractures/m) and 163.3–165.4 m (6.7 fractures/m). Two dominating fracture sets occur having the orientations $055^{\circ}/80-90^{\circ}$ (also overturned) and $060^{\circ}/20^{\circ}$. A less pronounced fracture set strikes ~ $340^{\circ}/80^{\circ}$. The first set is sub-parallel with the borehole orientation, and some of the fractures resemble horse tail fractures and may actually be artificial and caused by stress in the rock. The orientation pattern for interpreted sealed fractures is the same as for open fractures. The orientations of fractures are shown in Appendix 9.

A crushed section was observed between 20.29 m and 20.32 m having the orientation $120^{\circ}/20^{\circ}$.

5.2 HFM14

Lithologies

The dominant rock type of HFM14 is the same medium-grained, lineated, greyish red, metagranite-granodiorite (87.9%) as in HFM13. This is cut by several minor rock occurrences of pegmatite (8.7%), amphibolite (1.2%), fine-grained granites (codes 101058 and 111058, 2.1%) and a possible fine- to medium grained metagranite, -granodiorite to -tonalite (code 101051, 0.1%).

Fractures

Frequency of interpreted open fractures in HFM14 has been calculated to about 2.3 open fractures/m from BIPS images of the borehole (available between 3.1-149.3 m). Four densely fractured intervals were observed: 3.8-4.4 m (15.0 fractures/m), 67.9-75.7 m (10.3 fractures/m), 96.3-97.5 m (9.2 fractures/m) and 115.4-116.7 m (6.9 fractures/m). Three sets of open fractures were observed. The orientations of these are $125^{\circ}/10^{\circ}$, $060^{\circ}/90^{\circ}$ and $340^{\circ}/80^{\circ}$. The densely fractured section occurring at 67.9-75.7 m belongs to the sub-horizontal fracture set. The dominating sets of interpreted sealed fractures have the orientations $270^{\circ}/10^{\circ}$ and $125^{\circ}/15^{\circ}$. Less pronounced sets of sealed fractures are orientated $235^{\circ}/90^{\circ}$ and $350^{\circ}/80^{\circ}$. Fracture orientations are shown in Appendix 9.

Crushed sections are observed at the following borehole lengths (with orientations in parentheses): 3.42-3.81 m (~ $210^{\circ}/15^{\circ}$), 49.73-49.76 m (~ $330^{\circ}/05^{\circ}$), 98.91-99.05 m (~ $185^{\circ}/20^{\circ}$), 100.84-101.14 m (horizontal), 102.08-102.13 (~ $230^{\circ}/10^{\circ}$), 102.19-102.24 m (~ $230^{\circ}/15^{\circ}$) and 103.01-103.33 m (~ $170^{\circ}/10^{\circ}$).

5.3 HFM15

Lithologies

The dominant rock type of HFM15 is a medium-grained, lineated, greyish red, metagranitegranodiorite (93.1%). This is cut by several minor rock occurrences of pegmatite (5.3%), amphibolite (0.3%) and fine-grained granites (codes 101058 and 111058, 1.3%).

Fractures

Frequency of interpreted open fractures in HFM15 is calculated to be 1.6 open fractures/m (from BIPS-image of the borehole, available between 6.0–99.0 m). Two densely fractured intervals were observed: 86.5–90.3 m (7.4 fractures/m) and 93.5–95.7 m (6.8 fractures/m). Two dominating sets of open fractures were observed having the orientations $085^{\circ}/10^{\circ}$ and $240^{\circ}/80^{\circ}$. A less pronounced fracture set is orientated $335^{\circ}/85^{\circ}$. The densely fractured intervals belong to the sub-horizontal fracture set. The mapped sealed fractures are few and show varying orientations. The orientations of fractures are shown in Appendix 9.

Two crushed sections were observed, the first one occurs roughly in the interval 4.3-4.9 m. This crushed section was only observed during drilling (Appendix 12), since it is now hidden behind the casing. Another crushed section is observed at 10.81–10.95 m having the rough orientation $045^{\circ}/55^{\circ}$.

5.4 HFM19

Lithologies

The dominant rock type of HFM19 is a medium-grained, lineated, greyish red to pinkish grey, metagranite-granodiorite (84.7%). This is cut by several minor rock occurrences of pegmatite (4.3%), amphibolite (5.1%) and fine-grained granites (codes 101058 and 111058, 5.7%). A possible fine- to medium grained metagranite, granodiorite and tonalite comprise 0.2% of the borehole.

Fractures

Frequency of interpreted open fractures in HFM19 is calculated to 1.6 open fractures/m (from BIPS-image of the borehole, available between 12.0–184.9 m). Three densely fractured intervals were observed: 122.0–123.4 m (8.7 fractures/m), 142.6–144.2 m (10.0 fractures/m) and 175.2–176.0m (16.2 fractures/m). Two dominating open fracture sets were observed having the orientations $075^{\circ}/15^{\circ}$ and $055^{\circ}/90^{\circ}$. Another possible fracture set is orientated $055^{\circ}/50^{\circ}$. The dominating sets of interpreted sealed fractures are orientated $235^{\circ}/85^{\circ}$, $345^{\circ}/80^{\circ}$, $050^{\circ}/20^{\circ}$ and $240^{\circ}/20^{\circ}$. The orientations of fractures are shown in Appendix 9.

Two crushed sections were observed, the first one at 12.43–12.53 m borehole length striking 188°/40° and the second at 170.21–170.55 m borehole length striking roughly 040°/30°. The latter is possibly not a real crushed section but it looks really damaged in BIPS. The lower limit of the latter section is a relatively large open fracture.

5.5 Discussion

From the above described working procedures, it is understood that Boremap mapping of percussion drilled boreholes suffers from certain shortcomings compared to the corresponding method for core drilled boreholes. For example, classification of thin fractures as open or sealed, classification of fracture minerals and identification of the colour and grain size of minor rock occurrences are clearly problematic.

The varying exposure of the BIPS-camera as well as suspensions in the borehole water may complicate the interpretation of oxidized sections, since sections with higher exposure are less reddish than sections with lower exposure and sections rich in suspensions look more brownish/reddish in BIPS than other sections. This variation in colour may be greater than the variation in colour due to oxidation of the rock.

An example of locally bleached BIPS-images is the white streak in fractures that seems to be a result of good light reflection and not of a white fracture mineral. In HFM13 these streaks have usually been interpreted as quartz but this interpretation was abandoned for the other boreholes.

Geophysical data were of some help in interpreting the rock types, and a few reinterpretations were made when the geophysics were finally compared with the first Boremap mapping of HFM13–14 and 19.

Neither geophysics nor the observation of drill cuttings can easily separate different fineor medium-grained granitic rocks from each other, for example, the metagranite to granodiorite (code 101057) from the fine- to medium-grained granite-granodiorite-tonalite (code 101051). This separation has to be done only on the basis of the BIPS-image and does hence require good BIPS-images and usually also higher pixel resolution than what is pused today.

The mapping also benefits from synchronous analysis of supporting data from the drilling, such as drilling penetration rate and flush-water colour, and, not least, observations of drill cores and outcrops from the same drill site.

6 References

- /1/ Stephens M B, Lundqvist S, Bergman T, Andersson J, Ekström M, 2003. Forsmark site investigation. Bedrock mapping – Rock types, their petrographic and geochemical characteristics, and a structural analysis of the bedrock based on Stage 1 (2002) surface data. SKB P-03-75, Svensk Kärnbränslehantering AB.
- /2/ Stephens M B, Bergman T, Andersson J, Hermansson T, Petersson J, Zetterström E L, Nordman C, Albrecht L, Ekström M, 2004. Forsmark site investigation. Bedrock mapping – Stage 2 (2003) – Bedrock data from outcrops and the basal parts of trenches and shallow boreholes through the Quaternary cover. SKB P-04-91, Svensk Kärnbränslehantering AB.

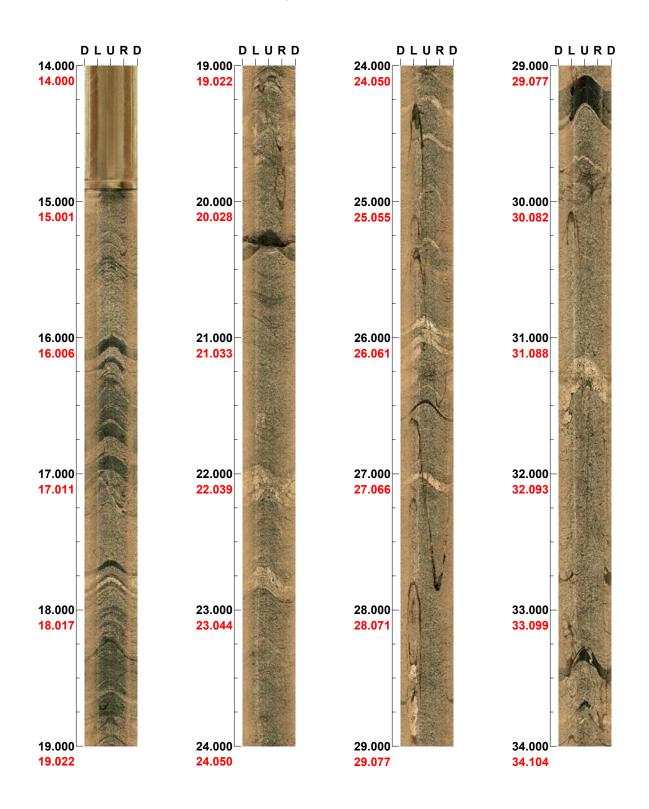
Appendix 1

BIPS-images of HFM13

Project name: Forsmark

Image file	: c:\304179~1\hfm13.bip				
BDT file	: c:\304179~1\hfm13.bdt				
Locality	: FORSMARK				
Bore hole number	: HFM13				
Date	: 03/10/21				
Time	: 14:42:00				
Depth range	: 14.000 - 174.472 m				
Azimuth	: 50				
Inclination	: -60				
Diameter	: 137.0 mm				
Magnetic declination	: 0.0				
Span	: 4				
Scan interval	: 0.25				
Scan direction	: To bottom				
Scale	: 1/25				
Aspect ratio	: 90 %				
Pages	: 9				
Color	: +0 +0				

Azimuth: 50



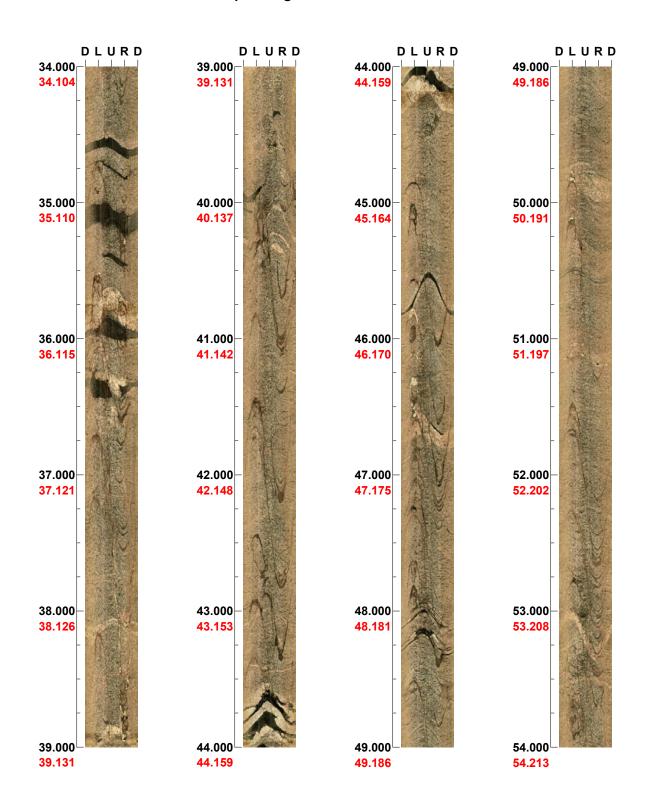
Depth range: 14.000 - 34.000 m

(1/9)

Scale: 1/25

Azimuth: 54

Inclination: -60

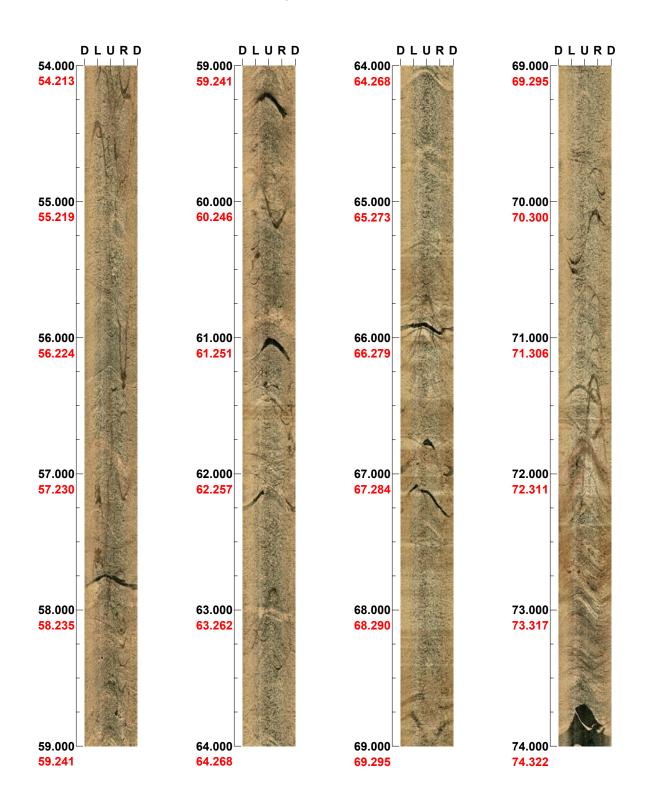


Depth range: 34.000 - 54.000 m

(2/9) Scale: 1/25

Azimuth: 61





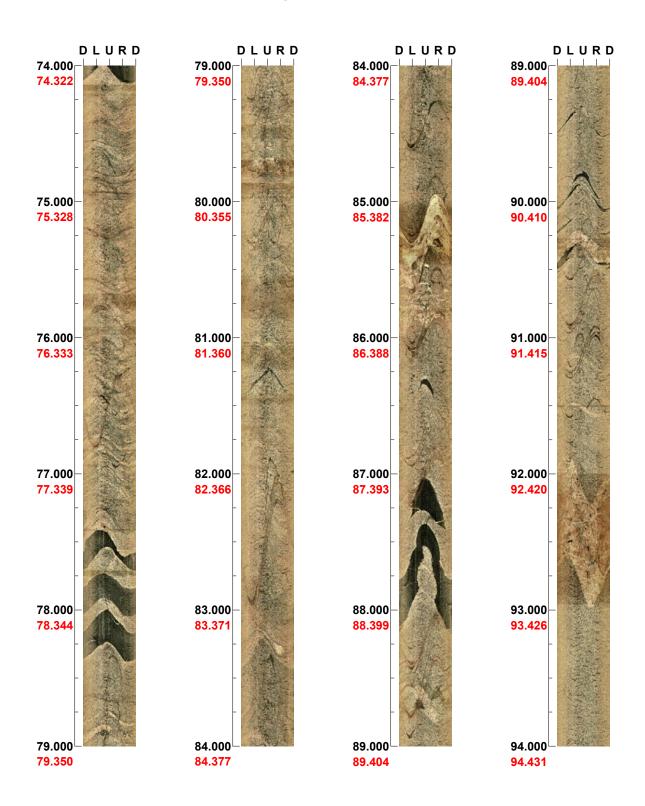
Depth range: 54.000 - 74.000 m

(3/9)

Scale: 1/25

Azimuth: 63

Inclination: -61

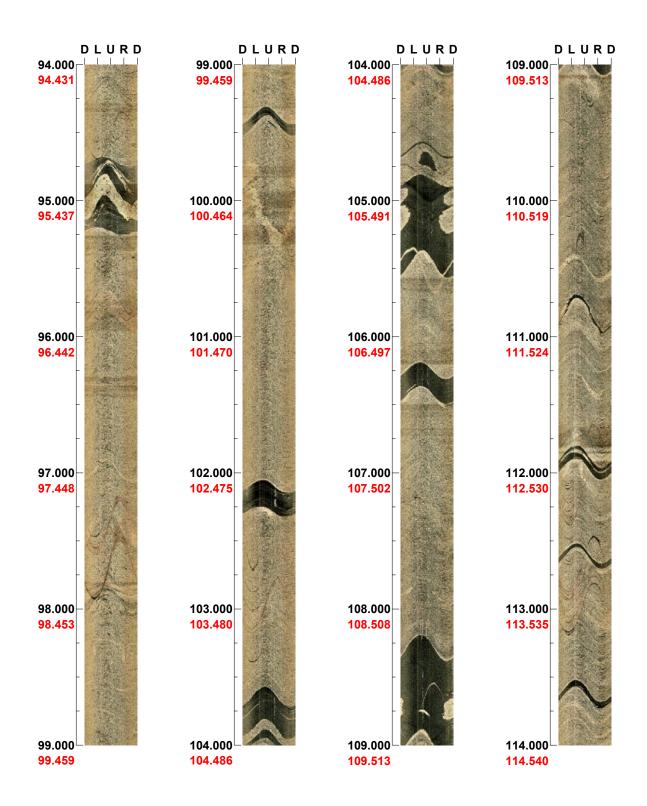


Depth range: 74.000 - 94.000 m

(4/9) Scale: 1/25

Azimuth: 70





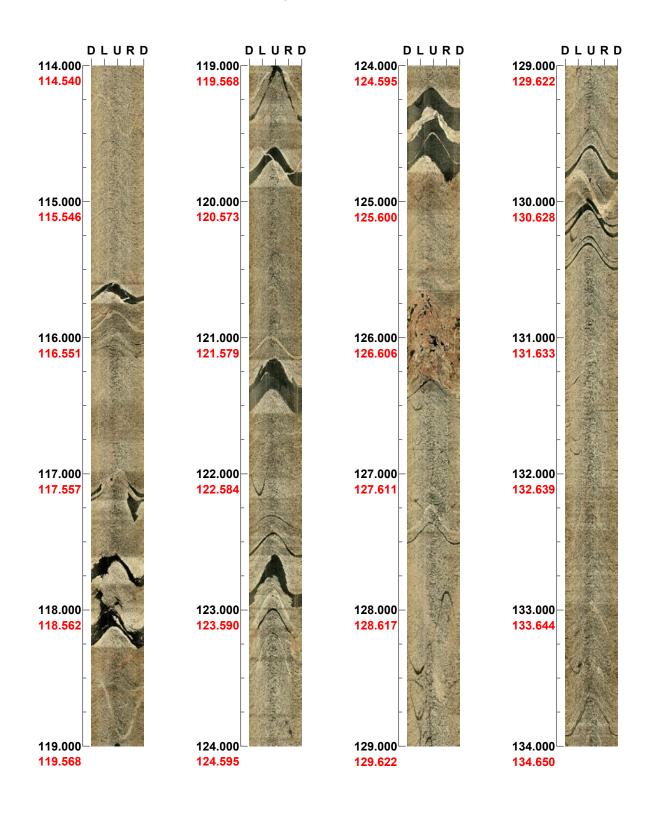
Depth range: 94.000 - 114.000 m

(5/9)

Scale: 1/25

Azimuth: 76

Inclination: -60

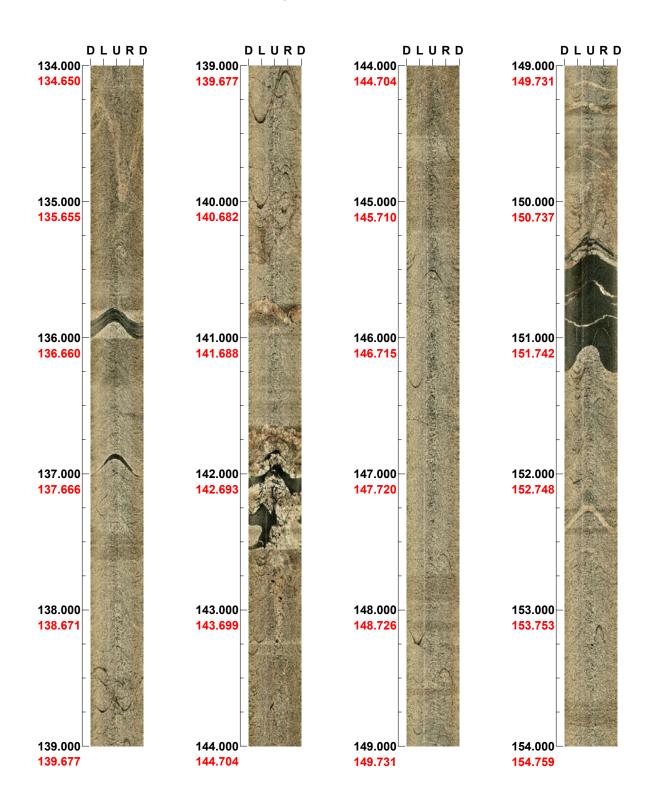


Depth range: 114.000 - 134.000 m

(6/9) Scale: 1/25

Azimuth: 77

Inclination: -60



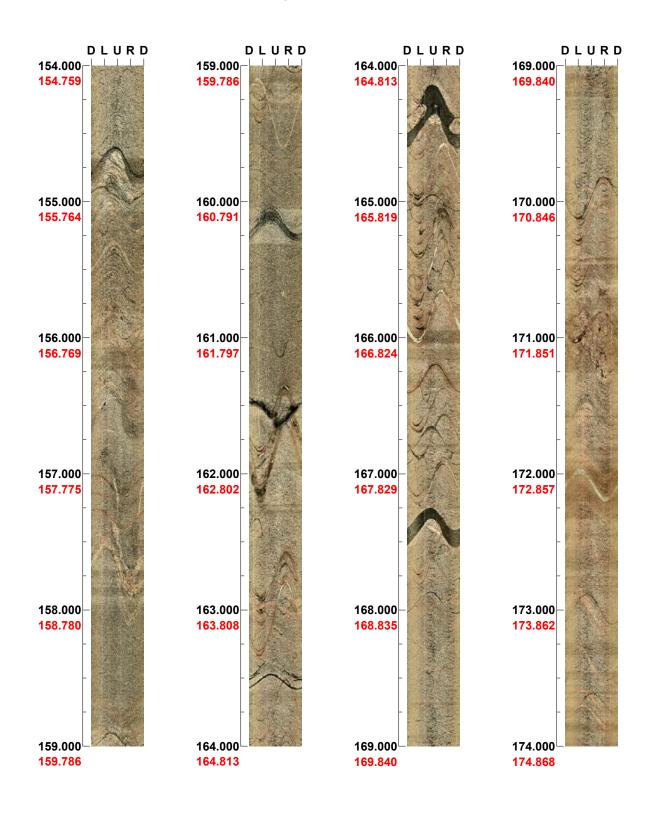
Depth range: 134.000 - 154.000 m

(7/9)

Scale: 1/25

Azimuth: 80

Inclination: -59



Depth range: 154.000 - 174.000 m

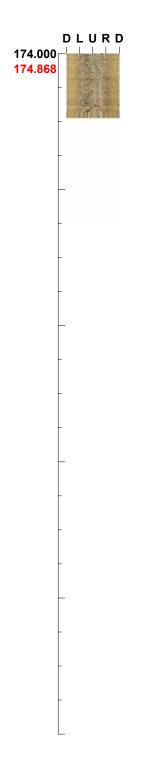
Scale: 1/25

Aspect ratio: 90 %

(8/9)

Azimuth: 84 Inclination: -58

Depth range: 174.000 - 174.472 m



(9/9) Scale: 1/25 Aspect ratio: 90 %

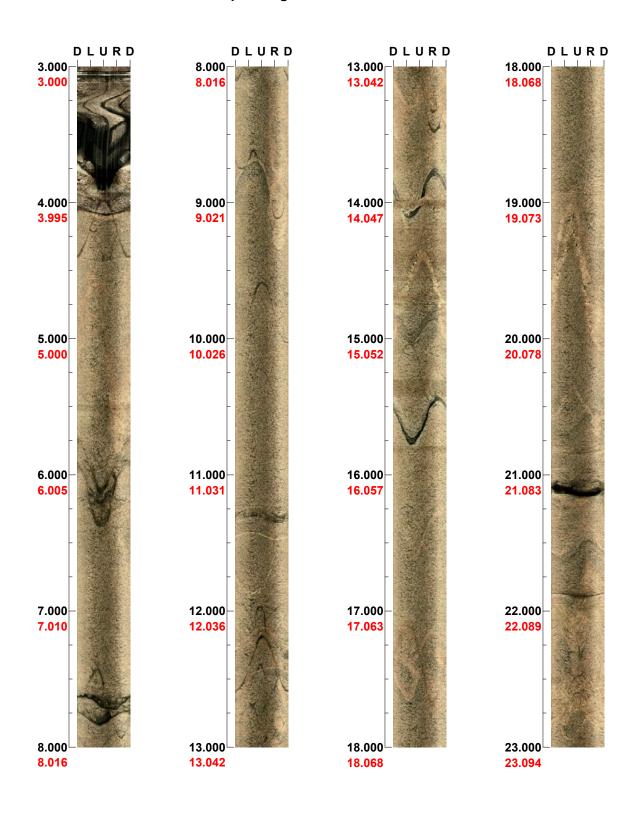
Appendix 2

BIPS-images of HFM14

Project name: Forsmark

Image file	: c:\304179~1\hfm14.bip				
BDT file	: c:\304179~1\hfm14.bdt				
Locality	: FORSMARK				
Bore hole number	: HFM14				
Date	: 03/10/21				
Time	: 10:44:00				
Depth range	: 3.000 - 148.581 m				
Azimuth	: 331				
Inclination	: -60				
Diameter	: 137.0 mm				
Magnetic declination	: 0.0				
Span	: 4				
Scan interval	: 0.25				
Scan direction	: To bottom				
Scale	: 1/25				
Aspect ratio	: 90 %				
Pages	: 8				
Color	: +0 +0				

Azimuth: 331



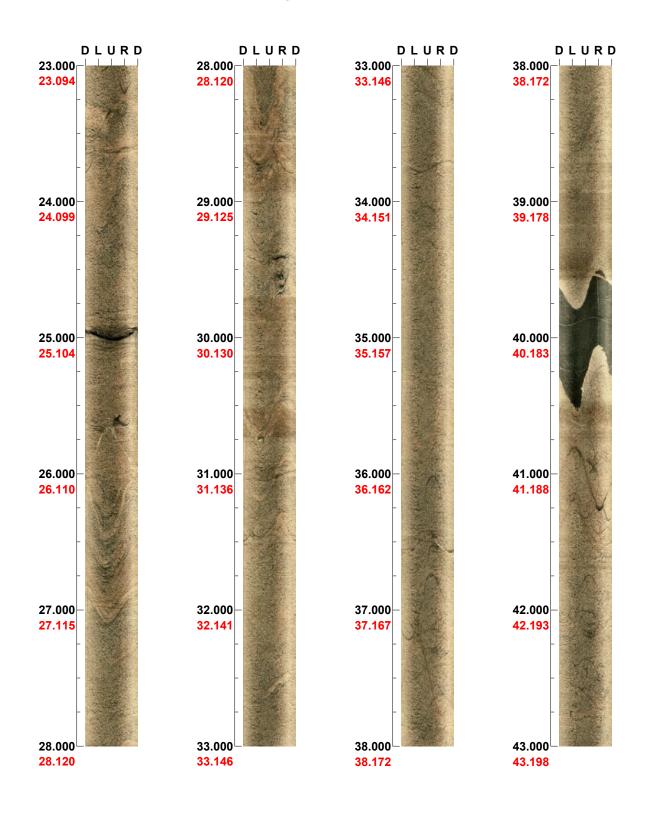
Depth range: 3.000 - 23.000 m

(1/8)

Scale: 1/25

Azimuth: 328

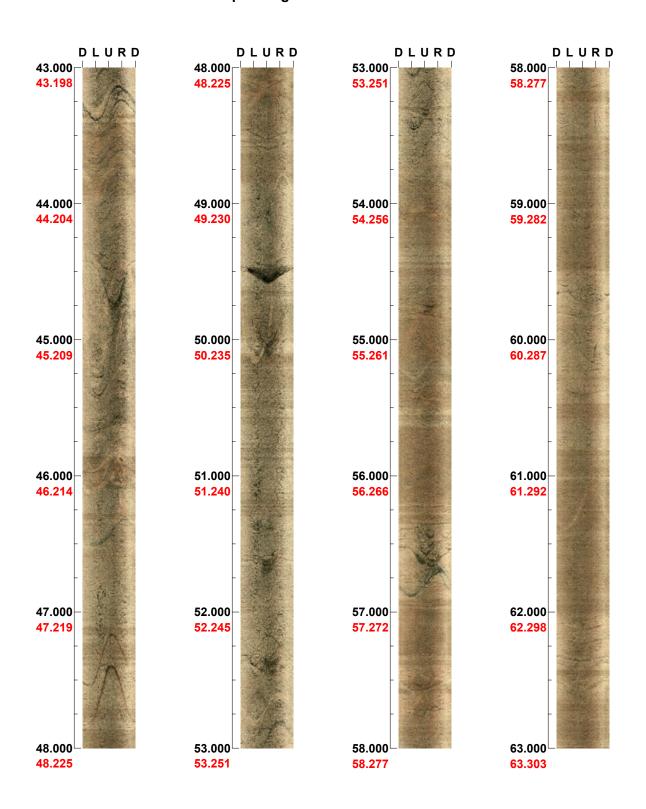
Inclination: -60



Depth range: 23.000 - 43.000 m

(2/8) Scale: 1/25

Azimuth: 320 Inclination: -61



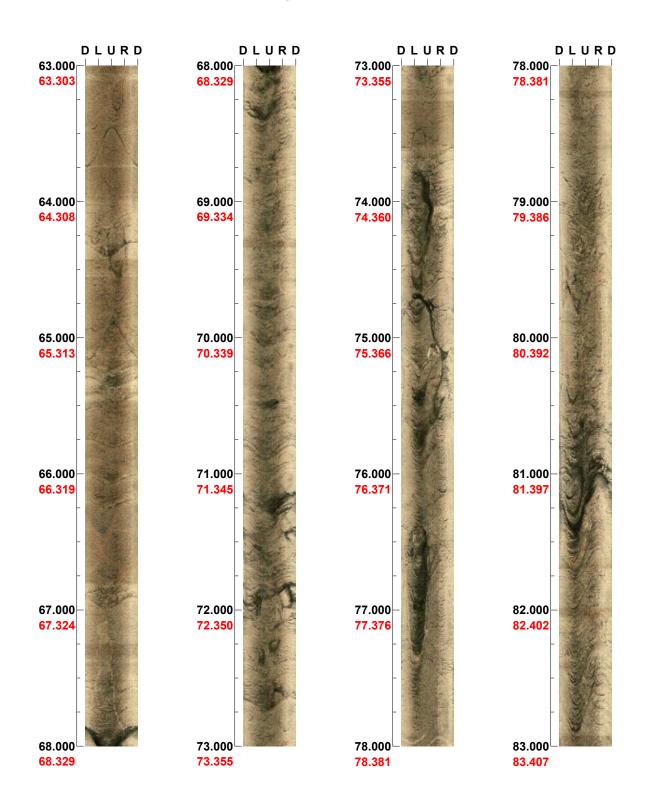
Depth range: 43.000 - 63.000 m

(3/8)

Scale: 1/25

Azimuth: 319 li

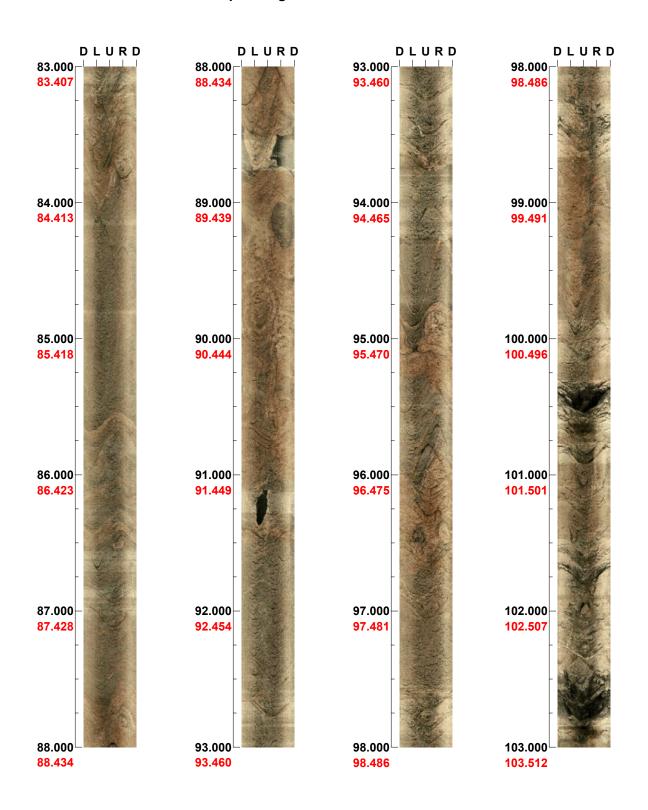




Depth range: 63.000 - 83.000 m

(4/8) Scale: 1/25

Azimuth: 314 Inclination: -61

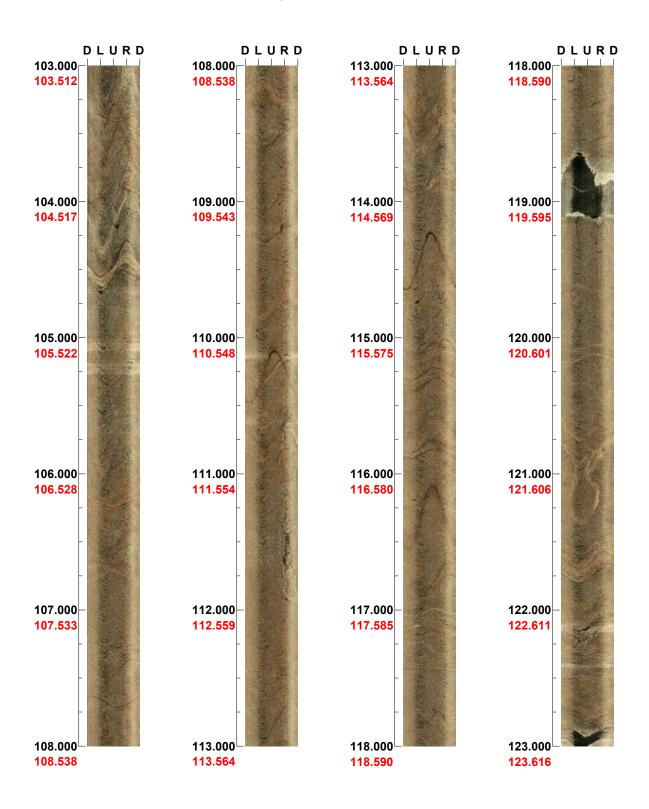


Depth range: 83.000 - 103.000 m

(5/8)

Scale: 1/25

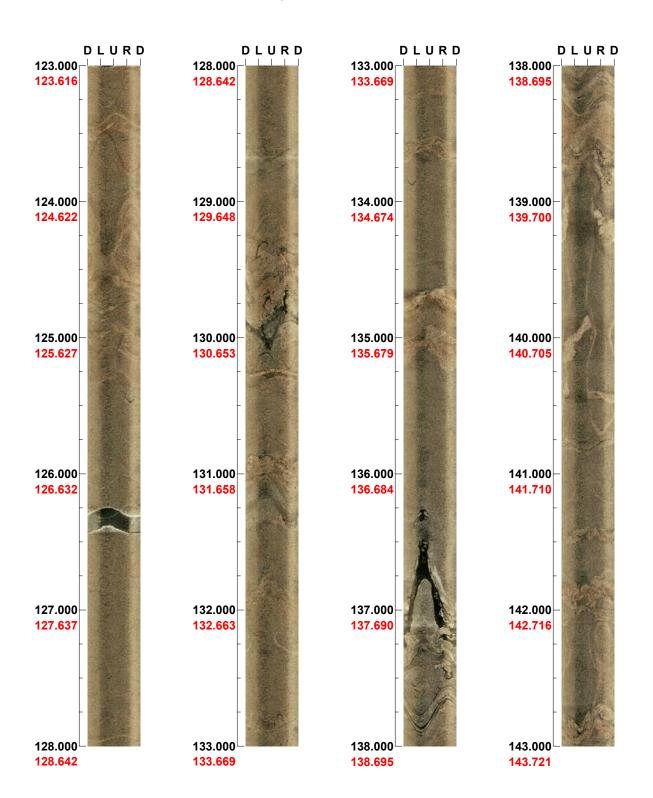
Azimuth: 302 Inclination: -60



Depth range: 103.000 - 123.000 m

(6/8) Scale: 1/25

Azimuth: 307 Inclination: -59



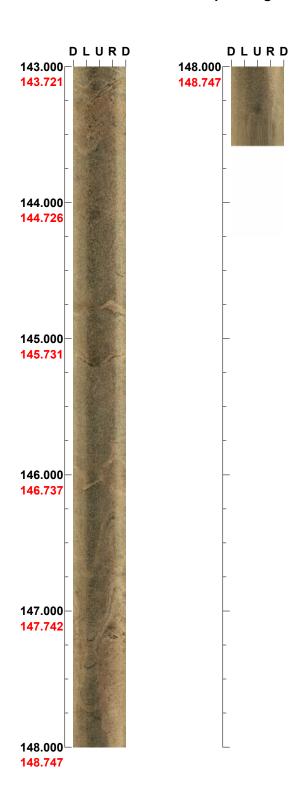
Depth range: 123.000 - 143.000 m

(7/8)

Scale: 1/25

Azimuth: 305 Inclina

Inclination: -59



Depth range: 143.000 - 148.581 m

(8/8) Scale: 1/25 Aspect ratio: 90 %

Appendix 3

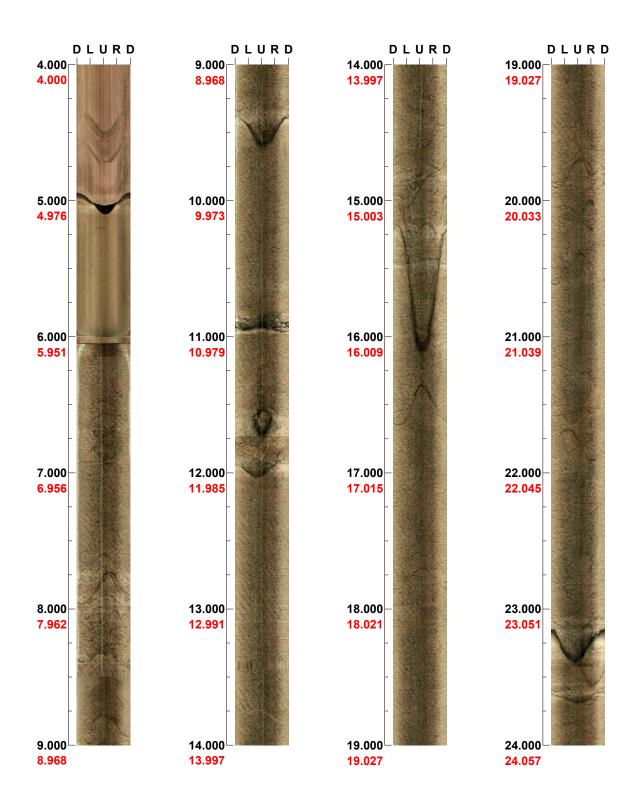
BIPS-images of HFM15

Project name: Forsmark

Image file	: c:\304179~1\hfm15.bip				
BDT file	: c:\304179~1\hfm15.bdt				
Locality	: FORSMARK				
Bore hole number	: HFM15				
Date	: 03/10/21				
Time	: 09:17:00				
Depth range	: 4.000 - 98.564 m				
Azimuth	: 313				
Inclination	: -44				
Diameter	: 139.0 mm				
Magnetic declination	: 0.0				
Span	: 4				
Scan interval	: 0.25				
Scan direction	: To bottom				
Scale	: 1/25				
Aspect ratio	: 90 %				
Pages	: 5				
Color	: +0 +0				

Azimuth: 313

Inclination: -44



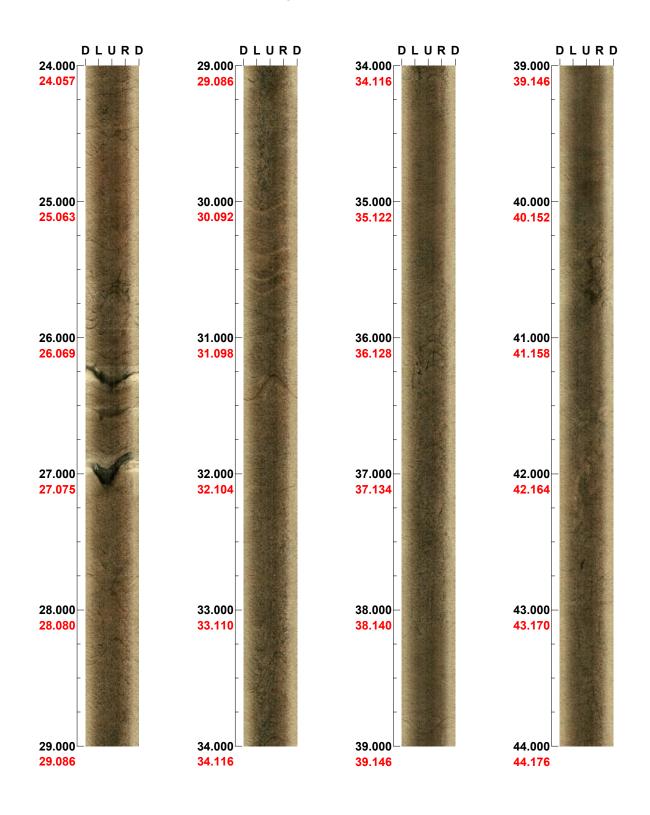
Depth range: 4.000 - 24.000 m

(1/5)

Scale: 1/25

Azimuth: 311 I

Inclination: -45



Depth range: 24.000 - 44.000 m

(2/5) Scale: 1/25

Azimuth: 307 Inclination: -45



Depth range: 44.000 - 64.000 m

(3/5)

Scale: 1/25

Azimuth: 301

Inclination: -45



Depth range: 64.000 - 84.000 m

(4/5)

Scale: 1/25

Azimuth: 298

Inclination: -43



Depth range: 84.000 - 98.564 m

(5/5)

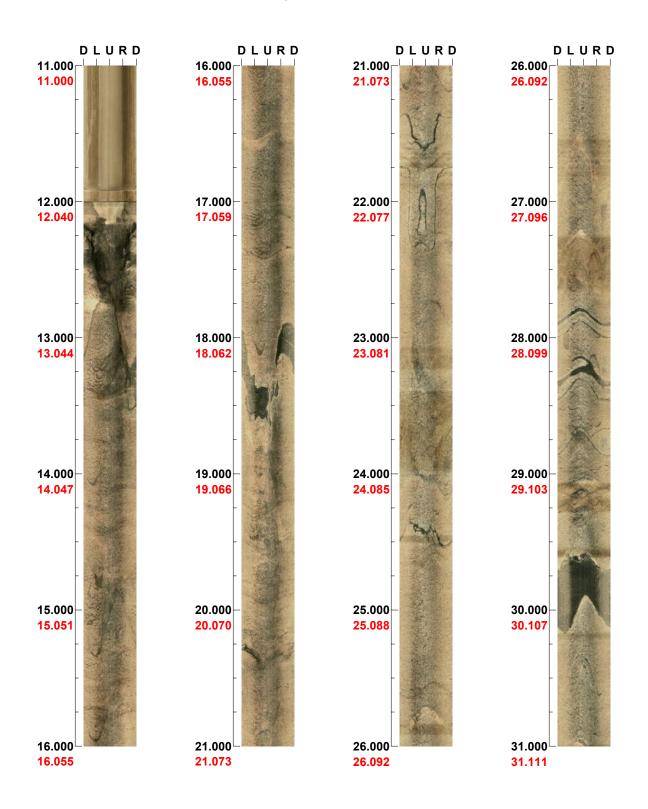
Scale: 1/25

BIPS-images of HFM19

Project name: Forsmark

Image file	: c:\304179~1\hfm19.bip
BDT file	: c:\304179~1\hfm19.bdt
Locality	: FORSMARK
Bore hole number	: HFM19
Date	: 04/01/16
Time	: 08:14:00
Depth range	: 11.000 - 184.408 m
Azimuth	: 277
Inclination	: -58
Diameter	: 137.0 mm
Magnetic declination	: 0.0
Span	: 4
Scan interval	: 0.25
Scan direction	: To bottom
Scale	: 1/25
Aspect ratio	: 90 %
Pages	: 9
Color	: +0 +0

Azimuth: 277 Inclination: -58



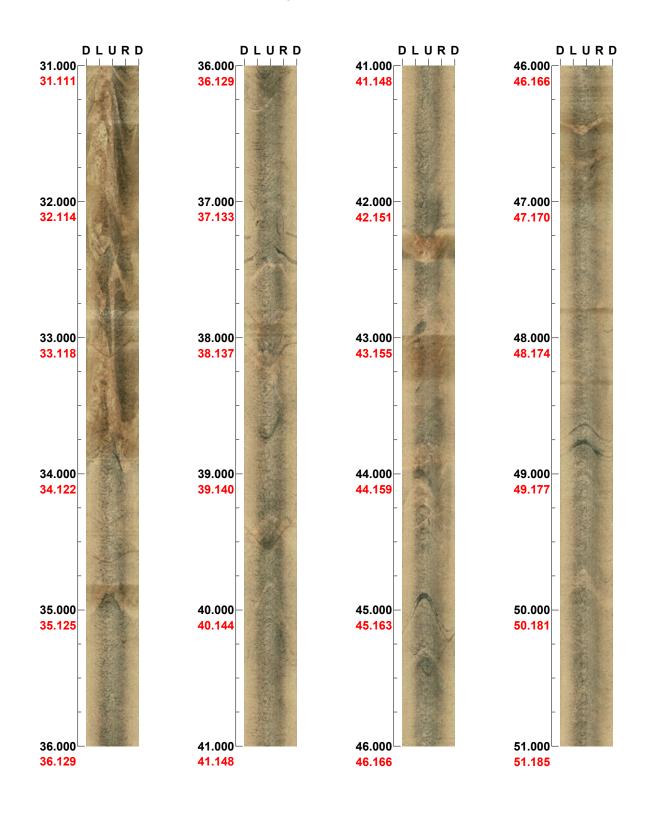
Depth range: 11.000 - 31.000 m

(1/9)

Scale: 1/25

Azimuth: 275 II

Inclination: -57



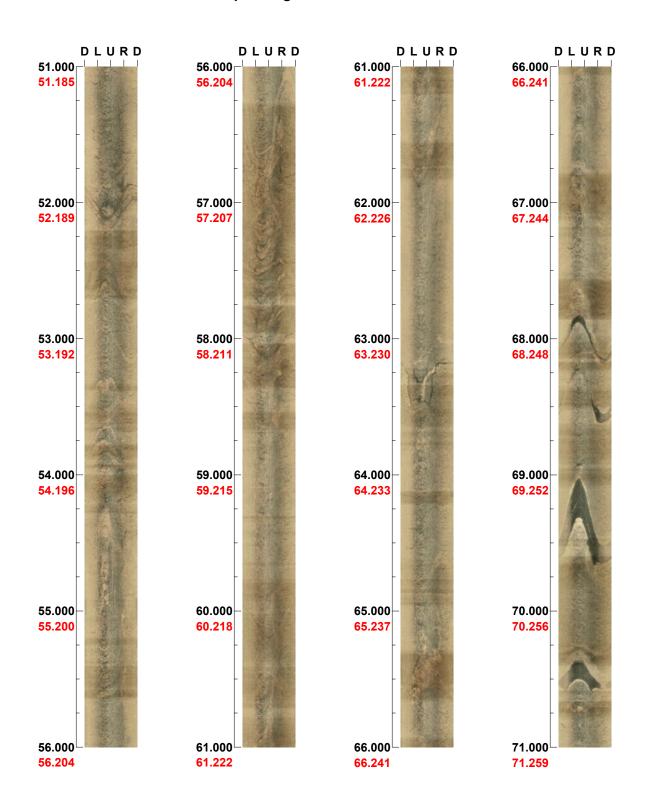
Depth range: 31.000 - 51.000 m

Scale: 1/25

Aspect ratio: 90 %

(2/9)

Azimuth: 275 Inclination: -54



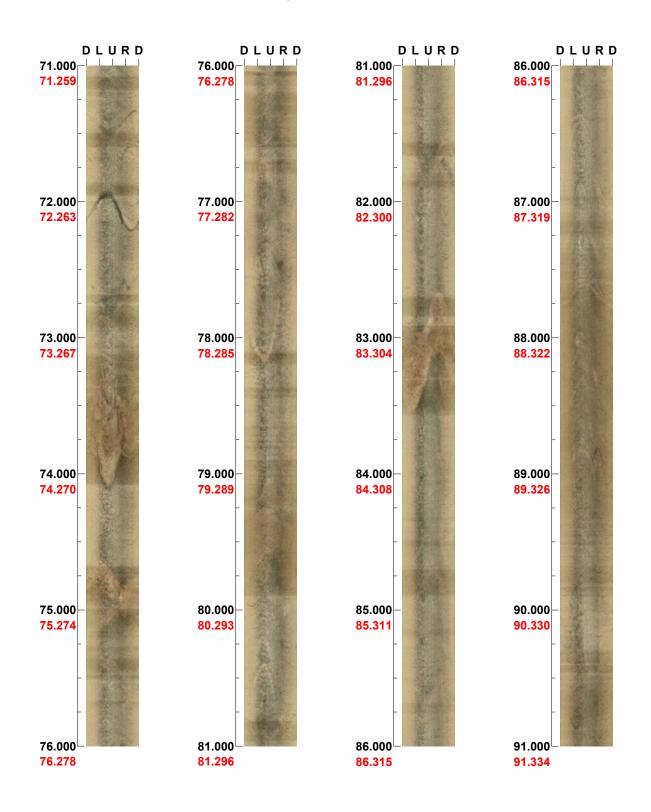
Depth range: 51.000 - 71.000 m

(3/9)

Scale: 1/25

Azimuth: 274

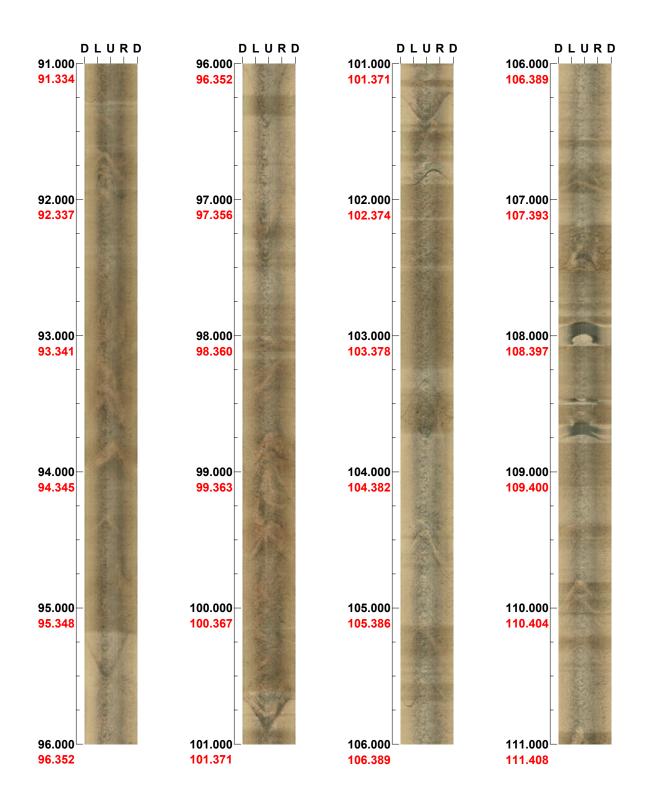
Inclination: -53



Depth range: 71.000 - 91.000 m

(4/9) Scale: 1/25

Azimuth: 273 Inclination: -50



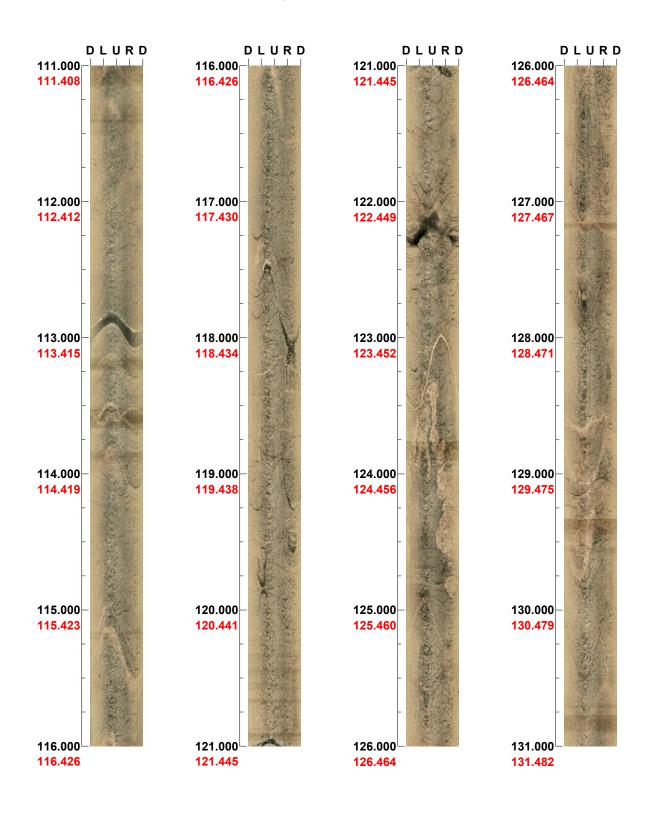
Depth range: 91.000 - 111.000 m

(5/9)

Scale: 1/25

Azimuth: 273 Inc

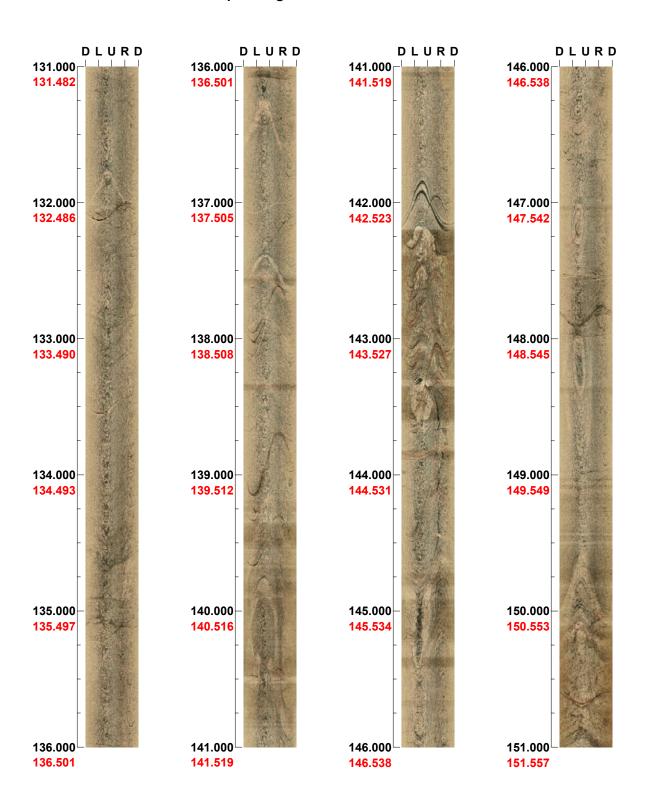
Inclination: -50



Depth range: 111.000 - 131.000 m

(6/9) Scale: 1/25

Azimuth: 272 Inclination: -50

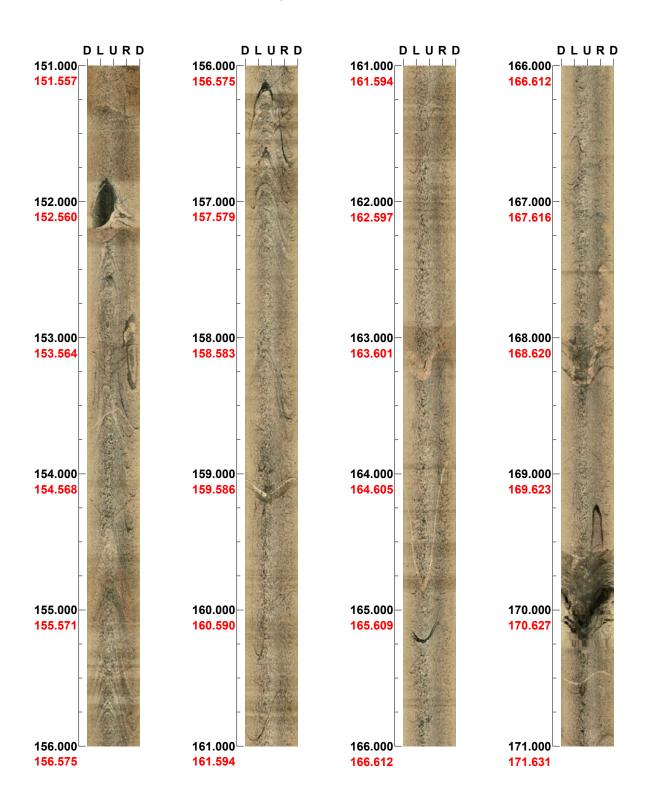


Depth range: 131.000 - 151.000 m

(7/9)

Scale: 1/25

Azimuth: 272 Inclination: -49



Depth range: 151.000 - 171.000 m

Scale: 1/25

Aspect ratio: 90 %

55

(8/9)

Azimuth: 272

Inclination: -49



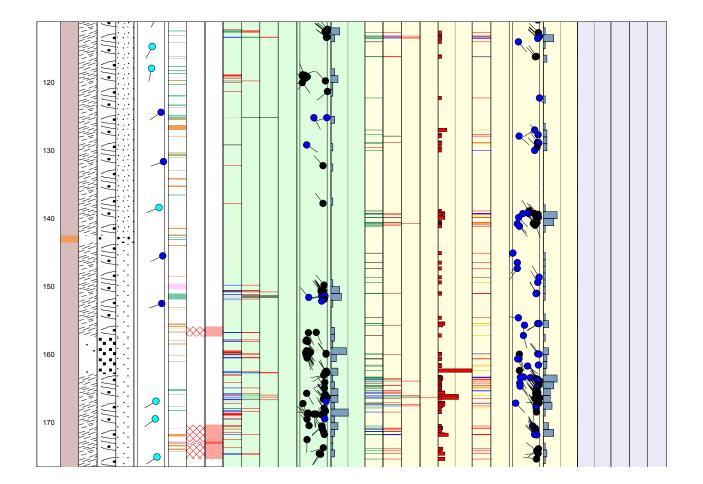
Depth range: 171.000 - 184.408 m

(9/9)

Scale: 1/25

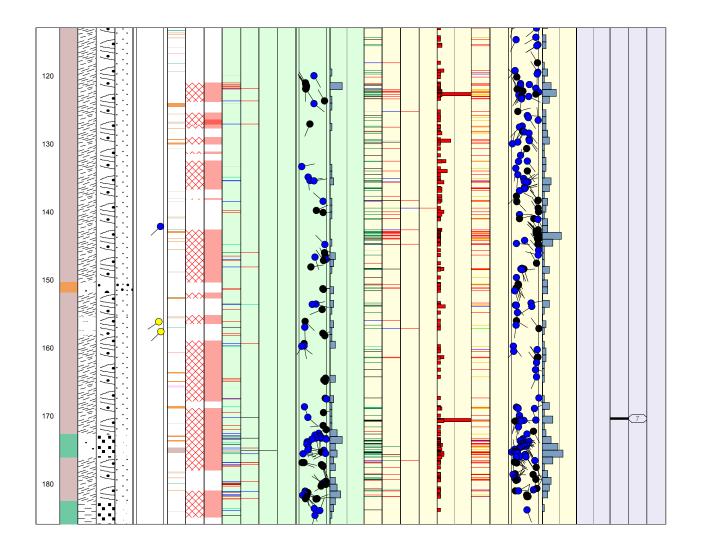
Title	Geological le	egend for the boreholes H	FM13	3-15 and HFM	I19 at Forsmark
SK	Site Borehole Plot Date				
ROCKTYPE FC	DRSMARK		ROCK AL	TERATION	MINERAL
Gran	ite, fine- to medium-grain	ned	\boxtimes	Oxidized	Epidote
Pegm	atite, pegmatitic granite		\boxtimes	Chloritisized	Hematite
Gran	itoid, metamorphic			Epidotisized	Calcite
Gran	ite, granodiorite and tona	lite, metamorphic, fine- to medium-grained	\boxtimes	Weathered	Chlorite
	ite, metamorphic, aplitic			Tectonized	Quartz
	_	norphic, medium-grained		Sericitisized	Unknown
	odiorite, metamorphic			Quartz dissolution	Oxidized Walls
	lite to granodiorite, metar	-		Silicification	
	te, quarts diorite and gab mafic rock, metamorphic	-		Argillization	
	hibolite			Albitization	
	silicate rock (skarn)			Carbonatization Saussuritization	
		ciated with calc-silicate rock (skarn)		Steatitization	
	nide mineralization			Uralitization	
Felsic	c to intermediate volcanic	rock, metamorphic	XXXXXXXX	Crantization	
Mafic	c volcanic rock, metamorj	phic			
Sedin	nentary rock, metamorph	ic			
STRUCTURE	S	TRUCTURE ORIENTATION	INTENSI	TY	FRACTURE ALTERATION
Cata	clastic	Schistose		No intensity	/
Schis	stose			Faint	 Slightly Altered
++* Gneis	ssic	Gneissic		Weak	,
Mylo				Medium	Moderately Altered
	ile Shear Zone	o Bedded		Strong	,
	le-Ductile Zone		ROUGHN	NESS	 Highly Altered
Veine		Cataclastic		Planar	
Band				Undulating	Completely Altered
Mass		Ductile Shear Zone		Stepped	
	ciated	Ducine Shear Zone		Irregular	Gouge
	ciated	Brittle-Ductile Shear Zone	SURFAC	E	
TEXTURE	ifelsed			Rough	Fresh
	hyritic			Smooth	
Comparison of the second secon	-	Veined Veined		Slickensided	
	granular		00.101		
	en-Bearing	♥ Banded	CRUSH	ALTERATION Slightly Altered	FRACTURE DIRECTION STRUKTURE ORIENTATION
••• Non_	equigranular	_		Moderately Altered	Dip Direction 0 - 360°
C Meta	morphic	C Lineated		Highly Altered	0/360°
GRAINSIZE		/		Completley Altered	
Apha	initic	Brecciated		Gouge	
Fine g	grained	/		Fresh	270° — 90°
Fine t	to Medium Grained	Mylonitic			
Medi	um coarse	/			400 %
Coars	se grained	 Foliated 			180° Dip 0 - 90°
Medi	um grained				

Τ	itle	e																											
	Site FORSMARK Borehole HFM14 Diameter [mm] 136 Length [m] 150.500 Bearing [°] 331.75 Inclination [°] -59.80 Date of mapping 2004-06-14 14:0 Rocktype data from p_rock_XXXX2								14:09)			Noi Eas Ele Dri Dri Plo	rthin sting vatio Iling Iling t Dat	n [m. Start Stop	.a.s. t Da Da	.l.] ite te	669 163 3.9 200 200 200	90-R 9311 1734 3-10 3-10 4-06 ract_	3.14 4.59)-06)-09 5-14	14: 15: 21:	00:0	0					
LENGTH				RO	СКТҮРЕ					SI	EALE	ED FR	ACTUR	ES			OF	PEN A	ND I	PARTL	Y OPE	N FF	RACTUR	RES		SEALED	WORK	CRU	CORELOSS
1:500	ТҮРЕ	Structure	Texture	Grainsize	O Structure Orientation Dip dir./ Dip	C Rock Type	Alteration	Intensity	Primary Mineral	Secondary Mineral	Third Mineral	Fourth Mineral	o Alteration and Dip direction	o Fracture	(trieduency (fr/1m) 50	Primary Mineral	Secondary Mineral	Third Mineral	Fourth Mineral	⁰ Aperture (mm)	n n n	Surface		0 Fracture	67 Frequency (fr/1m)	(fr/1		Alteration	Length / mm COR
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30			1/1/1/1/1/																										
40			117 /17 /11		•								9 0																
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60												=																	
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90			·//•///									-																	
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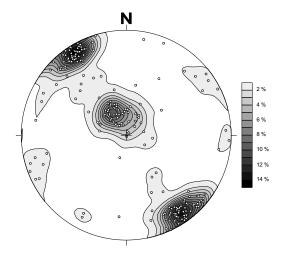


Τ	itle																														
									1:00)			Nor Eas Ele Dri Dri Plo	ordi rthin sting vati illing illing ot Da actu	ng [1 g [m] on [g Sta g Sta g Sta	n] m.a. art D p D	s.l.] Date ate		66 16 3.8 20 20 20	F90-R 99312 31733 88 03-10 03-10 04-06 fract_	2.44 3.08)-13)-15 5-14	12: 11: 21:	:00:0	00							
LENGTH				ROO						SE	ALE	D FR	ACTUR	ES			0	PEN	AND	PART	'LY O	PENI	FRA	CTUR	RES		ALED	NETWORK	CRL	лзн	CORELOSS
1:500	ТҮРЕ	Structure	Texture	Grainsize	O Structure Orientation Dip dir./ Dip	Rock Type < 1m	Alteration	Intensity	Primary Mineral	Secondary Mineral	Third Mineral		୦ Alteration and Dip direction	o Fracture	2 (fr/1m)	Primary Mineral	Secondary Mineral	Third Mineral	Fourth Mineral	O Aperture (mm)	5	Surface	0	Alteration and ω Dip direction		C Fracture Frequency (fr/1m)		1m) 50	Alteration	Piece Length / mm	COF
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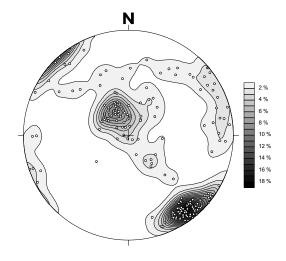
Τ	itle																																			
	Site FORSMARK Borehole HFM19 Diameter [mm] 137 Length [m] 185.200 Bearing [°] 280.91 Inclination [°] -58.09 Date of mapping 2004-06-14 14:13:0 Rocktype data from p_rock_XXXXX SEALED FRACTURES								0			-	Noi Eas Ele Dri Dri Plo	rthi stin vat illin illin t D	ng g [r ion g S g S ate	[m. tart top	a.s. Da Da	l.] ite te		669 163 3.60 200 200 200	3-12 3-12	7.59 6.92 2-02 2-18 6-14	9 3 2 11 8 16 4 21	:55	00											
LENGTH			R	oci		E					:	SEA	LED) FR	ACT	ſUR	ES				OPE	N A	ND	PAR	TLY	OPE	N FF	RACI	IUR	ES		AI FD	NETWORK	CR	USH	CORELOSS
1:500	TYPE	Texture	Grainsize	Oldilloize	Orientation	dia /: III) dia 90	Rock Type < 1m	Alteration	Intensity	Primary	Secondary	Third	Mineral	Mineral	O Alteration	Dip direction و	o Fracture	5 Frequency (fr/1m)	Primary Mineral	Secondary	Mineral	Mineral	Mineral	O Aperture	(mm) 5	Roughness	Surface	O Alteration	စ Dip direction	o Fracture	C (fr/1m)		/1m) 50	Alteration	Piece	COR
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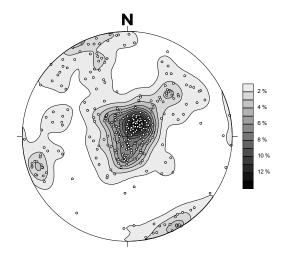
Stereographic projection of fractures, HFM13–15, 19



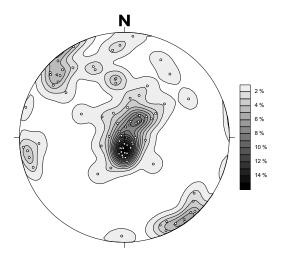
HFM13 – Contoured pole to plane diagram showing *open fractures* (N=232)



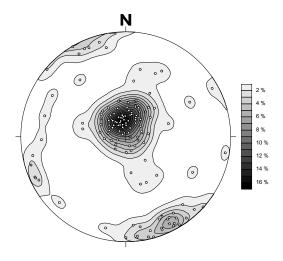
HFM13 – Contoured pole to plane diagram showing *sealed fractures* (N=197)



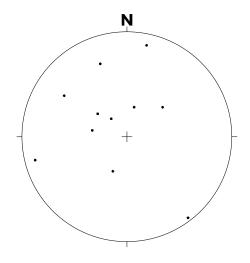
HFM14 - Contoured pole to plane diagram showing *open fractures* (N=334)



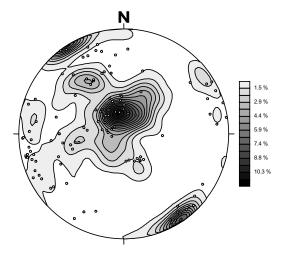
HFM14 - Contoured pole to plane diagram showing *sealed fractures* (N=88)



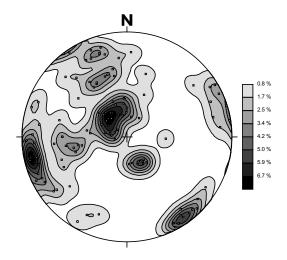
HFM15 - Contoured pole to plane diagram showing *open fractures* (N=145)



HFM15 - Pole to plane diagram showing *sealed fractures* (N=11)



HFM19 - Contoured pole to plane diagram showing *open fractures* (N=272)



HFM19 - Contoured pole to plane diagram showing *sealed fractures* (N=119)

In data: Borehole length and diameter HFM13–15, 19

Hole Diam T - Drilling: Borehole diameter

HFM13, 2003-09-18 12:30:00 - 2003-10-02 17:00:00 (0.000 - 175.600 m)

Sub Secup	Sub Seclow	Hole Diam	Comment
(m)	(m)	(m)	
0.000	4.400	0.235	Noex190
4.400	14.900	0.189	
14.900	101.000	0.138	
101.000	152.350	0.137	
152.350	175.600	0.135	

Printout from SICADA 2004-01-19 16:15:58.

Hole Diam T - Drilling: Borehole diameter

HFM14, 2003-10-06 14:00:00 - 2003-10-09 15:00:00 (0.000 - 150.500 m)

Sub Secup	Sub Seclow	Hole Diam	Comment
(m)	(m)	(m)	
0.000	3.100	0.235	Noex 190
3.100	101.300	0.138	0.1386m at 3.1 m
101.300	150.500	0.136	0.1366m at 102.15 m

Printout from SICADA 2004-01-19 16:21:18.

Hole Diam T - Drilling: Borehole diameter

HFM15, 2003-10-13 12:00:00 - 2003-10-15 11:00:00 (0.000 - 99.500 m)

Sub Secup	Sub Seclow	Hole Diam	Comment
(m)	(m)	(m)	
0.000	6.000	0.176	Tubex140
6.000	99.500	0.139	

Printout from SICADA 2004-01-19 16:23:36.

Hole Diam T - Drilling: Borehole diameter

HFM19, 2003-12-02 11:10:00 - 2003-12-18 16:55:00 (0.000 - 185.200 m)

Sub Secup	Sub Seclow	Hole Diam	Comment
(m)	(m)	(m)	
0.000	12.040	0.180	
12.040	185.200	0.137	

Printout from SICADA 2004-03-03 18:17:19.

In data: Deviation data for HFM13–15, 19

Magnetic Acc Dev T - Magnetic accelerometer deviation measurement

HFM13, 2003-11-26 11:30:00 - 2003-11-26 12:30:00 (18.000 - 174.000 m)

Bhlen	Magnetic Bearing	Dip Northing	Easting	Elevation	Locala	Localb	Localc
(m)	(degrees)	(degrees) (m)	(m)	(m)	(m)	(m)	(m)
18.00	50.0	-60.6					
21.00	51.5	-60.6					
24.00	52.4	-60.5					
27.00	54.2	-60.7					
30.00	54.8	-60.6					
33.00	56.5	-60.7					
36.00	56.6	-60.5					
39.00	58.2	-60.8					
42.00	59.4	-61.2					
45.00	58.7	-61.0					
48.00	59.0	-61.2					
51.00	59.9	-61.2					
54.00	61.1	-61.3					
57.00	61.9	-61.4					
60.00	62.1	-61.5					
63.00	62.2	-61.6					
66.00	63.5	-61.4					
69.00	66.2	-61.4					
72.00	66.1	-61.3					
75.00	66.5	-61.0					
78.00	68.4	-61.0					
81.00	66.9	-60.8					
84.00	69.2	-60.5					
87.00	70.3	-60.4					
90.00	70.7	-60.5					
93.00	72.1	-60.6					
96.00	73.3	-60.6					
99.00	73.6	-60.7					
102.00		-60.6					
105.00		-60.5					
108.00		-60.4					
111.00		-60.6					
114.00		-60.6					
117.00		-60.3					
120.00 123.00		-60.2 -60.1					
126.00 129.00		-60.0 -60.0					
132.00		-60.0					
135.00		-59.7					
138.00		-59.9					
141.00		-59.9					
144.00		-59.5					
147.00		-59.6					
150.00		-59.4					
153.00		-59.4					
156.00		-59.4					
159.00		-59.1					
162.00		-58.9					
165.00		-58.7					
168.00		-58.6					
171.00		-58.3					
174.00		-58.3					

Printout from SICADA 2004-01-19 16:29:30.

Magnetic Acc Dev T - Magnetic accelerometer deviation measurement

HFM14, 2003-10-15 11:00:00 - 2003-10-15 11:45:00 (0.000 - 150.000 m)

Bhlen	Magnetic Bearing	Dip	Northing	Easting	Elevation	Locala	Localb	Localc
(m)	(degrees)	(degrees)	(m)	(m)	(m)	(m)	(m)	(m)
6.00	331.1	-60.1						
9.00	331.8	-60.2						
12.00	328.3	-60.5						
15.00	328.8	-60.7						
18.00	326.5	-60.9						
21.00	326.8	-61.1						
24.00	325.9	-61.2						
27.00	324.6	-61.3						
30.00	324.3	-61.4						
33.00	324.5	-61.5						
36.00	322.1	-61.7						
39.00	320.5	-61.4						
42.00	320.6	-61.9						
45.00	320.5	-62.0						
48.00	319.7	-62.0						
51.00	319.0	-61.9						
54.00	319.2	-62.2						
57.00	318.9	-62.2						
60.00	319.3	-62.7						
63.00	317.9	-62.7						
66.00	316.7	-62.7						
69.00	316.6	-62.2						
72.00	315.8	-62.1						
75.00	315.9	-62.0						
78.00	314.3	-61.6						
81.00	313.5	-61.4						
84.00	311.8	-61.1						
87.00	311.7	-60.9						
90.00	312.0	-60.6						
93.00	311.4	-60.4						
96.00	302.2	-60.3						
99.00	310.7	-60.2						
102.00		-59.8						
105.00		-59.7						
108.00		-59.6						
111.00		-59.7						
114.00		-59.6						
117.00		-59.7						
120.00		-59.6						
123.00		-59.5						
126.00		-59.4						
129.00		-59.4						
132.00		-59.5						
135.00		-59.3						
138.00		-59.3						
141.00		-59.2						
144.00		-59.0						
147.00		-59.0						
150.00	304.3	-58.8						

Printout from SICADA 2004-01-19 16:28:16.

Magnetic Acc Dev T - Magnetic accelerometer deviation measurement

HFM15, 2003-10-15 13:00:00 - 2003-10-15 13:45:00 (0.000 - 99.000 m)

Bhlen (m)	Magnetic Bearing (degrees)	Dip Northing (degrees) (m)	Easting (m)	Elevation (m)	Locala (m)	Localb (m)	Localc (m)
9.00	313.6	-44.3					
12.00	312.3	-44.5					
15.00	312.9	-44.4					
18.00	311.9	-44.9					
21.00	311.0	-45.0					
24.00	310.3	-45.1					
27.00	309.3	-44.8					
30.00	308.8	-44.6					
33.00	307.1	-45.0					
36.00	306.9	-44.5					
39.00	307.0	-44.6					
42.00	306.1	-44.7					
45.00	305.3	-44.3					
48.00	304.5	-44.7					
51.00	302.7	-44.2					
54.00	303.6	-44.6					
57.00	301.6	-45.1					
60.00	301.0	-45.0					
63.00	300.9	-44.8					
66.00	301.3	-44.6					
69.00	300.4	-44.7					
72.00	299.5	-43.8					
75.00	300.1	-43.8					
78.00	298.4	-43.8					
81.00	298.1	-43.6					
84.00	297.7	-43.3					
87.00	296.6	-42.9					
90.00	296.7	-42.9					
93.00	297.5	-42.4					
96.00	297.2	-42.1					
99.00	296.1	-42.2					

Printout from SICADA 2004-01-19 16:27:03.

Magnetic Acc Dev T - Magnetic accelerometer deviation measurement

HFM19, 2004-01-13 00:00:00

Bhlen	Magnetic Bearing		Northing	Easting	Elevation	Locala	Localb	Localc
(m)	(degrees)	(degrees)	(m)	(m)	(m)	(m)	(m)	(m)
12.80	277.8	-58.2						
15.30	277.6	-57.8						
17.90	274.4	-57.8						
20.40	275.9	-57.6						
22.90	275.5	-57.0						
25.40	276.8	-56.8						
27.90	277.8	-56.3						
30.40	274.2	-55.9						
32.90	275.7	-55.3						
35.30	277.7	-55.2						
37.80	275.7	-54.9						
40.30	273.7	-54.8						
42.70	275.4	-54.4						
45.10	275.2	-54.4						
47.60	274.2	-53.9						
50.00	274.2	-54.0						
52.40	274.8	-53.9						
54.80	274.5	-53.7						
57.30	274.9	-53.7						
59.70	274.3	-53.7						
62.10	274.8	-53.3						
64.50	275.2	-52.9						
66.90	274.7	-53.1						
69.30	274.9	-52.2						
71.60	274.6	-52.2						
74.00	274.5	-52.1						
76.40	275.0	-51.9						
78.70 81.10	273.6 274.5	-51.4 -51.1						
83.40	274.5	-50.6						
85.70	274.5	-51.3						
88.10	273.4	-51.1						
90.40	273.2	-50.7						
92.70	272.6	-50.7						
95.00	273.2	-50.9						
97.40	272.4	-50.6						
99.70	272.8	-50.6						
102.00		-50.6						
104.30	273.2	-50.6						
106.60	273.7	-50.1						
108.90	273.8	-50.5						
111.30		-50.4						
113.60		-50.4						
115.90		-50.5						
118.20		-50.4						
120.50		-50.3						
	272.7	-50.5						
125.10		-50.5						
127.40		-50.5						
129.80		-50.6						
132.10 134.40		-50.4 -50.6						
134.40		-50.8						
130.70		-50.2						
141.30		-49.9						
143.60		-50.0						
145.90		-49.9						
147.40		-49.9						

Printout from SICADA 2004-03-05 08:50:15.

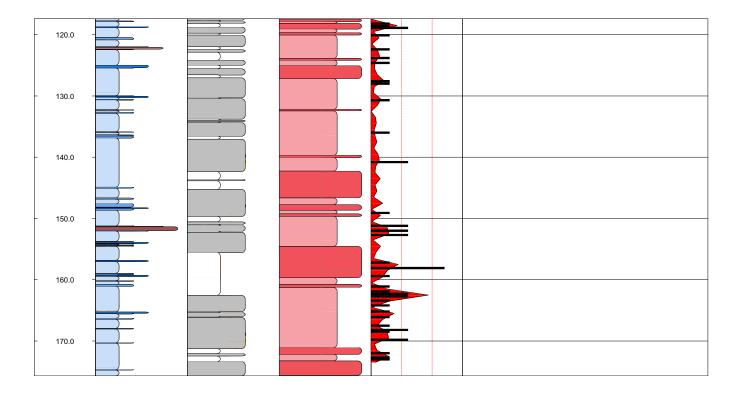
In data: Drilling penetration rate, HFM13–15, 19

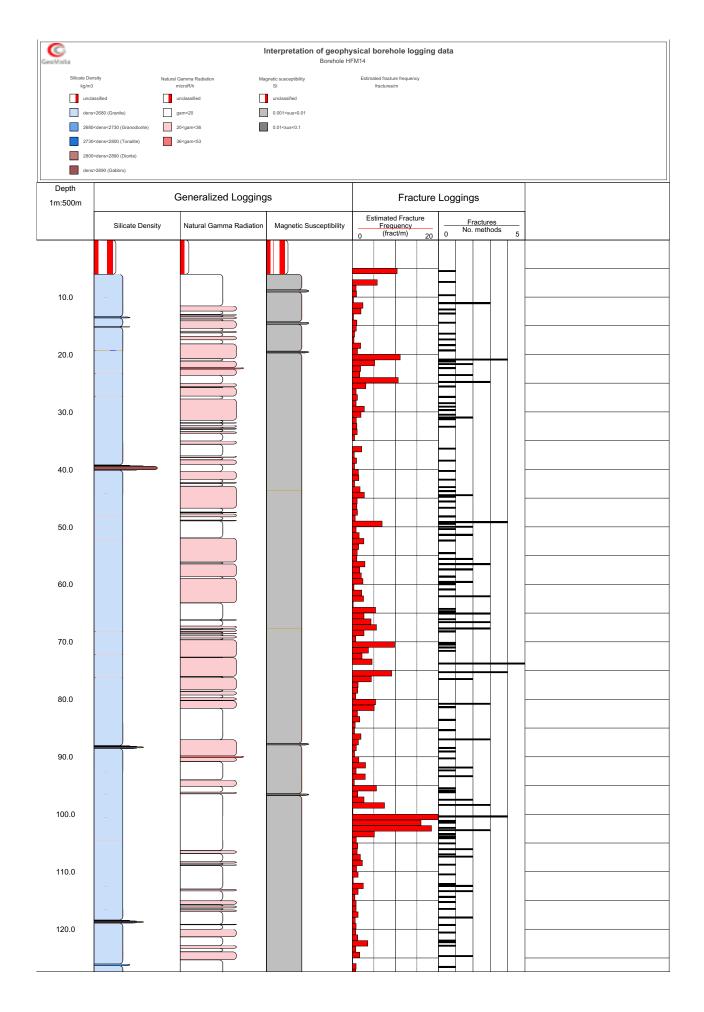
Depth	HFM13	HFM14	HFM15	HFM19	APPENDIX 12
1m:500m	Penetration rate (s/20)	Penetration rate (s/20)	Penetration rate (s/20)	Penetration rate (s/20)	
	(s/20)	(s/20)	(s/20)	(s/20)	
	0 50	0 50	0 50	0 50	
0.0					Percussion drilling penetration rate with manual timing
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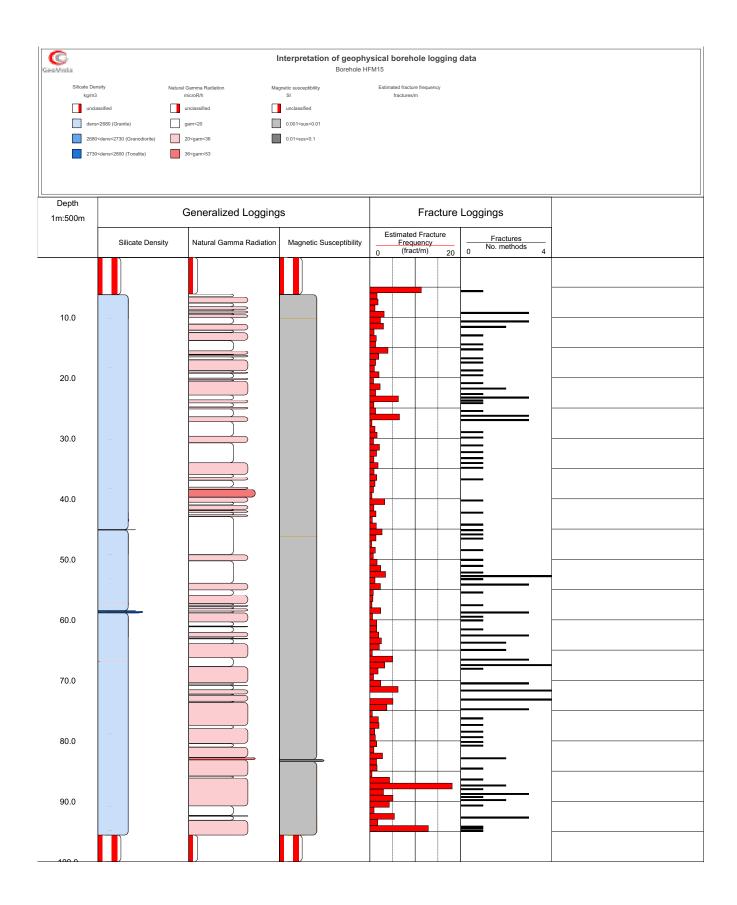
In data: Geophysical logs, HFM13–15, 19

GeoVata		li	nterpretation of geophy Borehole	ysical borehole logging data e HFM13
Silicate Density kg/m3 Magnetic susceptibility SI dens<2880 (Granite) sus<0.001 2880 2880 2730 Granodiorite) 2730 0.01 2800 dens<2800 (Tonalite) 2800 0.01 2800 dens<2800 (Dionite)		Natural Gamma Radiation microR/h gam<15 15 <gam<30 gam>30</gam<30 	Indication of possible alteration	
	>2890 (Gabbro)			
Depth 1m:500m		Generalized loggings		Estimated Fracture 0 Frequency 0 (fractures/m) 15
	Silicate density	Magnetic susceptibility	Natural gamma radiation	Pseudo Fractures 0 Nr.methods 5
- 20.0 -				
- 30.0 -				
- 40.0 -				
- 50.0 -				
- 60.0 -				
- 70.0 -				
- 80.0 -				
- 90.0 -				
- 100.0 -				
- 110.0 -				

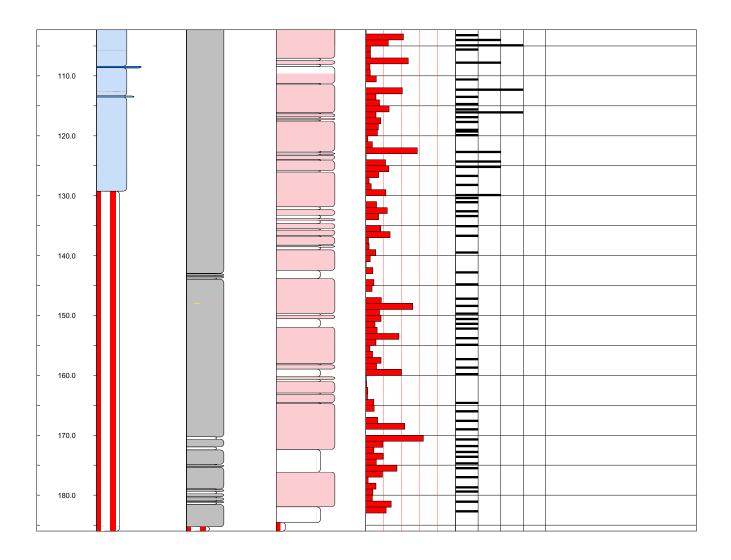




130.0				
140.0				
	-			
450.0				



GeoVista			Interpretation of geoph Borehole H		borehole	logging	data				
Silicate De kg/m3		Gamma Radiation N nicroR/h	lagnetic susceptibility SI	Estir	nated fracture freq fractures/m	uency					
uncl		_	unclassified		nactures/m						
dent	s<2680 (Granite)	gam<20	sus<0.001								
268	0 <dens<2730 (granodiorite)<="" td=""><td>20<gam<36< td=""><td>0.001<sus<0.01< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></sus<0.01<></td></gam<36<></td></dens<2730>	20 <gam<36< td=""><td>0.001<sus<0.01< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></sus<0.01<></td></gam<36<>	0.001 <sus<0.01< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></sus<0.01<>								
273	0 <dens<2800 (tonalite)<="" td=""><td>36<gam<53< td=""><td>0.01<sus<0.1< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></sus<0.1<></td></gam<53<></td></dens<2800>	36 <gam<53< td=""><td>0.01<sus<0.1< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></sus<0.1<></td></gam<53<>	0.01 <sus<0.1< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></sus<0.1<>								
280	0 <dens<2890 (diorite)<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></dens<2890>										
Depth 1m:500m		Generalized logging	js Fracture			e loggi	ngs				
			Natural gamma	E	stimated Fra	acture	Ι	Frac	tures		
	Silicate density	Magnetic susceptibility	radiation	0	Frequenc (fractures/	^{;y} m) 10	0	Nr.me	thods	4	
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90.0											
100.0											



Appendix 14

Investigations of drill cuttings, HFM13–15, 19

Drill cuttings	sgn			Da	Date: 2004-01-22 S	Sign.: C	Christin Nordman	nan										
			Untreated drill cuttings sample	s sample		Vashed an	d sieved dr	ill cutting	mple				c - iM	c in				
HFM13	4 - υ			8; Grey 4; 1	barse-grained (> 5		0; 8; Grey 6; Fine-trans 0; 8; Grey 6; Fine-trans	Grey 6; gra	o medium	101057; Granite to granodiorite, metamorphic,		32; Potash Feldspar	ase	뉟	10; Biotite		100	seems foliated.
HFM13	5 - 6	ö	0;	Grey	1; Aphanitic (grains 0; not visible with naked		10; Pinkish 8;	Grey	6; Fine-to medium grained	medum gramed 101057; Granite to granodiorite, metamorphic, medium orained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3;	3; Amphibole 90;	90/10	untreated sample: aphanitic and coarse. 101057 seems foliated.
HFM13	6 - 7	:0	40; 8; 0 Brownish	Grey	8; Medium to coarse 2 grained	00; Dark	0;	Grey	ne-grained (<1	102017; Amphibolite	101061; Pegmatite, pegmatitic granite	e	49; Plagioclase		36; Quartz 10	10; Biotite 50;	50/50	roughly 40% amph, 40% peg and 20% granite- granodiorite. Some prehnite, traces of calcite. Possible open fracture plane.
HFM13	7 - 8	ó	40; Brownish 8; (Grey	9; Medium-grained (1-0; 5 mm)		80; Greyish 2;	Red		101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz 1	10; Biotite	100; %	100	possibly foliated/lineated.
HFM13	б ' 8	ö	40; 8; (Brownish	Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	Red	o medium	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3;	3; Amphibole 100; %	100	traces of amphibolite.
HFM13	9 - 10	ö	40; Brownish 8; (Grey 9;1 5 r	9; Medium-grained (1- 2 5 mm)		80; Greyish 2;	Red		101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz 1	10; Biotite	100; %	; 100	
HFM13	10 - 11	ö	80; Greyish 4; 1	Brown 9; 5 r	Brown 9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	Red	6; Fine-to medium grained	to tamorphic,	101061; Pegmatite, 0 pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 10	107; Prehnite 90;	90/10	Only traces of prehnite.
HFM13	11 - 12	ö	ö	Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	Red	ne-to medium ed	to tamorphic,		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 33	33; Chlorite 100; %	100	Chlorite on possible fracture planes. Traces of calcite, prehnite, pyrite.
	•	200; Dark	άΰ	Grey 9; 1 5 r	9; Medium-grained (1- 2 5 mm)			Grey	ne-grained (<1	olite	101057; Granite to granodiorite, metamorphic, medium grained	e	49; Plagioclase	32; Potash Feldspar	N	10; Biotite 80;	80/20	epidote. Also weathered surfaces (open fracture planes?). Traces of pegmatite.
	•	:0	н .,	Brown	Brown 9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	Red	ne-to medium ed	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	N			100	Some biotite chlorite altered.
	•	200; Dark	40; 8; 0 Brownish	Grey	l (1-		20; Reddish 8;	Grey	grained (<1	e	101057; Granite to granodiorite, metamorphic, medium grained	Ð	49; Plagioclase	32; Potash Feldspar		10; Biotite 50;	50/50	
	15 - 16	100; Light	ώ	Grey	6; Fine-to medium 0; grained		80; Greyish 2;	Red	ne-to medium ned	orphic,		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	100; %	100	slightly deformed (foliated/lineated).
	•	200; Dark	àô	Grey		200; Dark 2	20; Reddish 8;	Grey	grained (<1	Amphibolite	۶	Ð	49; Plagioclase	32; Potash Feldspar		10; Biotite 70;		traces of catcite, hematite pigmentation on possible fracture planes.
HFM13	17 - 18	100; Light	40; 8; (Brownish	Grey 6; 1 gra	6; Fine-to medium 0; grained		80; Greyish 2;	Red	ne-to medium ed	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 3;	3; Amphibole 80; 80/20		hematite pigmentation on possible fracture planes.
	•	100; Light	4	Brown 6; gra			80; Greyish 2;	Red	o medium	101057; Granite to granodiorite, metamorphic, medium grained		c	49; Plagioclase	Quartz			90/10	both slightly foliated/lineated. Traces of calcite and hematitepigmentation on possible fracture plane.
	•	ö	; Reddish 4;	Brown 6; gré				Red			102017; Amphibolite		49; Plagioclase			e	80/20	
	•	100; Light	0; 4; 1	Brown		200; Dark 8	80; Greyish 2;	Red	ed ed	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 30	30; Calcite 100; %	100	traces of amhibole, calcite, chlorite
	•	100; Light	20; Reddish 4; F	Brown 6; gré		10; Dark	80; Greyish 2;	Red	ne-to medium ed	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	Quartz			100	traces of amphibolite.
HFM13	22 - 23	100; Light	0; 4; 1	Brown 6; gr	Brown 6; Fine-to medium 0; grained		;; ;;	Red	ed ed		101057; Granite to granodiorite, metamorphic, medium grained		49; Plagioclase	36; Quartz 1	10; Biotite 3;	3; Amphibole 70;	70/30	traces of epidote and amphibolite.
HFM13	23 - 24	100; Light	0; 4;	Brown 6; gra		200; Dark 8	80; Greyish 2;	Red	o medium	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz 1	10; Biotite 3;	3; Amphibole 100; %	100	traces of amphibolite, epidote.
HFM13	24 - 25	100; Light	0; 4;	Brown 6; gra	Brown 6; Fine-to medium 2 grained	200; Dark 8	80; Greyish 2;	Red	ne-to medium ed	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 33	33; Chlorite 100; %	100	slightly deformed (foliated/lineated). Chlorite on possible fracture plane. Hematitepigmentation along sealed fracture planes.
	•	100; Light	0; 4;	Brown 6; gra	Brown 6; Fine-to medium 2 grained		80; Greyish 2;	Red	ne-to medium ed	101057; Granite to granodiorite, metamorphic, medium grained		<i>c</i>	49; Plagioclase			Ð	100	slightly deformed (foliated/lineated). Hematite pigmented fracture planes, traces of calcite and epidote.
	26 - 27	ö	20; Reddish 4; 1	Brown 9; 5 r	(1-	200; Dark 8	80; Greyish 2;	Red	ne-to medium ed	to tamorphic,	a)		49; Plagioclase	36; Quartz 1	10; Biotite 16	16; Epidote 90;	90/10	slightly deformed (foliated/lineated).hematite pigmented surfaces, chlorite on possible fracture plane. Only traces of epidote.
	27 - 28	ö	20; Reddish 4; F	Brown 6; gra	4; Brown 6; Fine-to medium 0; grained		80; Greyish 2;	Red	ne-to medium ed	to tamorphic,	101061; Pegmatite, pegmatite fe	32; Potash Feldspar	49; Plagioclase	36; Quartz 1		33; Chlorite 90;	90/10	Rock type ratio uncertain. Chlorite on possible fracture planes - also hematite pigmentation.
HFM13	28 - 29	ö	0; 4; 1	Brown	6; Fine-to medium 0; grained		80; Greyish 2;	Red 6; Fir grain	ne-to medium ed	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 33	33; Chlorite 100; %	100	slightly deformed (foilated/lineated). Chlorite on possible fracture plane - also hematite pigm. Traces of calcite.

Drill cuttings	ttings				Date: 2004-01-22	Sign.: 0	Christin Nordman	-							
			18	uttings sa		Washed an	d sieved drill	cuttings sample							
Hole HFM13	from 29	to Lightn. 30 0:	I. Chrom.		Grainsize wn 9; Medium-grained (1-	0: 0:	Lightn. Chrom. Hue Gr 0; 80; Grevish [2; Red [6; F	ed 6; Fine-to medium	Rock type A 101057; Granite to	Rock type B	Min-1 32; Potash	Min-2 Min-3 49; 36; Quartz	Min-4 10; Biotite	Min-5 Distr. 30; Calcite 100; 100	 Kommentar Slightly deformed (foliated/lineated). Traces of calcite
					5 mm)			grained	·		Feldspar	gioclase			
HFM13	•	31 0;	:0		4; Brown 9; Medium-grained (1- 0; 5 mm)		Ń		101057; Granite to granodiorite, metamorphic, medium grained						
HFM13	•		20; Reddish	4			ίΛ,		101057; Granite to granodiorite, metamorphic, medium grained						
HFM13	32 -	33	ö	4; Brown			80; Greyish 2; Red		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase	10; Biotite	27; Hematite 100; 100 %	100 slightly deformed (foliated/lineated). Hematite pigmented fracture planes. Traces of amphibolite, pyrite
HFM13	33	34 0;	20; Reddish	dish 4; Brown	wn 9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2; Red	ed 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	3; Amphibole 90; 90/10	
HFM13	46 -	35 0;	ô	4; Bro	4; Brown 9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2; Red			102017; Amphibolite		49; 36; Quartz Plagioclase	10; Biotite	3; Amphibole 90; 90/10	30/10 Hematite pigmentation on possible fracture planes.
HFM13	35	36 100; Light	it O:	4; Brown			0; 2; Re	Red 8; Medium to coarse grained	101061: Pegmatite, pegmatitic granite	101057; Granite to granodiorite, metamorphic, medium drained		49; 36; Quartz Plagioclase	10; Biotite	; Amphibole 90; 9	3. Amphibole 90; 90/10 fraces of amphibolite.
HFM13	36	37 200; Dark	<u>ن</u>	2; Red			80; Greyish 2; Red		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase		27; Hematite 100; 100 %	
HFM13	37 - 3	0: 88	20; Redd	20; Reddish 4; Brown			80; Greyish 2; Red	ed 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	27; Hematite 100; 100 %	100 Rich in hematite pigmentation. Traces of calcite. Biotite partly chlorite attered.
HFM13		39	20; Reddish	dish 4; Brown	vn 9; Medium-grained (1- 200; Dark 5 mm)		ά		101057; Granite to granodiorite, metamorphic, medium grained		_				
HFM13	30	40 0;	20; Redd	dish 4; Bro	20; Reddish 4; Brown 9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2; Red	ed 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase	10; Biotite	27; Hematite 100; 100 %	
HFM13	64		ö	4; Brown			Ń		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	gioclase			
HFM13	- -	42 0;	ö	4; Brown	wn 9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2; Red	ed 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	27; Hematite 100; 100 %	100 Rich in hematite pigmentation. Biotite partly chlorite altered. Traces of calcite.
HFM13	42	43 0;	ö	4; Bro	Brown 9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2; Red	ed 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	27; Hematite 100; 100 %	100 Possible foliation/lineation. Rich in hematite pigmentation.Biotite partly chlorite altered.
HFM13	43	44 ;;	ö	4; Brov	Brown 9; Medium-grained (1- 0; 5 mm)		80; Greyish 2; Red	ed 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	3; Amphibole 90; 90/10	00/10 Also pegmatite appr 30%. Strong hematite pigmentation.
HFM13	44	45 0;	ö	4; Brown	vn 9; Medium-grained (1- 5 mm)	ö	80; Greyish 2; Red	ed 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium orained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	27; Hematite 90; 90/10	00/10 seems slightly deformed. Some hematite pigmented fracture planes.
HFM13	45 -	46 0;	ö	4; Brown			80; Greyish 2; Red	ed 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	3; Amphibole 90; 90/10	00/10 Relatively rich in hematite pigmented fracture planes. Also few chlorite fracture planes.
HFM13	46	47 0;	80; Greyish	ish 2; Red	9; Medium-grained (1 - 5 mm)	:0	80; Greyish 2; Red	ed 8; Medium to coarse grained		101057; Granite to granodiorite, metamorphic, medium drained	32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	30; Calcite 60; 60/40	50/40 Traces of chlorite, calcite, prehnite. Hematite pigmented fracture planes. Untreated sample is wet.
HFM13	•		ht 0;			0; Dark	;; 3		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	gioclase		0	100
HFM13	•	49 100; Light	н о;	8; Grey		:0	20; Reddish 8; G	Grey 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	30; Calcite 100; %	100 Traces of chlorite, calcite and hematite pigmentation.
HFM13		50 100; Light	:0 14	4; Brown	vn 6; Fine-to medium grained	ö	80; Greyish 2; Re	Red 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	100; %	100 Slightly larger fraction of medium grain size.
HFM13	20	51 100; Light	;; 14	4; Brown	wn 6; Fine-to medium grained		80; Greyish 2; Red	ed 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	100; 100 %	100 hematite pigmented on sealed fracture planes.
HFM13	51 -	52 <u>0;</u>	20; Reddish	dish 4; Brown	vn 9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2; Re	Red 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	100; 100 %	100
HFM13	- 52	53 100; Light	;; 14	4; Brov	Brown 6; Fine-to medium grained	ö	80; Greyish 2; Re	Red 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	107; Prehnite 100; %	100 traces of sealed prehnite fracture. Biotite slightly chlorite altered.
HFM13	•		80; Greyish	ŝ		:0	80; Greyish 2; Red		101057; Granite to granodiorite, metamorphic, medium grained					107; Prehnite 100; %	
HFM13	52 ·	55 100; Light	ht O;	8; Grey	y 6; Fine-to medium grained	:0	80; Greyish 2; Red	ed 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	27; Hematite 100; 100 %	100 hematite pigmentation on possible fracture planes. Biotitie slightly chlorite altered.

Drill cuttings	inds			Ď	Date: 2004-01-22	Sign.: C	Christin Nordman	man									
			l õ	gs samp		a	d sieved d	rill cuttir	s sample								
Hole f	from t	to Lightn.	Chrom.	Hue G	Grainsize	Lightn. C	Chrom. F		ize		Rock type B		Min-2	Min-3	Min-4	Min-5	
			40; Brownish	o di o			ou; Greyisri 4		o, Fine-to meaum grained	granodiorite, metamorphic, medium grained		sz; rotasn Feldspar	Plagioclase			c, chone	100, 100 signify depirined (pilateorimeated). Crione and % hematite pigmentation on possible fracture planes.
HFM13	- 5	57 0;	40; Brownish	8; Grey 9; 5	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	33; Chlorite	100; 100 chlorite on possible fracture planes.
HFM13	57 - 5	58 0;	80; Greyish 4	4; Brown 9; 5	9; Medium-grained (1- 200; Dark 5 mm)			2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained				36; Quartz	10; Biotite	27; Hematite	100; 100 Hematite pigmentation on possible fracture planes. %
HFM13	- 2	20	- - 0	4; Brown 9; 5	9; Medium-grained (1- 200; Dark 5 mm)			2; Red 6	o medium	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite		100; 100 slightly deformed (foliated/lineated).
HFM13	- 6 20	0; 09	80; Greyish 4	4; Brown 9; 5	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained	to tamorphic, p	101061; Pegmatite,	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		90; 90/10 biotite slightly chlorite altered.
HFM13	- 60	61 0;	80; Greyish 4	4; Brown 9; 5	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained	to tamorphic,	101061; Pegmatite, ; pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	33; Chlorite	90; 90/10 chlorite and hematite pigmentation on possible fracture planes.
HFM13	•	62 <u>0;</u>			9; Medium-grained (1- 0; 5 mm)		80; Greyish 2		ine-to medium ned	norphic, p						07; Prehnite	107; Prehnite 50: 50/50 only traces of prehnite.
HFM13	62 - 6	0: 83	40; Brownish	8; Grey 9;	9; Medium-grained (1- 0; 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained		101061; Pegmatite, pegmatitic granite		49; Plagioclase	36; Quartz	10; Biotite	27; Hematite 90; 90/10	[90; 90/10 [slightly deformed (foliated/lineated). Traces of calcite and prehnite. Hematite pigmentation on possible fracture planes.
HFM13	63 - 6	64 0;	40; Brownish	8; Grey 9; 5	9; Medium-grained (1- 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 slightly deformed (foliated/lineated).
HFM13	64 - 6	65 200; Dark	40; Brownish	8; Grey 9; 5	9; Medium-grained (1- 100; Light 5 mm)			2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar		36; Quartz	10; Biotite		100
HFM13	65 - 6	66 100; Light	10; Pinkish	8; Grey 9; 5	9; Medium-grained (1- 100; Light 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 slightly deformed (foliated/lineated). Bleached. Also pegmatite?
HFM13	9 - 99	67 100; Light	:0	8; Grey 6; gr	6; Fine-to medium grained	100; Light 8	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium orained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 slightly deformed (foliated/lineated).
HFM13	67 - 6	68 100; Light	ö	8; Grey 9;	9; Medium-grained (1- 100; Light 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 slightly deformed (foliated/lineated). Only traces of calcite.
HFM13	- 68	69 100; Light	ó	8; Grey 9; 5	9; Medium-grained (1- 100; Light 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite	16; Epidote	100; 100 slightly deformed (foliated/lineated). Also some pegmatite? Traces of epidote.
HFM13	69 - 7	70 100; Light	ö	8; Grey 9; 5	9; Medium-grained (1- 100; Light 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	16; Epidote	100; 100 slightly deformed (foilated/lineated). Traces of epidote.
HFM13	2 - 7	71 100; Light	ö	8; Grey 6; gr	6; Fine-to medium grained		80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 slightly deformed (foliated/lineated). Only traces of calcite.
HFM13	71 - 7	72 0;	0 :0	8; Grey 9; 5	9; Medium-grained (1- 100; Light 5 mm)		80; Greyish 2	2; Red 6		101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite	27; Hematite	100: 100 slightly deformed (foliated/lineated). Traces of epidote. Hematite pigmentation on possible fracture planes.
HFM13	72 - 7	73 0;		8; Grey 5	9; Medium-grained (1- 100; Light 5 mm)	00; Light	80; Greyish 2	2; Red	8; Medium to coarse grained		101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	27; Hematite	60; 60/40 some 101057-grains are strongly oxidized.
HFM13	73 - 7	74 100; Light	80; Greyish	4; Brown 9; 5	9; Medium-grained (1-0; 5 mm)			2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, p medium grained	; Pegmatite, itic granite		49; Plagioclase	36; Quartz		27; Hematite 90; 90/10	90; 90/10 traces of epidote. Hematite pigmentation. No clearly evident deformation.
HFM13	•	75 0;	80; Greyish 4	4; Brown 9; 5	9; Medium-grained (1- 200; Dark 5 mm)					to tamorphic,	101061; Pegmatite, pegmatitic granite					3; Amphibole	90; 90/10
HFM13	75 - 7	76 0;			9; Medium-grained (1- 5 mm)	ö		2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained				36; Quartz		3; Amphibole	100; 100 %
HFM13	76 - 7	77 0;	80; Greyish 4	4; Brown 9; 5	9; Medium-grained (1- 5 mm)	ö	80; Greyish 2	2; Red 6	6; Fine-to medium grained	to tamorphic,	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	3; Amphibole	90; 90/10
HFM13	11	78 0;	80; Greyish 4	4; Brown 9; 5	9; Medium-grained (1-0; 5 mm)		80; Greyish 2	2; Red 9	6; Fine-to medium grained	iorphic, p	101061; Pegmatite,			36; Quartz	10; Biotite	3; Amphibole 60; 60/40	
HFM13	78 - 7	.0 20	:0	8; Grey 9;	9; Medium-grained (1- 100; Light 5 mm)			2; Red 6	6; Fine-to medium grained	·		32; Potash Feldspar		36; Quartz		3; Amphibole 80; 80/20	80, 80/20 traces of epidote. Possibly also some pegmatite
HFM13	79 - 8	80	40; Brownish	8; Grey 9;	9; Medium-grained (1- 100; Light 5 mm)		80; Greyish 2		6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	; Amphibole	3; Amphibole 90; 90/10 slightly deformed (foliated/lineated). Some epidote.
HFM13	80 - 8	81 0;	40; Brownish	8; Grey 9;	9; Medium-grained (1- 100; Light 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	; Amphibole	3; Amphibole 80; 80/20 40% 101057, 40% pegmatite and 20% amphibolite? Traces of epidole.

Drill cuttings	tings				Date: 2004-01-22	Sign.:	Christin Nordman										
			Untreated drill cuttings sample	gs sampl	le Proincito	Washed al	Washed and sieved drill cutting	uttings sample	Book true A	0 0 0 0 0 0 0	Min 4	Min o				1	a chuc an ac
HFM13	110m 10 81 - 82		Chrom. 40; Brounich	8; Grey 9;	Grainsize 9; Medium-grained (1- 1) 6.mm)	- 100; Light	Chrom. Hue 80; Greyish 2; Re	Grainsize 6; Fine-to medium	101057; Granite to	102017; Amphibolite	32; Potash Eddmor	MIN-Z 49; Blaciaclana	36; Quartz 1	10; Biotite 3	3; Amphibole 9	90; 90/10 7	Transe of acidete beginatite and 10% amphibolite?
			4		mm)			gra		40400410	reldspar	Plagioclase	+		0 		I races of epidote, hematite pigmentated fracture planes.
HFM13	•			E .	9; Medium-grained (1- 200; Dark 5 mm)	- 200; Dark		6; F gra	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase			3; Amphibole 8		aces of amphibolite. Hematite pigmented fracture lanes.Traces of epidote.
HFM13	•	<u>;;</u>	80; Greyish 2	2; Red 5	9; Medium-grained (1- 200; Dark 5 mm)	- 200; Dark	80; Greyish 2; Red		101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	3; Amphibole 9	90; 90/10 tr	traces of amphibolite.
HFM13	84 - 85	5 100; Light	ö	8; Grey 6; gr	6; Fine-to medium grained	ó	80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	<u> </u>	100; 100 sl	slightly deformed (foliated/lineated).
HFM13	85 - 86	3 100; Light	20; Reddish	8; Grey 9; 5	9; Medium-grained (1-0; 5 mm)	:0	0; 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	30; Calcite 8	80; 80/20 b	big calcite vein? Appr 20-30% calcite in sample. Traces of pyrite and green mineral in calcite.
HFM13	86 - 87	100; Light	;;	4; Brown 9; 5	9; Medium-grained (1- 5 mm)	:0	80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	30; Calcite /	100; 100 sl % ci	slightly deformed (foliated/lineated). Traces of epidote, calcite, hematite pigmented surfaces.
HFM13	87 - 88	3 200; Dark	ö	8; Grey 6; gr	6; Fine-to medium grained	ö	80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	3; Amphibole 9	90; 90/10 sl	slightly deformed (foliated/lineated). Traces of epidote, calcite, hematite pigmented surfaces.
HFM13	- 89	9 200; Dark	:0	8; Grey 9; 5	9; Medium-grained (1- 0; 5 mm)	:0	80; Greyish 2; Red		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	3; Amphibole 1	100; 100 ci %	calcite, traces of amphibolite, epidote, hematite pigmented surfaces, laumontite?
HFM13	- 90	ö	40; Brownish	8; Grey 9; 5	9; Medium-grained (1- 5 mm)	:0	80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 3	30; Calcite 1	100; 100 sl %	slightty deformed (foliated/lineated). Traces of epidote, calcite, hematite pigmented surfaces.
HFM13	•		10; Pinkish	8; Grey 9; 5	9; Medium-grained (1-0) 5 mm)	:0	80; Greyish 2; Red	6; F grai	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite		49; Plagioclase	36; Quartz			0/40	Traces of epidote, calcite, hematite pigmented surfaces, amphibolite. 101057 slightly deformed.
HFM13	91 - 92	2 100; Light	80; Greyish	4; Brown 9; 5	9; Medium-grained (1- 100; Light 5 mm)	- 100; Light	80; Greyish 2; Red	d 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite 3	30; Calcite 1	100; 100 sl % ci	slightly deformed (foliated/lineated). Some epidote, calcite.
HFM13	92 - 93	3 100; Light	-	C	9; Medium-grained (1- 100; Light 5 mm)	- 100; Light	0; 2; Red		101061; Pegmatite, pegmatitic granite	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	Ø	80; 80/20	
HFM13	93 - 94	<u>;;</u>	10; Pinkish 8	8; Grey 9; 5	9; Medium-grained (1- 100; Light 5 mm)	- 100; Light	80; Greyish 2; Red	d 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	16; Epidote 6		traces of epidote, hematite pigmented surfaces, beige aphanitic grain. 101057 slightly deformed (foliated/lineated).
HFM13	94 - 95	5 100; Light	40; Brownish	8; Grey 9; 5	9; Medium-grained (1- 100; Light 5 mm)	- 100; Light	10; Pinkish 8; Grey	y 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	50; Pyrite 8	80; 80/20 sl	slightly deformed (foliated/lineated).
HFM13	95 - 96	<u>;;</u>	40; Brownish	8; Grey 9;	9; Medium-grained (1- 100; Light 5 mm)	- 100; Light	10; Pinkish 8; Grey		norphic,	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	3; Amphibole 8	80; 80/20 ci	ca 70% 101057, 20% amphibolite, 10% pegmatite.101057 slightly deformed (foliated/lineated). Traces of pyrite.
HFM13	•	ö		Grey	9; Medium-grained (1- 100; Light 5 mm)	- 100; Light			; Granite to orite, metamorphic, i grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase					ightly deformed (foliated/lineated).
HFM13	•				9; Medium-grained (1- 100; Light 5 mm)	- 100; Light			101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase			3; Amphibole 1 %	100	traces of pyrite, epidote. Some amphibolite and pegmatite - together max 10%
HFM13	•				9; Medium-grained (1- 100; Light 5 mm)	- 100; Light	." 6	6; I gra	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase		10; Biotite	- ~	100	slightly deformed (foliated/lineated).
HFM13	÷		40; Brownish		9; Medium-grained (1- 100; Light 5 mm)	- 100; Light	ά	6; F grai	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite	- ~	100	slightly deformed (foliated/lineated).
HFM13	•	1 200; Dark		8; Grey 9;	9; Medium-grained (1- 5 mm)	- 100; Light	10; Pinkish 8; Grey		101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite	- ~	100	slightly deformed (foliated/lineated). Some larger quartz grains (from vein or pegmatite?) In oxidized grain thin prehnite vein.
HFM13	•	<u>;</u>	80; Greyish 4	4; Brown 9; 5	9; Medium-grained (1- 100; Light 5 mm)	- 100; Light	10; Pinkish 8; Grey	y 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite	<u> </u>	100; 100 u % (f	untreated sample is wet. Slightly deformed (foliated/lineated).
HFM13	•		50; Greenish	4; Brown 6; gr	6; Fine-to medium grained	100; Light	10; Pinkish 8; Grey	y 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite	<u> </u>	100	slightly deformed (foliated/lineated).
HFM13	103 - 104		;;	t; Brown 2; m	2; Fine-grained (<1 mm)	100; Light	10; Pinkish 8; Grey	y 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite	<u> </u>	100; 100 sl %	sightly deformed (foliated/lineated).
HFM13	104 - 105	5 100; Light	;, 0	4; Brown 2; m	2; Fine-grained (<1 mm)	100; Light	10; Pinkish 8; Grey	y 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite 3	3; Amphibole 1	100; 100 sl % aı	slightly deformed (foliated/lineated). Traces of amphibolite.
HFM13	•			Grey	6; Fine-to medium grained	100; Light			101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1		3; Amphibole 7	70; 70/30 sl	slightly deformed (foliated/lineated).Traces of epidote, prehnite, pyrite.
HFM13	106 - 107	7 200; Dark	40; Brownish	8; Grey 9; 5	9; Medium-grained (1- 100; Light 5 mm)	- 100; Light	80; Greyish 9; Black	ck 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		3; Amphibole 70; 70/30	0; 70/30 sl	s lightly deformed (foliated/lineated). Traces of pyrite, prehnite

Drill cutting	tinas			Ŏ	Date: 2004-01-22	Sign.: C	Christin Nordman	dman										
	000	Untreate	Untreated drill cuttings sample	ts sampl		la	d sieved c	Irill cutti	s sample									
Hole HFM13	from to 107 - 108	b Lightn.	Chrom. H 0: 8:	Hue G 8: Grev 9:		Lightn. C	Chrom. Hue 80: Grevish 9: Black		6 Grainsize	Rock type A 101057: Granite to	Rock type B 102017: Amphibolite	Min-1 32: Potash	Min-2 49:	Min-3 1 36: Quartz 1	Nin-4	Min-5 Distr. 3: Amphibole [90: 90/10		Kommentar Untreated sample seems already washed. Slightly
					5 mm)					granodiorite, metamorphic, medium grained		Feldspar						deformed (foliated/lineated).
HFM13	108 - 109	19 200; Dark	40; Brownish 8;	Grey	9; Medium-grained (1- 100; Light 5 mm)		80; Greyish 9; Black			101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		; Amphibole (60; 60/40 b	3: Amphibole 60: 6040 both slightly foliated/lineated. Traces of pyrite
HFM13	•	0 200; Dark			9; Medium-grained (1- 100; Light 5 mm)			Grey	ine-to medium ned	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1		3; Amphibole 8	80; 80/20 b	both slightly deformed (foliated/lineated). Traces of prehnite.
HFM13	110 - 111	- ;;		8; Grey 9; 51	9; Medium-grained (1- 100; Light 5 mm)			8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	; Amphibole	70; 70/30 p	3. Amphibole 70: 7030 possibly also pegmatite
HFM13	111 - 112	0;	40; Brownish 8;	Grey	9; Medium-grained (1- 100; Light 5 mm)		10; Pinkish 8	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	3; Amphibole 80; 80/20	80; 80/20	
HFM13	112 - 113	3 100; Light	40; Brownish	Grey	9; Medium-grained (1- 100; Light 5 mm)		10; Pinkish 8	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	3; Amphibole	90; 90/10 sl	slightly deformed (foliated/lineated). Traces of calcite surface with oxidized wall.
HFM13	113 - 114	4 0;	80; Greyish 1;	1; Pink 9; 51	9; Medium-grained (1- 100; Light 5 mm)		10; Pinkish 8	8; Grey (6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	0; Biotite		100; 100 w % (f	water in sample and downwards. Slightly deformed (foliated/lineated).
HFM13	114 - 115	5 100; Light	:0 8	Grey	6; Fine-to medium grained	100; Light 1	10; Pinkish 8	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 sl %	slightly deformed (foliated/lineated). Traces of pyrite, prehnite
HFM13	115 - 116	6 100; Light	:ő	Grey	9; Medium-grained (1- 1 5 mm)	100; Light	10; Pinkish 8	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 3	3; Amphibole 9	90; 90/10 sl	slightly deformed (foliated/lineated). Some pegmatite?
HFM13	116 - 117				9; Medium-grained (1- 100; Light 5 mm)			8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz		3; Amphibole 1		slightly deformed (foliated/lineated). Traces of amphibolite
HFM13	117 - 118	8 100; Light	10; Pinkish 8;	Grey	9; Medium-grained (1- 100; Light 5 mm)		10; Pinkish 8	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite 3	3; Amphibole 1	100; 100 sl % a	slightly deformed (foliated/lineated). Some amphibolite, <10%
HFM13	118 - 119		20; Reddish 8;	Grey	9; Medium-grained (1- 5 mm)			8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1		3; Amphibole	90; 90/10	
HFM13	119 - 120	;; 0	:0 :0	Grey	9; Medium-grained (1- 100; Light 5 mm)		10; Pinkish 8	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		3; Amphibole 100; 100 %		traces of amphibolite, calcite, epidote.
HFM13	•	5 Ö	.0 8	Grey	9; Medium-grained (1- 1 5 mm)			8; Grey		101057; Ğranite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1		3; Amphibole 9	90/10	traces of pyrite.
HFM13	•		ö	Grey			; Pinkish			101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1		3; Amphibole 1	100	some amphibolite <10%
HFM13	122 - 123	3 100; Light	.0 8	Grey	6; Fine-to medium grained	100; Light 0	:0	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	0; Biotite		100; 100 vi %	very white. More to nalitic???
HFM13	•	2 0	.ö	Grey	9; Medium-grained (1- 100; Light 5 mm)		:0	Grey		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1				traces of epidote and pyrite. Slightly deformed (foliated/lineated).
HFM13	124 - 125		:0 .0	Grey	9; Medium-grained (1- 100; Light 5 mm)			8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	Ð	32; Potash Feldspar		36; Quartz 1		3; Amphibole 8	80; 80/20 sl	slightly deformed (foliated/lineated).
HFM13	•			Grey	9; Medium-grained (1- 100; Light 5 mm)					101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		; Amphibole	80; 80/20 s	3. Amphibole [80: 80/20 slightly deformed (folialedulineated), 70% 101057, 20% pegmatite, 10% amphibolite?
HFM13	126 - 127	;0	10; Pinkish 8;	Grey	9; Medium-grained (1- 100; Light 5 mm)		10; Pinkish	8; Grey	8; Medium to coarse	101061; Pegmatite, pegmatitic granite	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		3; Amphibole 7	70; 70/30 5	50% peg, 30% granit-granodiorite and 20% amphibolite?
HFM13	127 - 128	<u>;;</u>	10; Pinkish 8;	Grey	9; Medium-grained (1- 1 5 mm)	100; Light	10; Pinkish 8	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	Pegmatite, tic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	3; Amphibole 6	60; 60/40 a	and some amphibolite. 101057 slightly deformed (foliated/lineated).
HFM13	128 - 129	<u>:0</u> 0;	10; Pinkish 8;	Grey		100; Light 1	10; Pinkish 8	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite			slightly deformed (foliated/lineated).
HFM13	129 - 130	:0 0	10; Pinkish 8;	Grey	9; Medium-grained (1- 1 5 mm)	100; Light	10; Pinkish 8	8; Grey		101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite 3	3; Amphibole	100; 100 sl % tr	slightly deformed (foliated/lineated). Amphibolite less than 10%
HFM13	130 - 131	5 5	10; Pinkish 8;	Grey	9; Medium-grained (1- 1 5 mm)		10; Pinkish 8	8; Grey		101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite		49; Plagioclase	36; Quartz	10; Biotite 3	3; Amphibole 8	80; 80/20 sl	slightly deformed (foliated/lineated). Traces of pyrite
HFM13	•		10; Pinkish		9; Medium-grained (1- 100; Light 5 mm)					101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar		36; Quartz 1		3; Amphibole	100; 100 sl %	slightly deformed (foliated/lineated). Traces of amphibolite and epidote.
HFM13	132 - 133	100; Light	10; Pinkish	8; Grey 9; 51	9; Medium-grained (1- 100; Light 5 mm)		10; Pinkish 8	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		3; Amphibole 1	100; 100 sl % a	slightly deformed (foliated/lineated). Traces of amphibolite and pyrite.

Drill cuttings	tings				Date: 2004-01-22	Sign.: 0	Christin Nordman									
elon H			Untreated drill cuttings sample	ings san Hue	ainei z o	Washed an	Washed and sieved drill cutting	s sample	Pock time A	Pock time B	Min-4	5-niM	-2 Min.4	Min_S	Dietr	Kommontar
HFM13	133 - 13	134 100; Light		8; Grey	9; Medium-grained (1- 5 mm)	00; Light	10; Pinkish 8; Grey	Fine-to medium ained	101057; Granite to granodiorite, metamorphic,		ash Ir	ase	뒫		8	slightly deformed (foliated/lineated). Slight epidote pigmentation? Traces of pyrite.
HFM13	134 - 13	135 100; Light	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	100; Light	10; Pinkish 8; Grey		101057; Granite to granodiorite, metamorphic, medium orained		32; Potash Feldspar		36; Quartz 10; Biotite	te 3; Amphibole	100; 100 %	contamination of one amphibolite grain.
HFM13	135 - 13	136 100; Light	40; Brownish	8; Grey	9; Medium-grained (1- 100; Light 5 mm)		10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; C Plagioclase	36; Quartz 10; Biotite	e	100; 100 s %	slightly deformed (foliated/lineated).
HFM13	136 - 137	37 100; Light	40; Brownish	8; Grey	9; Medium-grained (1- 5 mm)		0; 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; 36; C Plagioclase	36; Quartz 10; Biotite	e	100; 100 s %	slightly deformed (foliated/lineated).
HFM13	137 - 13	138 100; Light	ö	8; Grey	9; Medium-grained (1- 100; Light 5 mm)		0; 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; C Plagioclase	36; Quartz 10; Biotite	te 16; Epidote	100; 100 s %	slightly deformed (foliated/lineated). Traces of epidote, pyrite.
HFM13	138 - 139	39 100; Light	40; Brownish	8; Grey	6; Fine-to medium grained	100; Light 1	10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; C Plagioclase	36; Quartz 10; Biotite	te 16; Epidote	100; 100 s % €	sightly deformed (foliated/lineated). Only traces of epidote.
HFM13	139 - 14	140 100; Light		8; Grey			20; Reddish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained				36; Quartz 10; Biotite	te 33; Chlorite	100; 100 s % F	slightly deformed (foliated/lineated). Chlorite on possible fracture surface.
HFM13	140 - 141	17 0:	20; Reddish	B; Grey	9; Medium-grained (1- 100; Light 5 mm)		8; Grey		101057; Granite to granodiorite, metamorphic, medium grained				36; Quartz 10; Biotite	te 107; Prehnite	100; 100 %	slightly deformed (foliated/lineated). Traces of prehnite. Biotite slightly chlorite attered.
HFM13	141 - 142	45 0;	20; Reddish	B; Grey	9; Medium-grained (1- 100; Light 5 mm)		8; Grey		101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite		49; 36; C Plagioclase	36; Quartz 10; Biotite	a	90; 90/10 s	90; 90/10 slightly deformed (foliated/lineated).
HFM13	142 - 14	143 100; Light	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)		10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite		49; 36; C Plagioclase	36; Quartz 10; Biotite	te 3; Amphibole	70; 70/30	appr 60% 101057, 30% pegmatite and 10% amphibolite. Traces of prehnite and epidote.
HFM13	143 - 144	44 ;;	20; Reddish	B; Grey	9; Medium-grained (1- 100; Light 5 mm)		20; Reddish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; 36; C Plagioclase	36; Quartz 10; Biotite	e	80; 80/20 1	80; 80/20 101057 slightly deformed (foliated/lineated).
HFM13	144 - 145	⁴⁵ 0;	10; Pinkish	8; Grey	9; Medium-grained (1- 100; Light 5 mm)		10; Pinkish 8; Grey	6; Fine-to medium grained	to tamorphic,	101061; Pegmatite, pegmatitic granite		49; 36; C Plagioclase	Quartz 10; Biotite	te 3; Amphibole 80; 80/20		101057 slightly deformed (foliated/lineated). Traces of amphibolite.
HFM13	145 - 14	146 0;	10; Pinkish	8; Grey	9; Medium-grained (1- 100; Light 5 mm)		10; Pinkish 8; Grey	6; Fine-to medium grained	to tamorphic,	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; 36; C Plagioclase	36; Quartz 10; Biotite	a	90; 90/10 1	101057 slightly deformed (foliated/lineated).
HFM13	146 - 147	12 0;	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	100; Light	10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	9	100; 100 s %	slightly deformed (foliated/lineated).
HFM13	147 - 148	6 ;	ö	8; Grey	6; Fine-to medium grained		8; Grey		101057; Granite to granodiorite, metamorphic, medium grained				36; Quartz 10; Biotite	a	100; 100 s %	slightly deformed (foliated/lineated).
HFM13	148 - 149	;0 6†	ö	8; Grey	6; Fine-to medium grained	100; Light 1	10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; C Plagioclase	36; Quartz 10; Biotite	a	100; 100 s %	slightly deformed (foliated/lineated).
HFM13	149 - 150	0:	ö	άΰ	6; Fine-to medium grained		8; Grey		101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite			36; Quartz 10; Biotite	te 30; Calcite	0/10	slightly deformed (foliated/lineated). Traces of epidote, calcite and possibly also prehnite.
HFM13	•	ö		, N	9; Medium-grained (1- 100; Light 5 mm)		1 8; Grey	o medium	101057; Granite to granodiorite, metamorphic, medium grained						100; 100 %	traces of calcite, pyrite, prehnite, amphibolite. Hermatite pigmentation. Possible deformation along sealed fracture? Some seem banded.
HFM13	151 - 152	52 100; Light		8; Grey	6; Fine-to medium grained	100; Light 1	8; Grey		101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite			36; Quartz 10; Biotite	te 3; Amphibole	80; 80/20	both slightly deformed (foliated/lineated). Traces of pyrite, hematite pigmented surfaces.
HFM13	152 - 153		10; Pinkish		6; Fine-to medium grained		10; Pinkish 8; Grey		101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite			36; Quartz 10; Biotite	te 3; Amphibole	90; 90/10	traces of pyrite, amphibolite.
HFM13	153 - 154	54 0;	10; Pinkish	8; Grey	6; Fine-to medium grained		10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; C Plagioclase	36; Quartz 10; Biotite	e	100; 100 s %	slightly deformed (foliated/lineated). Traces of pegmatite.
HFM13	•		40; Brownish				ώ		101057; Granite to granodiorite, metamorphic, medium grained					٩	; 100	slightly deformed (foliated/lineated).
HFM13	155 - 156	20 2	10; Pinkish	8; Grey		100; Light	10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite		49; 36; C Plagioclase	36; Quartz 10; Biotite	<u>e</u>	90; 90/10 s	slightly deformed (foliated/lineated).
HFM13	156 - 157	0;	20; Reddish	άΰ		100; Light 2	ά		101057; Granite to granodiorite, metamorphic, medium grained				36; Quartz 10; Biotite		100	slightly deformed (foliated/lineated). Traces of calcte and hematite pigmented surfaces.
HFM13	157 - 158	38 0;	20; Reddish	ά		6;	80; Greyish 2; Red		101057; Granite to granodiorite, metamorphic, medium grained				36; Quartz 10; Biotite	te 16; Epidote	100	faintly deformed (foliated/lineated). Only traces of epidote.
HFM13	158 - 159	0	20; Reddish	B; Grey	6; Fine-to medium grained	ö	20; Reddish 8; Grey	9; Medium-grained (1- 5 mm)	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	te 3; Amphibole	100; 100 %	deformed? Traces of epidote and amphibolite.

Drill cuttings	ings				Date: :	Date: 2004-01-22 S	Sign.: Christin Nordman	Christin Nord	lman										
		_	ated drill	Untreated drill cuttings sample	sample		dar	d sieved a	Irill cuttin	igs sample									
Hole fr	from	to Lightn.		om. Hue				Chrom.		Grainsize	Rock type A	Rock type B	Min-1	Min-2	Min-3		Min-5	Distr.	Kommentar
	•			20; Reddish 8; Grey		to medium	÷	20; Reddish 8; Grey		 9; Medium-grained (1- 101057; Granite to granodiorite, metan medium grained 	101057; Granite to granodiorite, metamorphic, medium orained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		107; Prehnite	100; 100 6	107; Prehnite 100; 100 deformed? Traces of prehnite, pyrite, epidote and % amphibolite.
HFM13	160 - 1	161 0;	20; R	20; Reddish 8; 0	Grey 6; Fine- grainec	6; Fine-to medium 1 grained	100; Light 2	20; Reddish 8;	Grey	9; Medium-grained (1- 101057; Granite to 5 mm) granodiorite, metan medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	10; Biotite		100; 100 d %	deformed? Traces of oxidized surfaces.
HFM13	161 - 1	162 <u>0;</u>	ö	8	Grey 6; Fine- grainec	6; Fine-to medium 1 grained	100; Light 2	20; Reddish 8;	Grey	9; Medium-grained (1- 101057; Granite to 5 mm) granodiorite, metar medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		16; Epidote	100; 100 f %	100 faintly deformed. Traces of epidote.
HFM13	162 - 1	163 200; Dark	ark 0;	či L	Red 6; Fine- grainec	6; Fine-to medium 2 grained	200; Dark 8	80; Greyish 2	2; Red 6 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase		36; Quartz 10; Biotite	107; Prehnite	100; 100 %	107. Prehnite 100: 100 Traces of prehnite, blotte party chlorite altered . $\%$
HFM13	163 - 1	164 200; Dark	ark 0;	3	Red 6; Fine- grainec	6; Fine-to medium 2 grained	200; Dark 8	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	36; Quartz 10; Biotite	107; Prehnite	100; 100 7 %	107. Prehnite 100: 100 Traces of calcite, prehnite.
HFM13	164 - 1	165 <u>0;</u>	ö		Red 6; Fine-t grained	o medium	200; Dark 8	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	10; Biotite		100; 100 5	Seems slightly deformed.
HFM13	165 - 1	166 200; Dark	ark 0:	ά.	Red 6; Fine- grainec		200; Dark 8	80; Greyish 2	2; Red 6 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		30; Calcite	100; 100 %	100 Traces of prehnite, biotite slightly chlorite altered.
HFM13	166 - 1	167 <u>0;</u>	ó	5 5	Red 6; Fine-t grained		0 :0	ö	2; Red 6 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		30; Calcite	100; 100 E %	100, 100 Biotite slightly chlorite altered.
HFM13	167 - 1	168 0;	80; C	80; Greyish 2; F	Red 6; Fine- grainec	6; Fine-to medium 0; grained		ö	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	36; Quartz 10; Biotite 30; Calcite	30; Calcite	100; 100 E %	100; 100 Biotite slightly chlorite altered. Traces of prehnite.
HFM13	168 - 1	169 0;	80; G	80; Greyish 2; F	Red 6; Fine-t grained	6; Fine-to medium 0; grained			2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	10; Biotite		100; 100 8	slightly deformed. Traces of epidote, calcite, iron hydroxide.
HFM13	169 - 1	170 0;	ö	ω ώ	Grey 6; Fine- grainec	6; Fine-to medium 0; grained	-	10; Pinkish 8	8; Grey 9 5	9; Medium-grained (1- 101057; Granite to 5 mm) granodiorite, metan medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		30; Calcite	100; 100 \$	slightly deformed. Only traces of calcite.
	•	171 0;	80; G	80; Greyish 2; F			200; Dark 8	80; Greyish 2		9; Medium-grained (1- 101057; Granite to 5 mm) granodiorite, metan medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz		27; Hematite	100; 100 1	100; 100 hematite pigmentation. Biotite slightly chlorite altered. Traces of epidote.
	•	172 0;	ö	÷.				;;		8; Medium to coarse grained	101061; Pegmatite, pegmatitic granite		_	49; Plagioclase		10; Biotite			100: 100 traces of prehnite, epidote. Strong oxidation in % places.Very poor in biotite - if present then altered.
	•	173 0;	50; Greenish	Ń		6; Fine-to medium 0; grained				9; Medium-grained (1- 101061; Pegmatite, 5 mm) pegmatitic granite	101061; Pegmatite, pegmatitic granite		32; Potash Feldspar	49; Plagioclase				100; 100 e	epidote sealed brittle ductile shear zone? Also deformed fragments.
	•	174 0;	: `	3:		6; Fine-to medium 0; grained		ي.		6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite		49; Plagioclase			16; Epidote	70; 70/30	70; 70/30 rock type ratio uncertain. Partly brittle ductile shear zone. Some biotite slightly chlorite altered.
HFM13	174 - 1	175 0;	80; 80;	80; Greyish 2; Red		6; Fine-to medium 0; grained		80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase		36; Quartz 10; Biotite	16; Epidote	100; 100 8	100; 100 Slightly deformed (foliated/lineated). Traces of calcite %

Drill cuttings	inas			Date	Date: 2004-01-20 S	Sign.: CI	Christin Nordman								
			drill cuttings	sample		Vashed and	I sieved drill c	tti							
Hole fr HFM14	from to 0 - 1		Lightn. Chrom. Hue Gra 100; Light 0; 8; Grey 6; Fi	Brey 6; Fir	linsize ne-to medium	Lightn. C 100; Light 80	Chrom. Hue 80; Greyish 2; Red	Grainsize 6; Fine-to medium	Rock type A 101057; Granite to	Rock type B 101061; Pegmatite,	Min-1 32; Potash Foldanor	Min-2 Min-3 49; 36; Quar	Min-3 Min-4 Min 36; Quartz 10; Biotite 33; C	Min-5 Distr. 33; Chlorite 90; 90/	Distr. Kommentar 90; 90/10 only traces of chlorite - occur as altered biotite.
HFM14	1 - 2		20; Reddish 8; G	Grey 4; Co	varse-grained (> 51		80; Greyish 2; Red		medium grained	hearing armine		r laylourase 49; 36; Quartz	tz 10; Biotite	100; 10	0.0 slightly deformed (lineated/foliated). Some larger
								Ω.						%	
HFM14	- - 3	ö	80; Greyish 2; R	Red 8; Me grain		100; Light 80	80; Greyish 2; Red	ດີທີ				49; 36; Quartz Plagioclase	10; Biotite	33; Chlorite 100; 10	100 slightly deformed (lineated/foliated). Only traces of chlorite as an alteration product from biotite.
	3.4 - 3.8	3 100; Light 0;	 	Brown 6; Fir grain	16; Fine-to medium 11 grained		80; Greyish 2; Red		 101057; Granite to granodiorite, metamorphic, medium grained 		32; Potash Feldspar	49; 36; Quartz Plagioclase	tz 10; Biotite	100; 10 %	100 sity sample slightly deformed (ineated/foliated).
HFM14	3.8 - 4	ö	80; Greyish 2; Red		9; Medium-grained (1- 100; Light 5 mm)		80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	tz 10; Biotite	100; 10 %	100 slightly deformed (lineated/foliated).
HFM14	4 5	100; Light	80; Greyish 2; R	Red 6; Fir grain	6; Fine-to medium 10 grained	100; Light 80	80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	tz 10; Biotite	100; 10 %	100 signty deformed (lineated/foliated).
HFM14	- 9	100; Light 0;	ö	Grey 6; Fir grain	6; Fine-to medium 10 grained	100; Light 80	80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	tz 10; Biotite	100; 10 %	100 slightly deformed (lineated/foliated).
HFM14	•	100; Light	ö				i,	gr.	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar			100; 10 %	
HFM14	7 - 8		8	Grey 6; Fir grain	6; Fine-to medium 11 grained	100; Light 80	80; Greyish 2; Red		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	tz 10; Biotite	100; 10%	100 sightly deformed (lineated/foliated).
HFM14	6 - 8	100; Light 0;	ά	Grey 6; Fir grain		100; Light 80	80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	tz 10; Biotite	100; 10 %	100 slightly deformed (lineated/foliated).
HFM14	9 - 10	100; Light 0;	0 	Grey 6; Fir grain	6; Fine-to medium 11 grained		80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	tz 10; Biotite	100; 10 %	100 slightly deformed (lineated/foliated).
HFM14	10 - 11	100; Light 0;	ά	Grey 6; Fir grain	6; Fine-to medium 11 grained	100; Light 80	80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	33; Chlorite 100; 10	100 slightly deformed (lineated/foliated). Chlorite as alteration product from biotite - only traces.
HFM14	11 - 12	100; Light 0;	ά	Grey 6; Fir grain	6; Fine-to medium 11 grained	100; Light 80	80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quar Plagioclase	36; Quartz 10; Biotite	100; 10 %	100 sightly deformed (lineated/foliated).
HFM14	12 - 13	100; Light 0;	0 8	Grey 6; Fir grain	6; Fine-to medium 0; grained		80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	33; Chlorite 100; 100 %	00 slightly deformed (lineated/foliated). Chlorite as alteration product from biotite
	13 - 14		ö			200; Dark 80	80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	3; Amphibole 70; 70/30	
HFM14	14 - 15	100; Light 0;	0 80	Grey 6; Fir grain	6; Fine-to medium 0; grained		10; Pinkish 8; Grey	y 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	3; Amphibole 100; 10	100 slightly deformed (lineated/foliated). Traces of pyrite. Richer in dark minerals.
HFM14	15 - 16	100; Light 0;	0 	Grey 6; Fir grain		100; Light 80	80; Greyish 2; Red		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase	tz 10; Biotite	100; 10 %	100 slightly deformed (lineated/foliated).
	•	100; Light	άĵ				Ň	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase		100; 10 %	100 slightly deformed (lineated/foliated).
HFM14	17 - 18	100; Light	20; Reddish 8; G	Grey 6; Fir grain		100; Light 80	80; Greyish 2; Red		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase	tz 10; Biotite	100; 10%	100 sightly deformed (lineated/foliated).
HFM14	- 19		0 	Grey 6; Fir grain		100; Light 80	80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to gra nodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	107; Prehnite 100; 10 %	100
	19 - 20	100; Light 0;	0 	Grey 6; Fir grain	6; Fine-to medium 11 grained	100; Light 80	80; Greyish 2; Red		101057; Granite to gra nodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	tz 10; Biotite	100; 10%	100 poor in dark minerals.
	•		4;	Brown 6; Fir grain		100; Light 80	Ń		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar		10; Biotite	100; %	
HFM14	21 - 22		 	4; Brown 6; Fir grain	0; Fine-to medium 0; grained	<u>60</u>	80; Greyish 2; Red		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	107; Prehnite 100; 10 %	100 Itraces of prehnite and amphibole (latter from amphibolite??? But the grain is relatively rich in quartz)
HFM14	22 - 23	100; Light	20; Reddish 8; Grey		6; Fine-to medium 0; grained		ί		101057; Granite to gra nodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	10; Biotite	107; Prehnite 100; 10 %	
HFM14	23 - 24	100; Light 0;	4	Brown 6; Fir grain	6; Fine-to medium 0; grained		80; Greyish 2; Red		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	tz 10; Biotite	100; 100 %	
HFM14	24 - 25	:* :*	4	Brown 9; Me 5 mm	9; Medium-grained (1- 0; 5 mm)		80; Greyish 2; Red	1 6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	tz 10; Biotite	100; 10%	100

Drill cuttings	ings			٥	Date: 2004-01-20 S	Sign.: C	Christin Nordman	Jan										
-			Ŧ	Is samp		Vashed and	Washed and sieved drill cuttings sa	II cutting	nple									
Hole 11 HFM14	110m to 25 - 26	100: Liaht	Chrom. H	Brown l6:	Hue Grainsize L 4: Brown l6: Fine-to medium 0	-ightn.	0: Grevish 12:	Red 6: F	ize medium	Rock type A 101057: Granite to	Rock type B	Min-1 32: Potash	Min-2 N 49: 3	Min-3 1 36: Quartz 1	Min-4 1 10: Biotite 3	Min-5 33: Chlorite	Distr. 100 0	Kommentar onlv traces of chlorite - occur as altered biotite.
				5				gre		granodiorite, metamorphic, medium grained		Feldspar	igioclase					
HFM14	26 - 27	100; Light	; 0:	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	107; Prehnite	100; 100 %	any deformation?
HFM14	27 - 28	100; Light	0; 0	Grey	6; Fine-to medium 11 grained	100; Light 8	80; Greyish 2; 1	2; Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 %	
HFM14	•	:0	20; Reddish 7; White	White 6; gr		100; Light 0;				101061; Pegmatite, pegmatitic granite		32; Potash Feldspar	49; Plagioclase		10; Biotite		100; 100 %	
HFM14	29 - 30	100; Light	; ο	Grey	6; Fine-to medium grained	100; Light 0;	Ň	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar		36; Quartz 1	10; Biotite		100; 100 %	
HFM14	30 - 31	100; Light	:0	Grey		100; Light 81	80; Greyish 2; 1	Red		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 %	
HFM14	31 - 32	100; Light	; 0;	Grey	6; Fine-to medium 11 grained	100; Light 8	80; Greyish 2; 1	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 p %	probably slightly deformed (lineated/foliated).
HFM14	32 - 33	100; Light	:0	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 %	
HFM14	33 - 34	100; Light	; ; 0;	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	33; Chlorite	100; 100 p % a	probably slightly deformed (lineated/foliated). Chlorite as alteration product from biotite - only traces.
HFM14	34 - 35	100; Light	0;	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (lineated/foliated).
HFM14	35 - 36	100; Light	:0	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	33; Chlorite	100; 100 s % a	slightly deformed (lineated/foliated). Chlorite as an alteration product from biotite.
HFM14	36 - 37	100; Light	ά	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (lineated/foliated).
HFM14	37 - 38	100; Light	; 0:	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (lineated/foliated).
HFM14	38 - 39	100; Light	;°	Grey	6; Fine-to medium 0 grained	8	80; Greyish 2; 1	Red 6; F gra	6; Fine-to medium grained	to tamorphic,		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s % 0	slightly deformed (lineated/foliated). Perhaps traces of epidote?
HFM14	39 - 40	200; Dark	0; 5;	Greer		200; Dark 50 G	50; 8; 6 Greenish	Grey	-	olite	101061; Pegmatite, pegmatitic granite	3; Amphibole	49; Plagioclase	36; Quartz 3	32; Potash 1 Feldspar	10; Biotite	90; 90/10 p	probably foliated.
HFM14	40 - 41	100; Light	; ο	Grey	6; Fine-to medium 0 grained	:0 :	Ní.	Red		101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	3; Amphibole	90; 90/10	slightly deformed (lineated/foliated). Amphibolite foliated. Possibly traces of prehnite
HFM14	41 - 42	100; Light	:0	Grey	6; Fine-to medium 11 grained	100; Light 81	80; Greyish 2; 1	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (lineated/foliated).
HFM14	42 - 43	100; Light	:°	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (lineated/foliated).
HFM14	43 - 44	100; Light	0;	Grey	6; Fine-to medium 11 grained	100; Light 81	80; Greyish 2; 1	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	107; Prehnite	100; 100 %	slightly deformed (lineated/foliated). Traces of chlorite as alteration product from biotite. Traces of amphibolite.
HFM14	•	100; Light	; ;	Grey	6; Fine-to medium 0; grained		Ň			101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar					100; 100 %	slightly deformed (lineated/foliated). Traces of amphibolite.
HFM14	45 - 46	100; Light	0; 8;	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	3; Amphibole	100; 100 %	slightly deformed (lineated/foliated). Traces of amphibolite.
HFM14	46 - 47	100; Light	:0	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (lineated/foliated).
HFM14	47 - 48	100; Light	:0	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (lineated/foliated).
HFM14	48 - 49	100; Light	:0	Grey	6; Fine-to medium 0; grained		80; Greyish 2; 1	2; Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (lineated/foliated).
HFM14	49 - 50	;; 0	ά	Grey	9; Medium-grained (1- 0; 5 mm)		80; Greyish 2; 1	Red	o medium	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	3; Amphibole	90; 90/10	slightly deformed (lineated/foliated). Amphibolite seems foliated. Traces of prehnite.
HFM14	50 - 51				9; Medium-grained (1-0 5 mm)	8	80; Greyish 2; 1			101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1				slightly deformed (lineated/foliated).
HFM14	51 - 52	0; 5	10; Pinkish 8;	8; Grey 9; 5	9; Medium-grained (1- 0; 5 mm)		80; Greyish 2; 1	2; Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	27; Hematite	100; 100 s %	slightly deformed (lineated/foliated).

Duill cutting					Date: 2004-01-20	Sian.:	Christin Nordman	man								
	sound	Untreate	Untreated drill cuttings sample	dis same		Washed an	d sieved d	rill cuttir	nas sample							
Hole	from to		Chrom. Hue	Hue	ainsize	-ightn.	Chrom. H	Hue	Grainsize		Rock type B		Min-2			2
			80; Greyish		9; Medium-grained (1- IC 5 mm)		30; Greyısh	2; Ked	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite 3	33; Chlorite 100; 100 %	00 slightly deformed (lineated/foliated). Chlorite as afteration product from biotite.
HFM14	53 - 54	ö	80; Greyish	2; Red	9; Medium-grained (1- 5 mm)	:0	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium graned		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	100; 1	100 sightly deformed (lineated/foliated).
HFM14	54 - 55	:0	80; Greyish	2; Red 5	9; Medium-grained (1- 5 mm)	ö	80; Greyish 2	2; Red	9; Medium-grained (1- 5 mm)			32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	100; 100 %	00 slightly deformed (lineated/foliated).
HFM14	55 - 56	:č	ö	2; Red	9; Medium-grained (1-0; 5 mm)		80; Greyish 2	2; Red	9; Medium-grained (1- 5 mm)	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite 3	33; Chlorite 100; 1 %	100 slightly deformed (lineated/foliated). Chlorite as atteration product from biotite- only traces.
HFM14	56 - 57	ö	80; Greyish	2; Red 5	9; Medium-grained (1- 5 mm)	ó	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	100; 1	100 probably slightly deformed (lineated/foliated).
HFM14	57 - 58	ö	:0	2; Red 9	9; Medium-grained (1- 5 mm)	:ô	0;	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite 1	107; Prehnite 100; 1 %	100 biotite slightly chlorite altered. More oxidized than earlier.
HFM14	58 - 59	ö	80; Greyish	2; Red 9	14	ö		2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz 10; Biotite 1	107; Prehnite 100; 1 %	100 slightly deformed (lineated/foilated).
HFM14	59 - 60	ö	80; Greyish		8; Medium to coarse grained			2; Red 6		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	100; 1	100 slightly deformed (lineated/foliated).
HFM14	60 - 61	<u>ö</u>	:0	2; Red	9; Medium-grained (1-0; 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	100; 1 %	100 slightly deformed (lineated/foliated).
HFM14	61 - 62	ö	ö	2; Red	9; Medium-grained (1-0; 5 mm)	ö	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite 1	16; Epidote 100; 1 %	100 slightly deformed (lineated/foliated). Only traces of epidote.
HFM14	62 - 63	ö	ö		1	ö	80; Greyish 2	2; Red 6		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar			30; Calcite 100; 1 %	100 slightly deformed (lineated/foliated). Traces of rusty mineral.
HFM14	63 - 64	ö	ö	2; Red 8	8; Medium to coarse grained	:ó	80; Greyish 2	2; Red 6		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	100; 1 %	100 sightly deformed (lineated/foliated).
HFM14	64 - 65	ö	ó	2; Red	9; Medium-grained (1- 5 mm)			2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained				36; Quartz 10; Biotite 1	107; Prehnite 100; 1 %	100 slightly deformed (lineated/foliated). Traces of prehnite ? And muscovite on possible fracture plane.
HFM14	65 - 66	.; 0	ő	2; Red	9; Medium-grained (1-0; 5 mm)		80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	100; 1 %	100 sightly deformed (lineated/foliated).
HFM14	•	ö	ó	Red	9; Medium-grained (1-0; 5 mm)				o medium	101057; Granite to granodiorite, metamorphic, medium grained					100; 1	
HFM14	67 - 68	ö	ö	2; Red	9; Medium-grained (1- 5 mm)	ö	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	100; 1	100 signtly deformed (lineated/foliated).
HFM14	•				9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2			101057; Granite to granodiorite, metamorphic, medium grained		_		10; Biotite		100
HFM14	69 - 70	ö	40; Brownish	2; Red	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	100; 1	100
HFM14	70 - 71	ö			9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red		101057; Granite to granodiorite, metamorphic, medium grained				36; Quartz 10; Biotite 1	107; Prehnite 100; 1 %	100
HFM14	71 - 72				9; Medium-grained (1- 200; Dark 5 mm)					101057; Granite to granodiorite, metamorphic, medium grained				10; Biotite	107; Prehnite 100; 100 %	00 Biotite slightly chlorite altered.
HFM14	72 - 73	ö			9; Medium-grained (1- 200; Dark 5 mm)			2; Red 2	2; Fine-grained (<1 mm)	101057; Granite to granodiorite, metamorphic, medium grained		_	49; Plagioclase	36; Quartz 10; Biotite 1	107; Prehnite 100; 1	100
HFM14	•	;; ;;		Red	9; Medium-grained (1- 200; Dark 5 mm)				2; Fine-grained (<1 mm)	101057; Granite to granodiorite, metamorphic, medium grained				10; Biotite	100; %	100 traces of hematite.
HFM14	74 - 75	:0	40; Brownish	2; Red	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red	2; Fine-grained (<1 mm)	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz 10; Biotite 1	107; Prehnite 100; 1 %	100
HFM14	75 - 76	<u>ö</u>	40; Brownish	2; Red	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red	2; Fine-grained (<1 mm)	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase		107; Prehnite 100; 1 %	100 Traces of calcite and copper coloured biotite.
HFM14	•	· · · · ·			9; Medium-grained (1- 200; Dark 5 mm)				ie-grained (<1	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	10; Biotite	107; Prehnite 100; 1 %	100 Seems slightly lineated or foliated.
HFM14	77 - 78	ö	40; Brownish	2; Red	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red	2; Fine-grained (<1 mm)	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite 1	107; Prehnite 100; 100 %	00 Seems slightly lineated or foliated.

Drill cuttings	ings				9: 2004-01-20	Sign.: C	Christin Nordman	man										
- tole			Untreated drill cuttings sample Lightn. Chrom. Hue Gra	igs samp Hue G	insize	Washed an Lightn.	Washed and sieved drill cuttings sample Lightn. Chrom. Hue Grainsize	rill cuttin lue G		Rock type A	Rock type B	Min-1	Min-2	Min-3	Min-4	Min-5 D	Distr. Ko	Kommentar
HFM14	7 - 7	79 0;	40; Brownish	2; Red 9;	edium-grained (1- n)	200; Dark	80; Greyish 2;	Red 2	(<1	e to stamorphic,		32; Potash Feldspar	ase	臣	ite		0	
HFM14	- 6 <u>7</u>	80 ;0	40; Brownish	2; Red 9;	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	Red	2; Fine-grained (<1 mm)	101057; Granite to granodiorite, metamorphic, medium graned		32; Potash Feldspar	49; Plagioclase	36; Quartz 11	10; Biotite 10	107; Prehnite 100; %	100	Traces of epidote, prehnite. Biotite faintly chlorite altered.
HFM14	8 - 8	81 0;		2; Red 9;	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	2; Red 2; m	2; Fine-grained (<1 mm)	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 16	16; Epidote 10 %	100; 100 Or %	Only traces of epidote.
HFM14	•		£.		9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	Red	e-grained (<1	101057; Granite to granodiorite, metamorphic, medium grained						te	100	Some epidote and chorite in banded aggregates (thin deformation zone?). Only some prehnite.
HFM14	82 - 8	0: 83	40; Brownish	2; Red 9;	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	Red	2; Fine-grained (<1 2; mm)	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 11	10; Biotite 16	16; Epidote 10 %	100; 100 Tr	Traces of epidote, calcite, prehnite.
HFM14	83 - 8	84 0;	40; Brownish	2; Red 9;	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	Red	2; Fine-grained (<1 mm)	101057; Granite to granodiorite , metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 11	10; Biotite 16	16; Epidote 10 %	100; 100 So %	Some epidote and preinite.
HFM14	84 - 8	85 100; Light	80; Greyish		9; Medium-grained (1-0; 5 mm)		80; Greyish 2;	Red	e-grained (<1	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar		36; Quartz 11	10; Biotite 16	16; Epidote 10 %	0; 100	Traces of epidote and prehnite.
HFM14	85 - 8	86 100; Light	80; Greyish	2; Red 9;	9; Medium-grained (1-0 5 mm)		80; Greyish 2;		2; Fine-grained (<1	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar		36; Quartz 11	10; Biotite	10 %	100	Traces of epidote and prehnite. Less oxidized. Possibly slightly deformed.
HFM14	86 - 87		10; Pinkish	8; Grey 9; 5	9; Medium-grained (1-0; 5 mm)		80; Greyish 2;	Red		101057; Granite to granodiorite , metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase		10; Biotite 16	16; Epidote 10 %	100	Possibly also peg? Traces of banded epidote and chlorite also some prehnite and chlorite.
HFM14	87 - 8	88 100; Light	20; Reddish	8; Grey 9; 5	9; Medium-grained (1- 5 mm)		80; Greyish 2;		to medium	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 11	10; Biotite 30	30; Calcite 10 %	100; 100 sli % ca	slightly deformed (lineated/foliated). Only traces of calcite, prehnite and epidote.
HFM14	•		:0	2; Red 9;	r; Medium-grained (1- mm)		0;		9; Medium-grained (1- 5 mm)	101061; Pegmatite, pegmatitic granite		32; Potash Feldspar	49; Plagioclase	-		3; Amphibole 10 %		traces of rusty fragment, amphibolite, chlorite, epidote and prehnite. Leucocratic.
HFM14	·	90 100; Light	10; Pinkish		9; Medium-grained (1- 100 5 mm)); Light	0; 2;		m to coarse	0	102017; Amphibolite	32; Potash Feldspar	65			e		traces of epidote.
HFM14	•		0;	Pink	9; Medium-grained (1- 100; Lighi 5 mm)); Light	0; 2;		1			32; Potash Feldspar				30; Calcite 10 %		leucocratic. Could be up to coarse-grained.
HFM14	•		80; Greyish	Red	1		80; Greyish 2;	Red	um to coarse		101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar				107; Prehnite 70; 70/30		also traces of amphibolite, calcite
HFM14	92 - 9	93 0;	80; Greyish 2	2; Red 8; gr	8; Medium to coarse grained		80; Greyish 2;	Red	m-grained (1-	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar		36; Quartz 11	10; Biotite	10 %	0; 100	slightly deformed (lineated/foliated). One more mafic, altered fragment.
HFM14	- - -	94 0;	20; Reddish 8;	Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar		36; Quartz 11	10; Biotite	%	0; 100	Some biotite slightly chlorite attered.
HFM14	94 - 9	95 0;	20; Reddish 8	8; Grey 9;	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	2; Red 6;	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 11	10; Biotite	01 %	100; 100 so % fra fel	some larger quartz grains. A few strongly altered fragments (green and brown - chlorite and altered feldspar?)
HFM14	•	.0 .0	80; Greyish 2	2; Red 8;		® :0	80; Greyish 2;	Red	Fine-to medium lined	to tamorphic,			49; Plagioclase		10; Biotite 16	16; Epidote 60	60; 60/40 10 ca	101057 slightly deformed (lineated/foilated). Traces of calcite and epidote.
HFM14	6 - 96	97 0;	0;	2; Red gr	8; Medium to coarse ograined	;; ;;	5 0	Red	8; Medium to coarse grained			32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	8	80; 80/20 so	some biotite slightly chlorite altered.
HFM14	•		ö		9; Medium-grained (1-1 5 mm)		80; Greyish 2;	Red	m to coarse		Granite to srite, rphic, medium	32; Potash Feldspar		36; Quartz 1	10; Biotite	20	50/50	
HFM14	- 86	99 100; Light	80; Greyish	2; Red 9;	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	Red	to medium	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar		36; Quartz 11	10; Biotite 10	107; Prehnite 100; %	100	slightly deformed (foliated/lineated).
HFM14	•		0;				80; Greyish 2;	Red	im-grained (1-			32; Potash Feldspar	.,			ite	100	slightly deformed (foliated/lineated). Traces of calcite.Biotite slightly chlorite altered.
HFM14	100 - 101	0;	0;	2; Red 8; gn	8; Medium to coarse grained		80; Greyish 2;	Red		to tamorphic,	101061; Pegmatite, 0 pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 11	10; Biotite 30	30; Calcite 90	90; 90/10 ca	calcite on possible fracture plane.
HFM14	•	0; 0	0;		9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	Red	o medium		101061; Pegmatite, pegmatite	32; Potash Feldspar		36; Quartz 11		<u>6</u>	90/10	
HFM14	•		:0	Red	9; Medium-grained (1- 5 mm)	0;	80; Greyish 2;	Red	o medium	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar				107; Prehnite 10 %		small sample. Biotite partly altered to chlorite.
HFM14	103 - 104	0; ;	:*0	2; Red 6; gr	6; Fine-to medium grained	;0	80; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 11	10; Biotite	%	100; 100 srr %	small sample.

Drill ct	Drill cuttings					Date: 2004-01-20 S	Sign.: 0	Christin Nordman	nan									
			eated d	ŧ	is sampl		Washed an	Washed and sieved drill cuttings sample	ill cutting									
HFM14	104 -	105 0;		0; 2;	Red	6; Fine-to medium 0 grained		onrom. nue 80; Greyish 2; Red	<u>5 0 0 0</u>	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic,	32; Potash Feldspar	MIN-2 49; Plagioclase	36; Quartz 10; Biotite		107; Prehnite 100; 100	100; 100 small %	small sample.
HFM14	105 -	106 100; Light		20; Reddish 8;	Grey	6; Fine-to medium 0 grained	0;	80; Greyish 2;	Red	o medium	medium grained 101057; Granite to granolorite, metamorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	(= 0 [×]	100; 100 small %	small sample. Possibly also some pegmatite.
HFM14	106 -	107 0;	ö	Ň	Red	6; Fine-to medium 0 grained	0: 0	80; Greyish 2;	Red 6; gr	6; Fine-to medium grained	medum grained 101057; Granite to granodiorite, metamorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 small % flsp (? hvdro	small sample. Traces of prehnite. Two grains of white flsp (?) and green mineral (do not react with hortorobhric acid)
HFM14	- 107	108 <mark>0;</mark>	80;	80; Greyish 2;	Red	6; Fine-to medium 0 grained		80; Greyish 2;	Red 6; gr	6; Fine-to medium grained	101057; Granice granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 small %	small sample.
HFM14	108 -	109 0;	80;	80; Greyish 2;	2; Red 6; gr	6; Fine-to medium 0 grained	80 ;0	80; Greyish 2;	2; Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	10; Biotite	16; Epidote 1	100; 100 small %	small sample. Only traces of epidote.
HFM14	- 109	110 0;	ö	'n	Red	6; Fine-to medium 0 grained	0;	80; Greyish 2;	Red 6; gr	6; Fine-to medium grained	101057; Granite to granofite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite 9	100; 100 small %	small sample.
HFM14	- 110	111 0;	ö	3	Red	6; Fine-to medium 0 grained	:0	80; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to gran office, metamorphic, medium orained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 small %	small sample.
HFM14	- 111	112 <u>0;</u>	ö	Ň	Red	6; Fine-to medium 0 grained		80; Greyish 2;	Red 6; F gra	o medium	10.057; Granite to granodiorite, metamorphic, medium grained		49; Plagioclase	36; Quartz	10; Biotite	30; Calcite 1	100; 100 small % chlorit	small sample. Only traces of calcite. Biotite slightly chlorite altered.
HFM14	112 -	113 0;	:08	80; Greyish 2;	Red		:0	80; Greyish 2;	Red 9r	6; Fine-to medium grained	101057; Granite to granodorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite 1	100	small sample.
HFM14	113 -	114 0;	80;	80; Greyish 2;	Red	6; Fine-to medium 0 grained		80; Greyish 2;	Red 6; 1 gra	6; Fine-to medium grained	101057; Granite to granodorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite 1	100; 100 small %	small sample. Traces of prehnite, calcite.
HFM14	114 -	115 0;	:08	80; Greyish 2;	Red		100; Light 8	80; Greyish 2;	Red 6; gr	o medium	101057; Granite to granodorite, metamorphic, medium grained			36; Quartz	10; Biotite	107; Prehnite 1 %	100	small sample. Only traces of prehnite.
HFM14	115 -	116 0;	:08	80; Greyish 2;	2; Red 6; gr		100; Light 8	80; Greyish 2;	Red 6; 912	6; Fine-to medium grained	101057; Granite to granodorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite 1	100; 100 small %	small sample. Only traces of prehnite.
HFM14	116 -	117 0;	80;	80; Greyish 2;	2; Red 6; gr	6; Fine-to medium 1 grained	100; Light 8	80; Greyish 2;	2; Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite 1	100; 100 small %	small sample. Traces of calcite, prehnite, hematite.
HFM14	- 117	118 0;	80;	80; Greyish 2;	2; Red 6; gr	6; Fine-to medium 1 grained	100; Light 8	80; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to gra nodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 small %	small sample.
HFM14	- 118	119		Ċ,Î	Red		80 :0:	ŝ	Red	o medium	10/05/7; Granite to granodiorite, metamorphic, medium grained		49; Plagioclase		10; Biotite	107; Prehnite	100	small sample.
HFM14	119 -	120 200; Dark		20; Reddish 8;	Grey	6; Fine-to medium 0 grained	ö	80; Greyish 2;	Red 6; gra	6; Fine-to medium grained	101057; Granite to granodorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 small %	small sample.
HFM14	120 -	121 100; Light		20; Reddish 8;	Grey		æ :ó	ŝ	Red 6; gr	6; Fine-to medium grained	101057; Granite to granodorite, metamorphic, medium grained		49; Plagioclase	36; Quartz	10; Biotite		100	small sample. With some biotite rich aggregates - from biotite altered amphibolite or from granite- granodiorite?
HFM14	121 -	122		ώ	Grey		:0	80; Greyish 2;	Red 6; F gra	o medium	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 small % fragm	small sample. With biotite as above - but very small fragments- probably from granite-granodiorite.
HFM14	122 -			άΰ	Grey		:0		gra gra	o medium	101057; Granite to gra nodiorite, metamorphic, medium grained		49; Plagioclase	36; Quartz	10; Biotite		100	small sample. Traces of rusty mineral - pyrite?
HFM14	123 -	124 100; Light		80; Greyish 2;	Red	6; Fine-to medium 0 grained	~	80; Greyish 2;	2; Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite 1	100; 100 small % pyrite	small sample. Traces of prehnite and rusty mineral - pyrite?
HFM14	124 -	125 100; Light		80; Greyish 2;	2; Red 6; gr	6; Fine-to medium 0 grained	:0	80; Greyish 2;	2; Red 6; F gra	Fine-to medium ained	101057; Granite to granodorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite 1	100; 100 small %	small sample. Traces of rusty mineral - pyrite?
HFM14	125 -			άĵ	Grey		:0		ar ar		101057; Granite to granodiorite, metamorphic, medium grained		49; Plagioclase	36; Quartz	10; Biotite		100	small sample.
HFM14	126 -	127 100; Light		80; Greyish 2;	Red		:0	80; Greyish 2;	2; Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		49; Plagioclase	36; Quartz	10; Biotite		100; 100 small %	small sample. Traces of rusty mineral - pyrite?
HFM14	127 -	128 100; Light	ight 20;	20; Reddish 8; Grey		6; Fine-to medium 0 grained	~	80; Greyish 2;	2; Red 6; F gra	o medium	101057; Granite to granodiorite, metamorphic, medium grained		49; Plagioclase	36; Quartz 10; Biotite	10; Biotite	107; Prehnite 1	100; 100 small %	small sample. Prehnite as sealed fracture.
HFM14	128 -	129 100; Light		20; Reddish 8;	Grey		0;	80; Greyish 2;			101057; Granite to granodiorite, metamorphic, medium grained			36; Quartz		. 0-	100; 100 small %	small sample. Traces of rusty mineral - pyrite?
HFM14	129 -	130 0;	ö	3	Red	6; Fine-to medium grained	0;	80; Greyish 2;	2; Red 6; F gra	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		107; Prehnite	100; 100 small %	small sample.

Drill cuttings	tings				e: 2004-01-20	Sign.:	Christin Nordman	Iman										
			Untreated drill cuttings sample	Ittings sar	mple Graineiro	Washed an	Washed and sieved drill cuttings sample	rill cutting		Book time A	Dock time D	Min 4	c uiM	Min 2	1 A MIN	Min E	Dietr	Kommonter
HFM14	130 - 13	131 0;	80; Greyis	80; Greyish 2; Red	6; Fine-to medium		80; Greyish 2; Red		Fine-to medium	to	NUCK LYPE D	32; Potash		Ę		site		traces of calcite and chlorite. Latter as alteration
					grained					granodiorite, metamorphic, medium grained		Feldspar	Plagioclase				% prod	product from biotite.
HFM14	131 - 13	132 100; Light	ht 20; Reddish	sh 8; Grey	6; Fine-to medium grained	ö	Greyish		6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 3	30; Calcite	100; 100 trace % gree	traces of rusty mineral (pyrite?) calcite and possibly green fluorite?
HFM14	132 - 133	33	ó	2; Red	6; Fine-to medium grained	ö	80; Greyish 2	d d	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 sma %	small sample. Traces of rusty mineral - pyrite?
HFM14	133 - 134	34 0;	80; Greyis	80; Greyish 2; Red	6; Fine-to medium grained	ö			o medium	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100	some biotite altered - chlorite?
HFM14	•	135 <u>0;</u>	20; Reddish 8;	sh 8; Grey		:0				101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		8	small sample. some biotite altered - chlorite? (on oxidized parts) Traces of rusty mineral - pyrite?
HFM14	•	136 0;	80; Greyish	Ň	6; Fine-to medium grained	:0				101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase				100	small sample. Traces of rusty mineral - pyrite?, strongly weathered grain (open fracture?), some chlorite as alteration product from biotite.
HFM14	•	37 0;	80; Greyish	sh 2; Red	6; Fine-to medium grained	:0	80; Greyish 2		Fine-to medium ained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite 3	30; Calcite	100; 100 sma % poss	small sample. Traces of laumontite, calcite, green possibly fluorite, chlorite and rusty mineral.
HFM14	137 - 138	38	20; Reddi:	20; Reddish 2; Red	6; Fine-to medium grained	:0	80; Greyish 2		6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite		100	small sample. Traces of prehnite and rusty mineral.
HFM14	138 - 13	139 100; Light	ht 20; Reddish 8;	sh 8; Grey	6; Fine-to medium grained	ö	80; Greyish 2	2; Red 6; 9r	Fine-to medium ained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 sma % wea	small sample. Some rusty minerals. One rusty, weathered fragment - from open fracture?
HFM14	139 - 14	140 100; Light	ht 20; Reddish	sh 8; Grey	6; Fine-to medium grained	;o	80; Greyish 2	3 B	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 sma %	small sample.
HFM14	140 - 14	141 100; Light		sh 8; Grey	6; Fine-to medium grained	ö	80; Greyish 2	2; Red 6; gn	Fine-to medium ained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 sma % oper	small sample. One weathered, rusty grain - from open fracture? Traces of aphanitic mafic grains.
HFM14	141 - 14	142 <u>0;</u>	80; Greyish	sh 2; Red	6; Fine-to medium grained	:0			6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 3	30; Calcite	100	small sample. Traces of calcite, prehnite (?) and weathered fragments.
HFM14	142 - 14	143 0;	80; Greyish	sh 2; Red	6; Fine-to medium grained	:0	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 1	107; Prehnite	100; 100 %	small sample.
HFM14	143 - 14	144 100; Light	ht 20; Reddi:	20; Reddish 8; Grey	6; Fine-to medium grained	ö	80; Greyish 2	2; Red 6; gr	Fine-to medium ained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 3	30; Calcite	100; 100 sma % mine	small sample. Traces of calcite, prehnite and rusty mineral.
HFM14	144 - 14	45 100; Ligh	- 145 100; Light 20; Reddish 8; Grey	sh 8; Grey	6; Fine-to medium grained	ö	80; Greyish 2		6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		30; Calcite	100	small sample.
HFM14	145 - 14	146 100; Light		20; Reddish 8; Grey	6; Fine-to medium grained	ö	80; Greyish 2		Fine-to medium ained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100	small sample. Also rusty mineral.
HFM14	146 - 14	147 100; Light	ht 20; Reddish	sh 8; Grey	6; Fine-to medium grained	ö	80; Greyish 2	2; Red 6; 91	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 3	30; Calcite	100; 100 sma %	small sample.
HFM14	147 - 148	48 100; Light	ht 20; Reddish 8;	sh 8; Grey	6; Fine-to medium grained	ö	20; Reddish 8	8; Grey 6; gr	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		30; Calcite	100; 100 small s. % fluorite.	small sample. Traces of calcite and green possibly fluorite.
HFM14		49 100; Ligr	100; Light 20; Reddish 8; Grey	sh 8; Grey		ö	80; Greyish 2		o medium	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	10; Biotite		100; 100 sma %	small sample.
HFM14	149 - 15	50 100; Ligh	- 150 100; Light 20; Reddish 8; Grey	sh 8; Grey	6; Fine-to medium grained	:0	80; Greyish 2; Red		6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	10; Biotite		100; 100 sma % oper	100, 100 small sample. Some weathered fragments - from % open fracture?

Drill cuttings	inds				Date: 2004-01-26	Sign.: C	Christin Nordman	man									
	000	Untreate	d drill cuttin	gs samp		Vashed and	d sieved d	rill cutti	ngs sample								
Hole fi HEM15	from to	to Lightn.	Chrom. 1 B0: Graviteh 12	Hue C	ainsize Addium to coarea	Lightn. Chrom. Hue Grai	Chrom. 1	Hue	Grainsize	Rock type A Rock type B	Min-1 32: Dotach	Min-2	Min-3	Min-4	Min-5	Distr.	Kommentar slichtly deformed (foliated/lineated). Transs of valcite
			10,000,000		grained	200	2, 10,000,00)		Feldspar	Plagioclase		2	2000	% %	pyrite, white feldspar.
HFM15		3 100; Light	80; Greyish	2; Red 9	9; Medium-grained (1- 0 5 mm)	0;	80; Greyish 2	2; Red			32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	16; Epidote	100; 100 %	slightly deformed (foliated/lineated). Traces of epidote, white feldspar.
HFM15	3 -	4 100; Light	40; Brownish	8; Grey 8		200; Dark 8	80; Greyish 2	2; Red	9; Medium-grained (1- 5 mm)	101057; Grante to granoforte, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM15	4	5 100; Light	:0					2; Red			32; Potash Feldspar	49; Plagioclase	36; Quartz				slightly deformed (foliated/lineated).
HFM15	2 -	6 100; Light	20; Reddish	8; Grey 8	8; Medium to coarse grained	200; Dark 81	80; Greyish 2	2; Red	9; Medium-grained (1- 5 mm)	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite	, 100; 100 %	sightly deformed (foliated/lineated). Traces of white feldspar.
HFM15	. 9	7 100; Light	20; Reddish	8; Grey 9 5	9; Medium-grained (1- 2 5 mm)		80; Greyish 2	2; Red		101057; Grante to granodorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	water in sample from here and downwards. Larger quariz grains (qz-fracture or pegmatite). slightly deformed (foliated/lineated).
HFM15	•			Grey	9; Medium-grained (1- 200; Dark 5 mm)				9; Medium-grained (1- 5 mm)	101057; Granite to granodiorite, metamorphic, medium grained		49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM15	8	<u>о</u>	20; Reddish 8;	Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red		101057; Granite to granodiorite, metamorphic, medium grained		49; Plagioclase	36; Quartz 10; Biotite	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM15		10 ;;	ö	8; Grey 9 5	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red			32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM15	10 - 1	11 0;	ö	8; Grey 9 5	1.1	200; Dark 81	80; Greyish 2	2; Red	9; Medium-grained (1- 5 mm)	101057: Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite	, 100; 100 %	slightly deformed (foliated/lineated).
HFM15	- -	12 0;	ö	8; Grey 8 9	8; Medium to coarse 2 grained	200; Dark 81	80; Greyish 2	2; Red	9; Medium-grained (1- 5 mm)	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	Quartz 10; Biotite	30; Calcite	100; 100 %	slightly deformed (foliated/lineated). Traces of calcite and metal from drill bit?
HFM15	12 - 1	13 <u>0;</u>	20; Reddish 8;	Grey	9; Medium-grained (1- 2 5 mm)	200; Dark 81	80; Greyish 2	2; Red	9; Medium-grained (1- 5 mm)	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	Quartz 10; Biotite	107; Prehnite	, 100; 100 %	Traces of prehnite.
HFM15	13 - 1	14 0;	20; Reddish 8	8; Grey 9 5	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red	9; Medium-grained (1- 5 mm)	101057: Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated). Possibly traces of epidote?
HFM15	14	15 0;	20; Reddish 8	8; Grey 9 5	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red		101057: Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite	, 100; 100 %	slightly deformed (foliated/lineated).
HFM15	•		20; Reddish 8;	Grey	9; Medium-grained (1- 200; Dark 5 mm)			Red		101057; Granite to 101061; Pegmatite, granodorite, metamorphic, pegmatitic granite medium grained						90; 90/10	slightly deformed (foliated/lineated).Rock type ratio uncertain.
HFM15	16 - 1	17 0;	80; Greyish 2	2; Red 9	9; Medium-grained (1- 2 5 mm)	200; Dark 81	80; Greyish 2	2; Red	9; Medium-grained (1- 5 mm)	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM15	17 - 1	18 0;	80; Greyish 2	2; Red 9	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red		101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	sightly deformed (foliated/lineated).
HFM15	- 1	19 0;	Greyish		9; Medium-grained (1- 200; Dark 5 mm)				÷	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar						slightly deformed (foliated/lineated).
HFM15	19 - 2	50 5	80; Greyish 2	2; Red 9	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red		101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite	, 100; 100 %	slightly deformed (foliated/lineated). Traces of prehnite, calcite, pyrite. Some biotite slightly chlorite altered.
HFM15	20 - 2	21 0;			9; Medium-grained (1- 2 5 mm)			2; Red	ine-to medium ned	101057; Granite to granodiorite, metamorphic, medium grained		49; Plagioclase	36; Quartz 10; Biotite	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM15	21 - 2	53 0:	80; Greyish 2	2; Red 9	9; Medium-grained (1- 2 5 mm)	200; Dark 81	80; Greyish 2	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 %	slightly deformed (foliated/lineated).Traces of calcite, prehnite.
HFM15	•	33 53); Greyish		9; Medium-grained (1- 2 5 mm)		Greyish	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar		Quartz			100; %	slightly deformed (foliated/lineated).
HFM15	23 - 2	24 0;		2; Red 5	9; Medium-grained (1- 2 5 mm)	200; Dark 81	80; Greyish 2	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite	, 100; 100 %	slightly deformed (foliated/lineated).traces of iron hydroxide, calcite,
HFM15	24 - 2	25 200; Dark	ö	2; Red 9	9; Medium-grained (1- 2 5 mm)	200; Dark 0;		2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	Quartz 10; Biotite	107; Prehnite		Traces of calcite, iron hydroxide (?), hematite. Some biotite slightly chlorite altered.
HFM15	25 - 2	<u>0:</u>	8 	8; Grey 9 5	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2	2; Red		101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	50; Pyrite	100; 100 %	slightly deformed (foliated/lineated). Traces of pyrite (very fine grained to aphanitic aggregates), calcite
HFM15	26 - 2	27 0;	:0	8; Grey 9 5	9; Medium-grained (1- 2 5 mm)	200; Dark 81	80; Greyish 2	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	3; Amphibole	60; 60/40	amph slightly foliated/lineated. Traces of calcite.

Drill cuttings	tinas				Date: 2004-01-26	Sign.:	Christin Nordman	dman										
			l Đ	ngs sam		Washed ar	nd sieved o	drill cutti										
Hole HEM15	from to	to Lightn.	Chrom.	Hue B: Grev	Grainsize Lic	Lightn.	Chrom. 80: Gravish	Hue 2: Red	size		Rock type B Mi	Min-1 1 32 · Dotach 12	Min-2 N 40: 3	Min-3 N 36: Ouarth 11	Min-4 Mi 10: Biotite 130	Min-5 D 30: Calcite 110	Distr. 1	Kommentar slichtlv deformed (foliated/lineated). Tranes of
			ō	500	5 mm)	 5	10.600			granodiorite, metamorphic, medium grained	E E						2	amphibolite, possibly prehnite
HFM15	28 - 2	59 0:	20; Reddish	8; Grey	9; Medium-grained (1- 0; 5 mm)		80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32 Fei	32; Potash 4 Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite	%	0; 100	slightly deformed (foliated/lineated).
HFM15	- 3	30 <u>0</u> ;	ö	8; Grey	2; Fine-grained (<1 mm)	:0	ö	2; Red	, e	0	32 Fei	32; Potash 4 Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite		0 0	aphanitic to fine grained - not possible to wash sample. Minerals hardly identifiable
HFM15	•		20; Reddish	ά	9; Medium-grained (1- 5 mm)					101057; Granite to granodiorite, metamorphic, medium grained	32 Fe				10; Biotite	~ ~	100	slightly deformed (foliated/lineated).
HFM15	31 - 3	32 0;	20; Reddish	8; Grey	9; Medium-grained (1- 100; Light 5 mm)			2; Red		101057; Granite to granodiorite, metamorphic, medium grained	32 Fei	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	10 %		slightly deformed (foliated/lineated).
HFM15	32 - 3	33 <u>0;</u>	20; Reddish	8; Grey	9; Medium-grained (1- 100; Light 5 mm)			2; Red	omedium	101057; Granite to granodiorite, metamorphic, medium grained	32 Fei	32; Potash Z Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite	× -1	100; 100 s %	slightly deformed (foliated/lineated).
HFM15	33 - 33	34 <u>0;</u>	20; Reddish	8; Grey	9; Medium-grained (1- 0; 5 mm)	:0	10; Pinkish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	Fei		49; Plagioclase	36; Quartz 1	10; Biotite 10	107; Prehnite 10 %	0; 100	slightly deformed (foliated/lineated). Traces of prehnite,
HFM15	34 - 3	35 0;	80; Greyish	2; Red	9; Medium-grained (1- 0; 5 mm)	ö	10; Pinkish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32 Fei	32; Potash / Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite 10	107; Prehnite 10 %	100; 100 ti %	traces of prehnite
HFM15	35 - 3	36 0;		8; Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	72 Fei		49; Plagioclase	36; Quartz 1	10; Biotite	~ %	100; 100 s % ti	slightly deformed (foliated/lineated). Possibly also traces of pegmatite.
HFM15	36 - 3	37 0;	20; Reddish	8; Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	72 Fei	32; Potash / Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite	~ ~	100; 100 s %	slightly deformed (foliated/lineated).
HFM15	37 - 3	38	10; Pinkish	8; Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32 Fei	32; Potash 4 Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite	%	0; 100	slightly deformed (foliated/lineated).
HFM15	- - 88	39	ö	8; Grey	6; Fine-to medium grained		80; Greyish			101057; Granite to granodiorite, metamorphic, medium grained	32 Fei	_		36; Quartz 1		50; Pyrite 10 %		possibly slightly deformed (foliated/lineated). Only traces of pyrite.
HFM15	39 - 4	40 ;;	20; Reddish	8; Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish	2; Red		101057; Granite to granodiorite, metamorphic, medium grained	32 Fei	32; Potash 4 Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite	~ %	100; 100 %	
HFM15	40 - 4	41 0;	20; Reddish 8; Grey	8; Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish	2; Red		101057; Granite to granodiorite, metamorphic, medium grained	32 Fei	32; Potash 4 Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite 50;	50; Pyrite 10 %	0; 100	slightly deformed (foliated/lineated). Only traces of pyrite.
HFM15	41 - 4	42 0;	20; Reddish	8; Grey	6; Fine-to medium grained		80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	Fei	32; Potash 4 Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite	10 %	0; 100	slightly deformed (foliated/lineated). With larger quartz grains- probably from vein.
HFM15	42 - 4	43 0;	20; Reddish	8; Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	72 Fei	32; Potash / Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite	~ ~	100; 100 s %	slightly deformed (foliated/lineated).
HFM15	43 -	44 ;;	10; Pinkish	8; Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32 Fei		49; Plagioclase	36; Quartz 1	10; Biotite	~ %	100; 100 s %	slightly deformed (foliated/lineated).
HFM15	•		40; Brownish	8; Grey	6; Fine-to medium grained				o medium	101057; Ĝranite to granodiorite, metamorphic, medium grained	32 Fe				10; Biotite	~ ~	100	slightly deformed (foliated/lineated).
HFM15	•	46 0;	10; Pinkish	ŝ	9; Medium-grained (1- 200; Dark 5 mm)				o medium	101057; Granite to granodiorite, metamorphic, medium grained	32 Fe				10; Biotite	~~~	100	slightly deformed (foliated/lineated).
HFM15	46 - 4	47 0;	20; Reddish	8; Grey	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish	2; Red		101057; Granite to granodiorite, metamorphic, medium grained	32 Fe		49; Plagioclase	36; Quartz 1	10; Biotite	10 %	0; 100	slightly deformed (foliated/lineated).
HFM15	47 - 4	48 100; Light	t 10; Pinkish	8; Grey	6; Fine-to medium grained		80; Greyish	2; Red		101057; Granite to granodiorite, metamorphic, medium grained	32 Fei	32; Potash 2 Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite	% 10	0; 100	slightly deformed (foliated/lineated).
HFM15	48 - 4	49 0;	10; Pinkish	8; Grey	9; Medium-grained (1- 0; 5 mm)		80; Greyish	2; Red		101057; Granite to granodiorite, metamorphic, medium grained	32 Fei		49; Plagioclase	36; Quartz 1	10; Biotite	~~~	100; 100 s %	slightly deformed (foliated/lineated).
HFM15	49 - 5	50 100; Light	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)			2; Red	o medium	101057; Granite to granodiorite, metamorphic, medium grained	72 Fei	_	49; Plagioclase	36; Quartz 1	10; Biotite	~ ~	100; 100 s %	some very fine grained biotite rich aggregates.
HFM15	50 - 5	51 0;	10; Pinkish	8; Grey	9; Medium-grained (1- 0; 5 mm)		80; Greyish	2; Red	o medium	101057; Granite to granodiorite, metamorphic, medium grained	72 Fei		49; Plagioclase	36; Quartz 1	10; Biotite 30;	30; Calcite 10 %	0; 100	only traces of calcite.
HFM15	51 - 5	52 100; Light		2; Red	9; Medium-grained (1- 5 mm)	:0	80; Greyish			101057; Granite to granodiorite, metamorphic, medium grained	32 Fe		49; Plagioclase	6; Quartz 1	10; Biotite	10 %	100; 100 s %	slightly deformed (foliated/lineated).
HFM15	52 - 5	53 O;	20; Reddish	8; Grey	9; Medium-grained (1- 5 mm)	:0	80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32 Fe	32; Potash 4 Feldspar F	49; Plagioclase	36; Quartz 1	10; Biotite	~ ~	100; 100 s %	slightly deformed (foliated/lineated).

Drill cuttings	tings				e: 2004-01-26	Christin Nordman	man									
			Untreated drill cuttings sample	ings samp	aineiza	Washed and sieved drill cutting	rill cuttin	igs sample Grainsize	Pock type A	Pock time B	Min-4	Min-2 Min-3	Min-4	Min.5	Dietr	Kommentar
HFM15	53 - 5	54 0;		8; Grey	rained (1-	80; Greyish 2;	2; Red 6	ine-to medium ned	to tamorphic,	e je	32; Potash Feldspar	lase	Ę	te	60; 60/40	
HFM15	- 54	55 0;	10; Pinkish	8; Grey	9; Medium-grained (1- 100; Light 5 mm)	80; Greyish 2; Red		6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; 36; Quartz Plagioclase	artz 10; Biotite		hnite 60; 6	107; Prehnite 60; 60/40 traces of prehnite
HFM15	•			1; Pink	9; Medium-grained (1- 0; 5 mm)		2; Red 6		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase		ite 30; Calcite	100; %	
HFM15	- 56	57 100; Light	ht 80; Greyish	2; Red	9; Medium-grained (1- 0; 5 mm)		2; Red 6		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	artz 10; Biotite	ite	100; %	100 sightly deformed (foliated/lineated).
HFM15	57 - 5	0: 28	80; Greyish	1; Pink	9; Medium-grained (1- 0; 5 mm)	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	artz 10; Biotite	ite	100; 100 %	100 slightly deformed (foliated/lineated). Traces of pegmatite and uncertain prehnite.
HFM15	•	59 0;	10; Pinkish	8; Grey	9; Medium-grained (1- 100; Light 5 mm)	10; Pinkish 8;	8; Grey 8		101058; Granite, metamorphic, aplitic	102017; Amphibolite		49; 36; Quartz Plagioclase	artz 10; Biotite	ite 3; Amphibole		80/20 also some 101057, amph foliated/lineated. Traces of pyrite, prehnite, catcite.
HFM15	59 - 6	:: 0:	80; Greyish	2; Red	9; Medium-grained (1- 0; 5 mm)	80; Greyish 2;	2; Red 6	6; Fine-to medium grained	orphic,	101061; Pegmatite, pegmatitic granite	e.	49; 36; Quartz Plagioclase	artz 10; Biotite	ite	6 :06	90; 90/10 Traces of folitated amphibolite.
HFM15	- 60	61 0;	80; Greyish	2; Red	9; Medium-grained (1- 0; 5 mm)	80; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	artz 10; Biotite	ite 107; Prehnite	thnite 100; 100 %	100 slightly deformed (foliated/lineated). Traces of we athered surfaces (open fracture?)
HFM15	61 - 6	62	80; Greyish	2; Red	9; Medium-grained (1- 0; 5 mm)	80; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	artz 10; Biotite	ite	100; 100 %	100 slightly deformed (foliated/lineated).
HFM15	62 - 6	0: 83	ó		9; Medium-grained (1- 0; 5 mm)	80; Greyish 2;	2; Red 6 9		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	artz 10; Biotite	ite 107; Prehnite		100 possibly slightly deformed (foliated/lineated). Only traces of prehnite. Also pegmatite?
HFM15	63 - 6	64 		2; Red	9; Medium-grained (1- 0; 5 mm)	80; Greyish 2;	Red		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase	artz 10; Biotite	ite	100; %	100 sightly deformed (foliated/lineated).
HFM15	- 6 -	65 0;	Greyish	2; Red	6; Fine-to medium 0; grained		2; Red 6		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase		ite	100; %	100
HFM15	65 - 6	.: 99	80; Greyish	2; Red	9; Medium-grained (1- 0; 5 mm)	80; Greyish 2;	2; Red 6 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	artz 10; Biotite	ite	, 100 %	100 sightly deformed (foliated/lineated).
HFM15	- 6	67 0;	ó	2; Red	9; Medium-grained (1- 0; 5 mm)	80; Greyish 2;	Red		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase	artz 10; Biotite	ite 33; Chlorite	100; %	100 slightly deformed (foliated/lineated). Traces of chlorite and possibly chalcopyrite. Chl could be an alteration product from biotite.
HFM15	•			2; Red		80; Greyish 2;	2; Red 6 9	o medium	101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase		ite 30; Calcite	100 %	100
HFM15	- 68	69 100; Light		2; Red	6; Fine-to medium 100; Light grained	0. .0		e	ite, e	101057; Granite to granodiorite, metamorphic, medium grained		49; 36; Quartz Plagioclase			50;	50/50 Iuncertain rock type ratio. 101057 slightly deformed (foliated/lineated). Only traces of amphibole.
HFM15	•	70 0;	20; Reddish 8;	Grey		80; Greyish 2;			101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase		ite 30; Calcite		
HFM15	- 7	71 0;	80; Greyish	2; Red	6; Fine-to medium 100; Light grained	80; Greyish 2;	Red		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase	artz 10; Biotite	ite	100; %	100 deformed (foliated/lineated).
HFM15	•	72 0;	Greyish	2; Red	9; Medium-grained (1- 0; 5 mm)		Red		101057; Granite to granodiorite, metamorphic, medium grained			gioclase			100; %	
HFM15	72 - 7	73 0;	80; Greyish	2; Red	9; Medium-grained (1- 0; 5 mm)	80; Greyish 2;	Red		101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; 36; Quartz Plagioclase	artz 10; Biotite		100; %	100
HFM15	73 - 7	74 0;	ó		9; Medium-grained (1- 0; 5 mm)	80; Greyish 2;	2; Red 6 9		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase		ite 107; Prehnite	100; %	100
HFM15	•	75 0;	:*		6; Fine-to medium 0; grained	80; Greyish 2;	Red		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase		ite	100; %	
HFM15	•	76 0;	:0	2; Red	6; Fine-to medium 0; grained				101057; Granite to granodiorite, metamorphic, medium grained						100; %	100
HFM15	•	77 0;	80; Greyish	2; Red	6; Fine-to medium 0; grained		2; Red 6 9		101057; Granite to granodiorite, metamorphic, medium grained			49; 36; Quartz Plagioclase			100; %	100
HFM15	•	78 0;	80; Greyish	2; Red	6; Fine-to medium 0; grained	80; Greyish 2;			to tamorphic,			49; 36; Quartz Plagioclase			te	
HFM15	78 - 7	:0 64	20; Reddish	8; Grey	6; Fine-to medium 0; grained	80; Greyish 2;	2; Red 6 9	6; Fine-to medium grained	to tamorphic,	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; 36; Quartz Plagioclase	artz 10; Biotite	ite 33; Chlorite	rite 90; 90/10	0.10 deformed (foliated/inneated). Traces of chlorite and hematte on probably open fracture plane. Also white fieldspar (possible fracture mineral). Rock type ratio uncertain

Drill cuttings	uttings				õ	Date: 2004-01-26 S	Sign.: CI	Christin Nordman	man										
	0		18	ill cutting	is sampl		Washed and sieved drill cutting	I sieved di	rill cuttin	s sample									
HEM15	1rom 79 -	80 0; 80 0;	0; 80; 0	Chrom. H 80; Greyish 2;	2; Red 6; 9r	6; Fine-to medium 0 grained	; 8(Chrom. H 80; Greyish 2;	2; Red 9 6	ainsize Fine-to medium ined	to tamorphic,	Kock type B 101061; Pegmatite, pegmatitic granite	MIN-1 32; Potash Feldspar	MIN-2 49; Plagioclase	MIN-3 36; Quartz	10; Biotite	-uiw	015tr. 1 80; 80/20 1	Kommentar 101057 deformed (foliated/lineated). Rock type ratio uncertain.
HFM15	80	81 0;	80;	80; Greyish 2;	Red	6; Fine-to medium 0 grained	0; 20	20; Reddish 8;	Grey	6; Fine-to medium	medium grained 101057; Granite to granodiorite, metamorphic,		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 6 %	deformed (foliated/lineated). Possibly also some pegmatite.
HFM15	81 -	82 0;	10;	10; Pinkish 8;	Grey	6; Fine-to medium 1 grained	100; Light 10	10; Pinkish 8;	Grey	6; Fine-to medium	101057; Granite to granodiorite, metamorphic, medium crained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 0 %	deformed (foliated/lineated). Traces of white feldspar (fracture mineral?).
HFM15	82 -	83 200	200; Dark 20; I	20; Reddish 8;	8; Grey 6; gra	6; Fine-to medium 2 grained	200; Dark 80;	0; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite	100; 100 s	slightly deformed (foliated/lineated). Traces of prehnite, chlorite (?)
HFM15	83	84 0;	ö	Ň	Red	6; Fine-to medium 0 grained	:0 :0		Red	9; Medium-grained (1- 5 mm)	ite,	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		80; 80/20	pegmatite leucocratic.
HFM15	84 -	82 82	ö	Ň	2; Red 9; 5 1	9; Medium-grained (1- 0) 5 mm)		80; Greyish 2;	Red	9; Medium-grained (1- 5 mm)	101061; Pegmatite, pegmatitic granite	; Granite to orite, orphic, medium	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		50; 50/50 F	Rock type ratio uncertain. Weathered fragment. 101057 slightly deformed (foliated/lineated).
HFM15	85 -	86 0;	ö	Ń	Red		:0	80; Greyish 2;	2; Red 9	o medium	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	33; Chlorite	100; 100 % 1	weathered, chlorite altered biotite rich fragment from fradure (altered amphibolite?) Possibly some gemetite. Traces of white feldspar (fracture mineral?)
HFM15	86 -	87 0;	ö	Ň		6; Fine-to medium 2 grained	200; Dark 80;	0; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 s %	seems slightly deformed (foliated/lineated). Traces of calcite, dull open fracture surface.
HFM15	- 8	88	200; Dark 50; Gree	50; Greenish		8; Medium to coarse 2 grained		80; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 s %	slightly deformed (foliated/lineated).
HFM15	88	:0 88	ö	Ń		9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2;	2; Red 9 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 p %	probably slightly deformed (foliated/lineated). Traces of iron hydroxide, white feldspar (fracture mineral?)
HFM15	- 88	:0 06	ö	Ń	2; Red 9; 5 r	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2; Red		6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	33; Chlorite	100; 100 s %	slightly deformed (foliated/lineated). Some dull surfaces- from open fractures. Traces of chlorite
HFM15	- 06	91 ;	ö	Ń		6; Fine-to medium 0 grained	:0			6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 p %	probably slightly deformed (foliated/lineated). Traces of calcite, prehnite. Some biotite slightly chlorite altered.
HFM15	91 -	92 0;	ö	Ń	2; Red 9; 5 r	9; Medium-grained (1-0 5 mm)			2; Red g	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite 1	100; 100 %	probably slightly deformed (foliated/lineated). Some biotite slightly attered - get a metallic lustre. Traces of calcite and hematite.
HFM15	92 -	6; 6	ö	Ń		6; Fine-to medium 0 grained		Ń	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite	100; 100 t	traces of white feldspar (fracture mineral), calcite, prehnite.
HFM15	- 6	94 0;	ó	Ň	2; Red 9; 5 r	9; Medium-grained (1- 200; Dark 5 mm)		80; Greyish 2; Red		6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	16; Epidote	100; 100 s	slightly deformed (foliated/lineated). Traces of epidote, traces of white feldspar and qz as probable sealed fracture.
HFM15	94 -	92 0:	ö	Ń	Red	9; Medium-grained (1-0 5 mm)		80; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite	100; 100 t %	traces of pyrite, white feldspar probable as sealed fracture. Possibly slightly deformed (foliated/lineated).
HFM15	95 -	:0 96	ö	Ň	Red	9; Medium-grained (1-0; 5 mm)		80; Greyish 2;		6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained			49; Plagioclase	36; Quartz	10; Biotite	33; Chlorite	100; 100 t %	traces of chlorite, iron hydroxide
HFM15	- 96	97 100	100; Light 0;	Ń		9; Medium-grained (1- 100; Light 5 mm)	100; Light 0;			8; Medium to coarse grained	101061; Pegmatite, pegmatitic granite	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	33; Chlorite	90; 90/10 t	traces of chlorite, calcite, white feldspar. 101057 could be from fracture zone.
HFM15	- 76	:0 86	ö	Ň	2; Red 9; 5 r	9; Medium-grained (1-0; 5 mm)	:0		2; Red 5,9	9; Medium-grained (1- 5 mm) 1	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		90; 90/10 1	90; 90/10 traces of iron hydroxide.
HFM15	- 86	; 66	ö	Ń	Red	9; Medium-grained (1- 0 5 mm)	:0	<u>i</u>	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite 80;	80/20	rock type ratio uncertain. Traces of prehnite, white feldspar. 101057 probably slightly deformed (foliated/lineated).

Drill cutting	tings				e: 2004-01-27	Sign.: C	Christin Nordman	Iman										
Hole f	from to	Untreate to Lightn.	Untreated drill cuttings sample Lightn. Chrom. Hue Gr	ings san Hue	ainsize	Washed and sieved drill cutting: Lightn. Chrom. Hue Gr	nd sieved d Chrom. F	Irill cuttir Hue	s sample ainsize	Rock type A	Rock type B	Min-1	Min-2	Min-3	Min-4	Min-5	Distr.	Kommentar
HFM19	5	6 100; Light	:0	4; Browr	4; Brown grained 0	0;	80; Greyish	2; Red 9	ine-to medium ned	Granite to vrite, metamorphic, grained	101061; Pegmatite, 3 pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		90; 90/10 c	contaminated by moraine.
HFM19	. 9	7 0;	20; Reddish	4; Browr	20; Reddish 4; Brown 4; Coarse-grained (> 5	0;	80; Greyish	2; Red 5	9; Medium-grained (1- 5 mm)	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 <mark>s</mark> %	slightly deformed (foliated/lineated). Contaminated by moraine.
HFM19	- 7	8 100; Light	20; Reddish	1 4; Brown	8; Medium to coarse grained	0; 8	80; Greyish	2; Red ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 <mark>s</mark> %	slightly deformed (foliated/lineated). Some smooth surfaces - probably fracture planes. Traces of calcite and muscovite.
HFM19	с; ю	6 6	20; Reddish	1 4; Brown	8; Medium to coarse grained	0; 8	80; Greyish	2; Red 5	9; Medium-grained (1- 5 mm)	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 s %	slightly deformed (foliated/lineated). Traces of white feldspar (fracture mineral?) and calcite from moraine.
HFM19	- -	10 0;	40; Brownish	8; Grey	9; Medium-grained (1- 5 mm)	0;	80; Greyish	2; Red 6	6; Fine-to medium grained	norphic,	101061; Pegmatite, 3 pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		90; 90/10	deformed (foliated/lineated). Traces of calcite from moraine.
HFM19	10 - 1	11 100; Light	40; Brownish	8; Grey	9; Medium-grained (1- 5 mm)	0;	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Ğranite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 <mark>8</mark> %	slightly deformed (foliated/lineated). Some larger quartz grains, traces of white feldspar. Calcite as contamination from moraine.
HFM19		12 100; Light	:*	4; Brown	9; Medium-grained (1- 5 mm)	0;	80; Greyish 2	2; Red ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 s %	slightly deformed (foliated/lineated). Traces of white and green fragments (prehnite-quartz?)
HFM19	- 12	13 0;	20; Reddish	B; Grey	8; Medium to coarse grained	8 :0	80; Greyish	2; Red	9; Medium-grained (1- 5 mm)		101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	80; 80/20	water in sample from here and downwards. 101057 sightly beformed (oristed/insetec). Traces of calcie, epidote. Calcite grains have small (aphantic) dark green slightly transparent spherulites (prehnite?).
HFM19	13 - 1	14 0;	80; Greyish	2; Red	9; Medium-grained (1- 5 mm)	:0	80; Greyish 2	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 s %	slightly deformed (foliated/lineated). Only traces of calcite.
HFM19	14 - 1	15 0;	80; Greyish	2; Red	9; Medium-grained (1- 5 mm)	0;	80; Greyish	2; Red ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 s %	slightly deformed (foliated/lineated). Traces of calcite, prehnite.
HFM19	15 - 1	16 0;	80; Greyish	2; Red	9; Medium-grained (1- 5 mm)	0;	80; Greyish	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 <mark>s</mark> %	slightly deformed (follated/lineated). Traces of calcite.
HFM19	16 - 1	17 0;	20; Reddish	8; Grey	9; Medium-grained (1- 5 mm)	0; 1	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 s	slightly deformed (follated/lineated). Traces of calcite.
HFM19	17 - 1	18 0;	80; Greyish	2; Red	9; Medium-grained (1- 5 mm)	0; 8	80; Greyish	2; Red ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 s %	slightly deformed (foliated/lineated). Traces of calcite and iron hydroxide.
HFM19	- 1	19 100; Light	t 10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	0; 1	10; Pinkish 8	8; Grey 9	6; Fine-to medium grained	Granite to brite, metamorphic, grained	101061; Pegmatite, 3 pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	50; Pyrite	60; 60/40 ¹	101057 slightly deformed (foliated/lineated). Traces of pyrite in 101057 (not in fracture)
HFM19	19 - 2	20 0;	80; Greyish	2; Red	9; Medium-grained (1- 5 mm)	0; 2	20; Reddish 8	8; Grey 9	6; Fine-to medium grained	to tamorphic,	101061; Pegmatite, 3 pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	50; Pyrite	90; 90/10 1	101057 slightly deformed (foliated/lineated). Traces of rusty mineral.
HFM19	20 - 2	21 0;	:0	2; Red	9; Medium-grained (1- 5 mm)	;	20; Reddish 8; Grey		6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 s %	sightly deformed (foliated/lineated). Uncertain prehnite.
HFM19	21 - 2	22 100; Light	:*	8; Grey	9; Medium-grained (1- 5 mm)	100; Light 0	0; 8	8; Grey ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	50; Pyrite	100; 100 <mark>8</mark> %	slightly deformed (foliated/lineated). Relatively rich in pyrite. Almost white - still a 101057 or a tonalite? If so appr 90% tonalite 10% 101057
HFM19	22 - 2	23 100; Light	: 80; Greyish	2; Red	9; Medium-grained (1- 5 mm)	100; Light 8	80; Greyish	2; Red ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 s	slightly deformed (follated/lineated).
HFM19	23 - 2	24 100; Light	:*	8; Grey	9; Medium-grained (1- 5 mm)	0;	80; Greyish 7	7; White 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 s	slightly deformed (follated/lineated). Or a tonalite?
HFM19	24 - 2	25 100; Light	: 10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	100; Light 8	80; Greyish	2; Red ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 s	slightly deformed (follated/lineated).
HFM19	25 - 2	26 100; Light	80; Greyish	2; Red	9; Medium-grained (1- 5 mm)	100; Light 8	80; Greyish 2	2; Red ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite	100; 100 s %	slightly deformed (foliated/lineated). Traces of prehnite, pyrite, epidote.
HFM19	26 - 2	27 100; Light	: 80; Greyish	2; Red	9; Medium-grained (1- 5 mm)	0; 0	0; 1	1; Pink ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 8 %	slightly deformed (foliated/lineated). Traces of calcite. Calcite has spherulites of quartzprehnite? Concrete???
HFM19	27 - 2	28 100; Light	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	;0	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	to tamorphic,	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	50; Pyrite	100; 100 1	101057 slightly deformed (foliated/lineated). Amphibolite biotite altered. Any amphibole left?
HFM19	28 - 2	29 0;	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	0; 1	10; Pinkish 8	8; Grey g	6; Fine-to medium grained	to tamorphic,		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 s	slightly deformed (follated/lineated).
HFM19	29 - 3	30	50; Greenish	9; Black	9; Medium-grained (1- 5 mm)	:0	б :0	9; Black n	2; Fine-grained (<1 mm)	102017; Amphibolite	101057; Granite to granodiorite, metamorphic, medium grained	3; Amphibole	49; Plagioclase	10; Biotite	32; Potash Feldspar	36; Quartz	90; 90/10 8	90; 90/10 amphibolite partly biotite and phlogopite (?) altered.

Drill ct	Drill cuttings					9: 2004-01-27	Sign.: C	Christin Nordman	Iman										
Hole	from	¢	Untreated Lightn.	Untreated drill cuttings sample Lightn. Chrom. Hue Gra	ings sam Hue	ainsize	Washed and sieved drill cutting Lightn. Chrom. Hue Gr	d sieved d Chrom. F	Irill cuttin Hue	ngs sample Grainsize	Rock type A	Rock type B	Min-1	Min-2	Min-3	Min-4	Min-5	Distr.	Kommentar
HFM19	30 -	31 10		-	8; Grey	9; Medium-grained (1- 5 mm)	100; Light 1	10; Pinkish 8	8; Grey ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	ibole	100; 100 %	slightly deformed (foliated/lineated). Traces of amphibolite.
HFM19	31 -	32	100; Light	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)		80; Greyish	1; Pink ⁸	8; Medium to coarse grained	101061; Pegmatite, pegmatitic granite	<u> </u>	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		60; 60/40	101057 sightly deformed (foliated/lineated).
HFM19	32 -	33	100; Light	80; Greyish	1; Pink	9; Medium-grained (1- 5 mm)	0;	80; Greyish 1; Pink		8; Medium to coarse grained	101061; Pegmatite, pegmatitic granite	<u> </u>	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		70; 70/30	101057 slightly deformed (foliated/lineated). Traces of rust and hematite.
HFM19	33 -	34	100; Light	80; Greyish	1; Pink	9; Medium-grained (1- 5 mm)	<u>o</u> :0	0;	1: Pink	8; Medium to coarse grained	101061; Pegmatite, pegmatitic granite	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		80; 80/20	101057 slightly deformed (foliated/lineated). Traces of biotite rich aggregates (altered amphibolite?)
HFM19	34 -	32	ö	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8	8; Grey ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	Pegmatite, ic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	107; Prehnite	90; 90/10	slightly deformed (foliated/lineated). Traces of prehnite, calcite, rust.
HFM19	35 -	36	100; Light	20; Reddish 8; Grey	8; Grey	9; Medium-grained (1- 5 mm)	0; 1	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated). Traces of epidote, rusty minerals.
HFM19	36 -	37 0	0;	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	0; 1	10; Pinkish 8	8; Grey 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM19	37 -	38	:0	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	0; 1	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 %	slightly deformed (foliated/lineated). Traces of calcite.
HFM19	38	39	0;	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	0; 1	10; Pinkish 8	8; Grey 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM19	- 39	40	;0	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	0; 2	20; Reddish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 %	slightly deformed (foliated/lineated). Traces of calcite.
HFM19	40 -	41	:0	20; Reddish	8; Grey	9; Medium-grained (1- 5 mm)	100; Light 8	80; Greyish	2; Red 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 %	slightly deformed (foliated/lineated). Traces of calcite, pyrite.
HFM19	41 -	42	ö	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	100; Light 8	80; Greyish	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM19	42 -	43 0	:0	80; Greyish	2; Red	9; Medium-grained (1- 5 mm)	0; 8	80; Greyish	2; Red 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated). Traces of pegmatite.
HFM19	43 -	4	ö	80; Greyish	2; Red	9; Medium-grained (1- 5 mm)	0;	80; Greyish	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	90; 90/10	slightly deformed (foliated/lineated). Traces of quartz- calcite sealed fracture (Qz probably older).
HFM19	44	45 0	0;	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	0; 2	20; Reddish 8	8; Grey 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 %	slightly deformed (foliated/lineated). Calcite with spherulites, traces of prehnite.
HFM19	45 -	46	0;	0;	8; Grey	9; Medium-grained (1- 5 mm)	0; 1	10; Pinkish 8	8; Grey 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM19	46 -	47 11	100; Light	20; Reddish	8; Grey	9; Medium-grained (1- 5 mm)	100; Light 1	10; Pinkish 8	8; Grey ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	90; 90/10	101057 slightly deformed (foliated/lineated). Calcite with spherulites and calcite together with epidote.
HFM19	47 -	48	:0	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8	8; Grey 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM19	48 -	49	ö	0:	8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	3; Amphibole	90; 90/10	sightly deformed (foliated/lineated). Amph slightly biotite altered. Traces of epidote in amphibolite.
HFM19	49 -	20	0;	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	0; 1	10; Pinkish 8	8; Grey 9	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM19	50 -	51	0;	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	0; 8	80; Greyish	2; Red ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	3; Amphibole	100; 100 %	slightly deformed (foliated/lineated). Traces of amphibolite.
HFM19	51 -	52	:0	20; Reddish	8; Grey	9; Medium-grained (1- 5 mm)	200; Dark 8	80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	50; Pyrite	100; 100 %	slightly deformed (foliated/lineated). Traces of pyrite.
HFM19	- 52	23	0;	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)		10; Pinkish 8	8; Grey ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	50; Pyrite	100; 100 %	slightly deformed (foliated/lineated). Traces of pyrite.
HFM19	53 -	5	0;	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	100; Light 1	10; Pinkish 8	8; Grey ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	16; Epidote	100; 100 %	slightly deformed (foliated/lineated). Traces of epidote. Also traces of pegmatite?
HFM19	54 -	55 0;		20; Reddish 8; Grey	8; Grey	9; Medium-grained (1- 5 mm)		20; Reddish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).

Drill cuttings	tings				9: 2004-01-27	Sign.: C	Christin Nordman	man									
Hole		Untrea to Lightr	Untreated drill cuttings sample Lightn. Chrom. Hue Gra	suttings sa h. Hue	insize	Washed and sieved drill cutting Lightn. Chrom. Hue Gr	d sieved di hrom. H	rill cuttin lue	igs sample Grainsize	Rock type A	Rock type B	Min-1	Min-2	Min-3	Min-4 Min-5	-5 Distr.	Kommentar
HFM19	•		ö	8; Grey	edium-grained (1- n)	100; Light 10	10; Pinkish 8;	8; Grey 6;	ine-to medium ined	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	ase	Ę	te		
HFM19	56 - 5	57 100; Light	ght 10; Pinkish	dish 8; Grey	9; Medium-grained (1- 5 mm)	100; Light 81	80; Greyish 1;	1; Pink 8:	8; Medium to coarse grained	tite, te	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	70; 70/30	30
HFM19	57 - 5	58 0;	10; Pinkish	dish 8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 16; E	Epidote 90; 90/	90/10 slightly deformed (foliated/lineated). Traces of epidote and rusty mineral.
HFM19	58 - 5	20 °;	10; Pinkish	dish 8; Grey	9; Medium-grained (1- 5 mm)	0;	20; Reddish 8;	Grey	6; Fine-to medium grained	to tamorphic,	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	/06 :06	90/10 signtly deformed (foliated/lineated).
HFM19	59 - 6	60 0;	10; Pinkish	kish 8; Grey	9; Medium-grained (1- 5 mm)	0; 10	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	100; 100 %	00 slightly deformed (foliated/lineated). Traces of rusty mineral.
HFM19	- 60	61 0;	10; Pinkish	tish 8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 16; E	16; Epidote 100; 100	00 slightly deformed (foliated/lineated). Traces of epidote.
HFM19	61 - 6	62 0;	10; Pinkish	cish 8; Grey	9; Medium-grained (1- 5 mm)	0; 11	10; Pinkish 8;	Grey	9; Medium-grained (1- 5 mm)	to tamorphic,	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 16; E	16; Epidote 90; 90/10	/10 slightly deformed (foliated/lineated). Traces of hematite, epidote
HFM19	62 - 6	63 0;	10; Pinkish	tish 8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 30; C	30; Calcite 100; 100	00 slightly deformed (follated/lineated). Traces of calcite with spherulites, pyrite.
HFM19	63 - 6	64 0;	ö	8; Grey	9; Medium-grained (1- 5 mm)	0;		Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 16; E	16; Epidote 90; 90/	90/10 sightly deformed (foliated/lineated). Traces of epidote.
HFM19	64 - 6	65 0;	20; Red	Reddish 8; Grey	9; Medium-grained (1- 5 mm)	0; 10	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	_	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 16; E	16; Epidote %	00 slightly deformed (foliated/lineated). Traces of epidote.
HFM19	65 - 6	66 0;	20; Red	Reddish 8; Grey	9; Medium-grained (1- 5 mm)	0;	20; Reddish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	80; 80/	80/20 101057 slightly deformed (foliated/lineated).
HFM19	- 99	67 0;	ö	8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 27; H	27; Hematite %	⁰⁰ slightly deformed (follated/lineated). Traces of pegmatite and hematite pigmented feldspar sealed fracture.
HFM19	67 - 6	68 100; Light	ght 10; Pinkish	dish 8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	100; 10%	100 sightly deformed (foliated/lineated). Rusty fragment from drill bit or fracture.
HFM19	- 68	69 0;	10; Pinkish	dish 8; Grey	9; Medium-grained (1- 5 mm)	0; 0;	.8	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	100; 10 %	100 sightly deformed (foliated/lineated).
HFM19	2 - 69	70 200; Dark	ark 0;	8; Grey	9; Medium-grained (1- 5 mm)	100; Light 0;	; 8;	Grey	8; Medium to coarse grained	101061; Pegmatite, pegmatitic granite	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz	3; Amphibole 10; E	10; Biotite 70; 70/30	
HFM19	7 - 7	71 100; Light	ght 50; Greenish	th 8; Grey	9; Medium-grained (1- 5 mm)	100; Light 0;	; 8;	Grey		101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz		10; Biotite 70; 70/30	[40% 101057, 30% pegmatite, 30% amphibolite? /30 [Relatively rich in prehnite and epidote. Traces of calcite and hematite.
HFM19	71 - 7	72 0;	;o	8; Grey	9; Medium-grained (1- 5 mm)	0; 10	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz		3; Amphibole 90; 90/	90/10 both slightly deformed (foliated/lineated). Traces of prehnite - mostly related to amphibolite.
HFM19	72 - 7	73 0;	:0	8; Grey	9; Medium-grained (1- 5 mm)	0; 10	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 107;	107; Prehnite %	00 slightly deformed (foliated/lineated). Traces of prehnite.
HFM19	73 - 7	74 100; Light	ght 10; Pinkish	kish 8; Grey	6; Fine-to medium grained	100; Light 80	80; Greyish 1;	1; Pink ^{8;}	8; Medium to coarse grained		101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 27; H	27; Hematite 90; 90/	90/10 traces of calcite and amphibolite.
HFM19	74 - 7	75 0;	ö	8; Grey	6; Fine-to medium grained	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	100; 10 %	100 slightly deformed (foliated/lineated). Traces of pegmatite.
HFM19	75 - 7	76 0;	20; Reddish	ldish 8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	100; 100 %	00 slightly deformed (foliated/lineated). Traces of pegmatite.
HFM19	76 - 7	77 0;	:0	8; Grey	9; Medium-grained (1- 5 mm)	0; 10	10; Pinkish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	60; 90/	90/10 101057 slightly deformed (foliated/lineated).
HFM19	- 17	78 0;	80; Greyish	yish 2; Red	9; Medium-grained (1- 5 mm)	0;	80; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, 3 pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 3; Ar	3; Amphibole 90; 90/	90/10 slightly deformed (foliated/lineated). Traces of amphibolite. 101057 or 101051?
HFM19	78 - 7	79 0;	20; Reddish	ldish 8; Grey	9; Medium-grained (1- 5 mm)	0; 21	20; Reddish 8;	Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	_	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	100; 100 %	00 sightly deformed (foliated/lineated).
HFM19	79 - 8	80 100; Light	ght 80; Greyish	yish 2; Red	9; Medium-grained (1- 5 mm)	100; Light 0;	Ň	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	-	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite 3; An	Amphibole %	00 slightly deformed (foliated/lineated). Traces of calcile, rusty minerals and amphibolite.
HFM19	80 - 8	81 0;	ö	8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8;	8; Grey 6;	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	10; Biotite	100; 100 %	00 sightly deformed (foliated/lineated). Traces of rusty mineral.

Drill cuttings	inas				Date: 2004-01-27	Sign.: C	Christin Nordman	man									
			ed drill cu	Untreated drill cuttings sample		Washed and sieved drill cutting	d sieved d	rill cuttin	s sample	-							
Hole fi	from to	to Lightn.	Chrom.	Hue	ainsize	Lightn.	Chrom.	Hue	ainsize	Rock type A Rock type B 101057: Granite to	Min-1	n-2	Min-3	Min-4	Min-5		Kommentar
HFM19	81 - 82	5 0;	ö	8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	orite, metamorphic, 1 grained	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (foliated/lineated).
HFM19	82 - 8(83 0;	:0	8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8	8; Grey 6;	6; Fine-to medium grained	morphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s	sightly deformed (foliated/lineated).
HFM19	83 - 84	4 ;;	ó	8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	to tamorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	50; Pyrite	100; 100 s %	sightly deformed (foliated/lineated). 5% pegmatite. Traces of pyrite, rusty mineral.
HFM19	84 - 85	5 0;	ő	8; Grey	9; Medium-grained (1- 5 mm)	;0	10; Pinkish 8	8; Grey 6; gr	6; Fine-to medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s % p	slightly deformed (foliated/lineated). Traces of pegmatite.
HFM19	85 - 86	; 0	ö	8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	to tamorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 1	16; Epidote	100; 100 s % h	slightly deformed (foliated/lineated). Traces of hematite, epidote
HFM19	86 - 87	-2 O;	ö	8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8	8; Grey 6;	6; Fine-to medium grained	norphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s	slightly deformed (follated/lineated).
HFM19	87 - 88	8	ö	8; Grey	9; Medium-grained (1- 5 mm)	0;	10; Pinkish 8	8; Grey 6;	6; Fine-to medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (follated/lineated). Traces of pegmatite, epidote/prehnite, rusty mineral.
HFM19	88 - 89	9 100; Light	t 10; Pinkish	sh 8; Grey	6; Fine-to medium grained	100; Light	10; Pinkish 8;	Grey	6; Fine-to medium grained	to tamorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s	slightly deformed (follated/lineated). Also pegmatite?
HFM19	89 - 90	0 100; Light	t 10; Pinkish	sh 8; Grey	6; Fine-to medium grained	0;	10; Pinkish 8	8; Grey 6;	6; Fine-to medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (foliated/lineated). Traces of rusty mineral.
HFM19	90 - 91	1 100; Light	t 20; Reddish	ish 8; Grey	6; Fine-to medium grained	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	to tamorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	16; Epidote	100; 100 s % e	slightly deformed (foliated/lineated). Traces of epidote, rusty minerals.
HFM19	91 - 92	2 100; Light	t 20; Reddish	ish 8; Grey	6; Fine-to medium grained	0;	80; Greyish 2;	Red	6; Fine-to medium grained	norphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 1	16; Epidote	100; 100 s %	slightly deformed (foliated/lineated). Traces of epidote.
HFM19	92 - 93	3 100; Light	t 20; Reddish	ish 8; Grey	9; Medium-grained (1- 5 mm)	0;	80; Greyish 2	2; Red 6;	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (foliated/lineated). Traces of rusty mineral.
HFM19	93 - 94	4 100; Light	t 10; Pinkish	sh 8; Grey	6; Fine-to medium grained	0 :0	;;	1; Pink 8;	8; Medium to coarse 1 grained	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 2	27; Hematite	90; 90/10	
HFM19	94 - 95	5 100; Light	t 20; Reddish	ish 8; Grey	6; Fine-to medium grained	0;	80; Greyish 2;	Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 2	27; Hematite	100; 100 s % p	slightly deformed (foliated/lineated). Traces of pegmatite and hematite.
HFM19	95 - 96	6 100; Light	t 80; Greyish	sh 2; Red	6; Fine-to medium grained	8 ;0	80; Greyish 2	2; Red 6;	6; Fine-to medium grained	to tamorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s	sightly deformed (foliated/lineated).
HFM19	96 - 95	7 100; Light	t 20; Reddish	ish 8; Grey	6; Fine-to medium grained	0; 0	80; Greyish 2;	Red	6; Fine-to medium grained	to tamorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 2	27; Hematite	100; 100 s % h	slightly deformed (foliated/lineated). Traces of hematite.
HFM19	97 - 98	8	20; Reddish	ish 8; Grey	6; Fine-to medium grained	0;	80; Greyish	2; Red 6;	6; Fine-to medium grained	to tamorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s	slightly deformed (foliated/lineated).
HFM19	66 - 86	6	20; Reddish	ish 8; Grey	6; Fine-to medium grained	0;	80; Greyish 2;	Red		to amorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100	slightly deformed (follated/lineated).
HFM19	99 - 10	100 0;	:0	1; Pink	6; Fine-to medium grained	0;	0; 1	1; Pink 5	9; Medium-grained (1-1 5 mm)	ite, te	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 2	27; Hematite	100; 100 %	traces of 101057.
HFM19	100 - 10	101 100; Light	t 20; Reddish	ish 8; Grey	6; Fine-to medium grained	100; Light 2	20; Reddish 8	8; Grey 6;	6; Fine-to medium grained	norphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s	slightly deformed (foliated/lineated).
HFM19	101 - 10	102 100; Light	t 20; Reddish	ish 8; Grey	6; Fine-to medium grained	Ö:	20; Reddish 8	8; Grey 6;	6; Fine-to medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 p	possibly slightly deformed (foliated/lineated).
HFM19	102 - 10	103 100; Light	:ó	8; Grey	6; Fine-to medium grained	0;	10; Pinkish 8	8; Grey 6;	6; Fine-to medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	30; Calcite	100; 100 p	possibly slightly deformed (foliated/lineated).
HFM19	103 - 10	104 100; Light	; 0	8; Grey	6; Fine-to medium grained	0; 2	20; Reddish 8;	Grey	6; Fine-to medium grained	to tamorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 a	any deformation?
HFM19	104 - 105	0; 0;	:0	8; Grey	6; Fine-to medium grained	0;	10; Pinkish 8;	Grey	6; Fine-to medium grained	to tamorphic,	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 a	any deformation?
HFM19	105 - 10	106 0;	;0	8; Grey	6; Fine-to medium grained	0; 1	10; Pinkish 8	8; Grey ^{6;}	6; Fine-to medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s %	slightly deformed (foliated/lineated). Traces of rusty mineral.
HFM19	106 - 107	0; 0;	ö	8; Grey	6; Fine-to medium grained	0;	10; Pinkish 8	8; Grey 6;	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 s	slightly deformed (foliated/lineated).

Drill cuttings	tings				s: 2004-01-27	Sign.:	Christin Nordman										
aloH		Untreate to I inhtn	Untreated drill cuttings sample	ngs san Hue	insize	Washed ar	Washed and sieved drill cutting	tings sample Grainsize	Rock type A	Rock type B	Min-4	Min-2	Min.3	Min-4	Min-5	Dictr	Kommentar
0	· •		:0	8; Grey	ne-to medium ned	100; Light	0; 8; Grey	ine-to medium ined	norphic,	tite, te	32; Potash Feldspar	lase	ZT I	ite	e	40	101057 slightly deformed. Traces of pyrite, epidote, rusty fragment.
HFM19	108 - 1	109 200; Dark	ö	8; Grey	6; Fine-to medium 0 grained	ö	80; Greyish 9; Black	6; Fine-to medium grained	101057: Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	3; Amphibole	60; 60/40	traces of rusty mineral.
HFM19	109 - 1	110 0;	10; Pinkish	8; Grey	6; Fine-to medium grained	ö	10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	possibly slightly deformed (foliated/lineated).
HFM19	110 - 1	111 0;	10; Pinkish	8; Grey	6; Fine-to medium grained	:0	10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 sl	slightly deformed (foliated/lineated).
HFM19	111 - 1	112 0;	10; Pinkish	8; Grey	6; Fine-to medium grained	ö	80; Greyish 1; Pink	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 sl %	slightly deformed (foliated/lineated). Traces of amphibolite, rusty mineral.
HFM19	112 - 1	113 100; Light	10; Pinkish	8; Grey	6; Fine-to medium grained	:0	10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 sl	slightly deformed (foliated/lineated).
HFM19	113 - 1	114 0;	ö	8; Grey	6; Fine-to medium grained	:0	0; 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	3; Amphibole	100; 100 %	slightly deformed (foliated/lineated). Traces of amphibolite, rusty mineral.
HFM19	114 - 1	115 0;	ö	8; Grey	6; Fine-to medium grained	:0	10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	3; Amphibole	100; 100 %	slightly deformed (foliated/lineated). Traces of amphibolite and possibly prehnite.
HFM19	115 - 1	116 0;	10; Pinkish	8; Grey	6; Fine-to medium 0 grained	0;	20; Reddish 8; Grey	6; Fine-to medium grained	norphic,	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		80; 80/20 11	101057 slightly deformed (foliated/lineated).
HFM19	116 - 1	117 0;	:0	8; Grey	6; Fine-to medium 0 grained	:0	20; Reddish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	3; Amphibole	100; 100 %	slightly deformed (foliated/lineated). Traces of amphibolite.
HFM19	117 - 1	118 0;	10; Pinkish	8; Grey	6; Fine-to medium 0; grained		20; Reddish 8; Grey	6; Fine-to medium grained	o amorphic,	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		90; 90/10 11	90/10 101057 slightly deformed (foliated/lineated).
HFM19	118 - 1	119 0;	10; Pinkish	8; Grey	6; Fine-to medium grained	ö	20; Reddish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	3; Amphibole	100; 100 %	slightly deformed (foliated/lineated).Traces of pegmatite and amphibolite.
HFM19	119 - 1	120 0;	10; Pinkish	8; Grey	6; Fine-to medium grained	ö	20; Reddish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 sl %	slightly deformed (foliated/lineated). Traces of calcite on possible fracture plane. Also pegmatite?
HFM19	120 - 1	121 0;	10; Pinkish	8; Grey	6; Fine-to medium grained	100; Light	80; Greyish 2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 sl	slightly deformed (foliated/lineated).
HFM19	121 - 1	122 0;	20; Reddish	8; Grey	6; Fine-to medium grained	:0	80; Greyish 2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 sl %	slightly deformed (foliated/lineated). Some grains more oxidized and biotite is slightly chlorite altered.
HFM19	122 - 1	123 0;	20; Reddish	8; Grey	9; Medium-grained (1- 5 mm)	:0	80; Greyish 2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	50; Pyrite	100; 100 sl %	slightly deformed (foliated/lineated). Traces of pyrite, calcite, chlorite.
HFM19	123 - 1	124 0;	20; Reddish	8; Grey	9; Medium-grained (1- 5 mm)	:0	80; Greyish 2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 ^{sl} % al	slightly deformed (foliated/lineated). Relatively rich in calcite - also prehnite. A few grains of 101057 seem aphanitic. Deformed?
HFM19	124 - 1	125 0;	10; Pinkish	8; Grey	9; Medium-grained (1- 5 mm)	ö	80; Greyish 2; Red	6; Fine-to medium grained		101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		60; 60/40 1	101057 deformed (foliated/lineated).
HFM19	125 - 1	126 0;	10; Pinkish	8; Grey	6; Fine-to medium grained	:0	10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	<u>s</u> <u>s</u>	slightly deformed (foliated/lineated). Calcite with spherulites, traces of pyrite and possibly epidote.
HFM19	126 - 1	127 0;	80; Greyish	2; Red	6; Fine-to medium grained	100; Light	0; 2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101058; Granite, metamorphic, aplitic	32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	80; 80/20	rock type ratio very uncertain. Any 101058? Leucocratic sample. Traces of calcite
HFM19	127 - 1	128 0;	80; Greyish	2; Red		:0	80; Greyish 2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 sl %	slightly deformed (foliated/lineated). Some grains leucocratic.
HFM19	128 - 1	129 0;	10; Pinkish	8; Grey	nedium	0;	10; Pinkish 8; Grey	o medium	101057; Granite to granodiorite, metamorphic, medium grained		_	49; Plagioclase	36; Quartz	10; Biotite		100	slightly deformed (foliated/lineated).
HFM19	129 - 1	130 0;	ö	2; Red	6; Fine-to medium 0 grained	;0	0; 2; Red	8; Medium to coarse grained	101061; Pegmatite, pegmatitic granite		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 %	traces of 101057.
HFM19	130 - 1	131 0;	20; Reddish	8; Grey		:0	80; Greyish 2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	30; Calcite	100; 100 sl % el	slightly deformed (foliated/lineated). Traces of calcite, epidote, pegmatite.
HFM19	131 - 1	132 0;	40; Brownish	8; Grey	6; Fine-to medium 0 grained	:0	10; Pinkish 8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite		100; 100 sl	slightly deformed (foliated/lineated).
HFM19	132 - 1	133 0;	20; Reddish	8; Grey	6; Fine-to medium grained	:0	80; Greyish 2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz	10; Biotite	33; Chlorite	100; 100 ul % al	untreated sample slightly rusty. slightly deformed (foliated/lineated). Traces of chlorite, calcite, pyrite - all on possible fracture planes.
HFM19	133 - 1	134 0;	20; Reddish 8; Grey		6; Fine-to medium grained	:0	80; Greyish 2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	10; Biotite		100; 100 sl	slightly deformed (foliated/lineated).

Drill cuttings	ttings				Date: 2004-01-27	Sign.: 0	Christin Nordman	dman										
Hole		Untreat to Lightn.	Untreated drill cuttings sample Lightn. Chrom. Hue Gra	tttings sa Hue	ample Grainsize	Washed and sieved drill cuttings Lightn. Chrom. Hue Gra	d sieved c Chrom.	Irill cuttii Hue	ngs sample Grainsize	Rock type A	Rock type B	Min-1	Min-2	Min-3	Min-4	Min-5	Distr.	Kommentar
HFM19	•	135 0;	ö	2; Red	6; Fine-to medium grained	8 :0	80; Greyish	2; Red	ine-to medium ned	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	30; Calcite	100; 100 %	slightly deformed (foliated/lineated). Traces of calcite, hematite and possibly prehnite.
HFM19	135 - 1	136 0;	80; Greyish	sh 2; Red	6; Fine-to medium grained	0;	80; Greyish	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	30; Calcite	100; 100 %	sightly deformed (foliated/lineated). Traces of calcite and chlorite on possible fracture planes.
HFM19	136 - 1	137 0;	80; Greyish	sh 2; Red	6; Fine-to medium grained	0;	80; Greyish	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	30; Calcite	100; 100 %	slightly deformed (foliated/lineated). Traces of calcite and chlorite.
HFM19	137 - 1	138 0;	40; Brownish	8; Grey	 6; Fine-to medium 9 	;	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 %	(foliated/lineated).
HFM19	138 - 1	139 0;	10; Pinkish	sh 8; Grey	 6; Fine-to medium grained 	0;	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		90; 90/10	101057 slightly deformed (foliated/lineated).
HFM19	139 - 1	140 0;	20; Reddish	ish 8; Grey	6; Fine-to medium y grained	;0	10; Pinkish 8	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 1	107; Prehnite	100; 100 %	slightly deformed (foliated/lineated). Traces of prehnite, calcite, epidote.
HFM19	140 - 1	141 100; Light	tt 10; Pinkish	sh 8; Grey	6; Fine-to medium y grained	100; Light 8	80; Greyish 1	1; Pink	6; Fine-to medium grained	litic	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		70; 70/30	possible 101058 leucocratic. 101057 slightly deformed (foliated/lineated).
HFM19	141 - 1	142 0;	10; Pinkish	sh 8; Grey	 6; Fine-to medium grained 	;0	10; Pinkish 8	8; Grey	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 %	slightly deformed (foliated/lineated). Some leucocratic grains as i sample above.
HFM19	142 - 1	143 0;	10; Pinkish	sh 8; Grey	y 6; Fine-to medium grained	0;	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	3; Amphibole	90; 90/10	101057 slightly deformed (foliated/lineated). Strong hematite pigmentation on possible fracture planes. Some amphibolite.
HFM19	143 - 1	144 100; Light	tt 20; Reddish	ish 8; Grey	y 6; Fine-to medium grained	100; Light 8	80; Greyish	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	30; Calcite	90; 90/10	slightly deformed (foliated/lineated). Traces of calcite, oxidized surfaces, epidote and possibly amphibolite.
HFM19	144 - 1	145 0;	20; Reddish	ish 8; Grey	y 6; Fine-to medium grained	100; Light 8	80; Greyish	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	30; Calcite	90; 90/10	slightly deformed (foliated/lineated). Traces of calcite, prehnite.
HFM19	145 - 1	146 0;	20; Reddish	ish 8; Grey	y 6; Fine-to medium grained	100; Light 8	80; Greyish	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 2	27; Hematite	70; 70/30	sightly deformed (foliated/lineated). Hematite pigmented surfaces and sealed fractures.
HFM19	146 - 1	147 0;	80; Greyish	sh 2; Red	6; Fine-to medium grained	0;	80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 %	sightly deformed (foliated/lineated).
HFM19	147 - 1	148 0;	10; Pinkish	sh 8; Grey	 6; Fine-to medium grained 	9;0	80; Greyish	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 1	107; Prehnite	100; 100 %	slightly deformed (foliated/lineated).
HFM19	148 - 1	149 0;	80; Greyish	sh 2; Red	6; Fine-to medium grained	:0	80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	0; Biotite		100; 100 %	slightly deformed (foliated/lineated). Traces of greenish mineral /mineral aggregate.
HFM19	149 - 1	150 0;	10; Pinkish	sh 8; Grey	 6; Fine-to medium grained 	100; Light 8	80; Greyish 2	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		100; 100 %	slightly deformed (foliated/lineated).
HFM19	150 - 1	151 100; Light	t 10; Pinkish	sh 8; Grey	 6: Fine-to medium 9 grained 	100; Light 1	10; Pinkish 8	8; Grey	8; Medium to coarse grained	ite.	Ę	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite	16; Epidote 8	80; 80/20	traces of epidote.
HFM19	151 - 1	152 100; Light	tt Brownish	8; Grey	6; Fine-to medium y grained	0;	10; Pinkish 7	7; White	8; Medium to coarse grained	.*	101057; Granite to granodiorite, metamorphic, medium grained	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 1	16; Epidote	90; 90/10	untreated sample slightly rusty. Traces of epidote.
HFM19	152 - 1	153 0;	10; Pinkish	sh 8; Grey	 6; Fine-to medium 9 	:0	80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	: Amphibolite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 3	3; Amphibole	90; 90/10	sightly deformed (foliated/lineated). And some pegmatite.
HFM19	153 - 1	154 0;	80; Greyish	sh 2; Red	6; Fine-to medium grained	200; Dark	80; Greyish	2; Red	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 1	107; Prehnite	100; 100 %	slightly deformed (foliated/lineated). Traces of prehnite and oxidized surfaces.
HFM19	154 - 1	155 0;	10; Pinkish	sh 8; Grey	y 6; Fine-to medium grained	0;	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	1orphic,	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite		90; 90/10	101057 slightly deformed (foliated/lineated).
HFM19	155 - 1	156 100; Light	tt 10; Pinkish	sh 8; Grey	 6; Fine-to medium grained 	100; Light 8	80; Greyish	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 5	50; Pyrite	100; 100 %	slightly deformed (foliated/lineated). Traces of pyrite. Possibly also pegmatite.
HFM19	156 - 1	157 0;	0;	8; Grey	y 6; Fine-to medium grained	0;	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase	36; Quartz 1	10; Biotite 1	16; Epidote	100; 100 %	deformed (foliated/lineated). Traces of epidote and pyrite.
HFM19	157 - 1	158 0;	:0	8; Grey	y 6; Fine-to medium grained	0;	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite		16; Epidote	100; 100 %	slightly deformed (foliated/lineated). Traces of epidote.
HFM19	158 - 1	159 0;	10; Pinkish	sh 8; Grey	y 6; Fine-to medium grained	;0	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	36; Quartz 10; Biotite	0; Biotite		100; 100 %	sightly deformed (foilated/lineated).

Drill cuttings	tinas				Date: 2004-01-27	Sign.:	Christin Nordman	lman									
eloH eloH		Untrea Lightn	ted drill c	Untreated drill cuttings sample	ample Grainsize	Washed a	Washed and sieved drill cutting	Irill cuttir	ngs sample Grainsize	Rock type A	Rock type B	Min-1	Min-2 Min-3	Min-4	Min-5	Distr	Kommentar
HFM19	•		80; Greyish	yish 2; Red	6; Fine-to medium grained	ö	80; Greyish	2; Red 6	ine-to medium ined	ite to netamorphic, ed		ash ar	ase	臣	fe		
HFM19	160 - 1	161 0;	80; Greyish	yish 2; Red	6; Fine-to medium grained	ö	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash A	49; Plagioclase 36; Qu	Quartz 10; Biotite	ite	100; 100 %	00 slightly deformed (foliated/lineated).
HFM19	161 - 1	162 100; Light	nt 80; Greyish	yish 2; Red	6; Fine-to medium grained	ö	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase 36; Quartz	iartz 10; Biotite	ite	100; 100 %	30 slightly deformed (foliated/lineated). Traces of prehnite/epidote.
HFM19	162 - 1	163 100; Light	nt 20; Reddish	dish 8; Grey	y 6; Fine-to medium grained	;0	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase 36; Quartz	iartz 10; Biotite	ite	100; 100 %	30 slightly deformed (foliated/lineated).
HFM19	163 - 1	164 100; Light	nt 10; Pinkish	tish 8; Grey	y 6; Fine-to medium grained	ö	80; Greyish 2	2; Red 6	6; Fine-to medium grained	norphic,	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase 36; Quartz	iartz 10; Biotite	ite	80; 80/20	20 101057 slightly deformed (foliated/lineated).
HFM19	164 - 1	165 100; Light	nt 10; Pinkish	tish 8; Grey	 6; Fine-to medium grained 	ö	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase 36; Quartz	iartz 10; Biotite	ilte	90; 90/10	10 101057 slightly deformed (foliated/lineated).
HFM19	165 - 1	166 0;	10; Pinkish	cish 8; Grey	y 6; Fine-to medium grained	ö	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase 36; Quartz	iartz 10; Biotite	ite	100; 100 %	30 slightly deformed (foliated/lineated).
HFM19	166 - 1	167 0;	20; Reddish	dish 8; Grey	 6; Fine-to medium grained 	:0	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase 36; Quartz	lartz 10; Biotite	ite	100; 100 %	30 slightly deformed (foliated/lineated).
HFM19	167 - 1	168 100; Light	nt Brownish	sh 8; Grey	y 6; Fine-to medium grained	ö	10; Pinkish 8	8; Grey 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase 36; Quartz	iartz 10; Biotite	ite	100; 100 %	00 Intreated sample sligthly rusty. slightly deformed (foliated/lineated).
HFM19	168 - 1	169 0;	80; Greyish	yish 2; Red	6; Fine-to medium grained	:0	80; Greyish 2	2; Red 6	6; Fine-to medium grained	to tamorphic,	101061; Pegmatite, pegmatitic granite	32; Potash Feldspar	49; Plagioclase 36; Quartz	artz 10; Biotite	tite 107; Prehnite	nite 80; 80/20	20 101057 slightly deformed (foliated/lineated). Traces of prehnite.
HFM19	169 - 1	170 0;	20; Reddish	dish 8; Grey	 6; Fine-to medium grained 	ö	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase 36; Qu	Quartz 10; Biotite	ite	100; 100 %	30 slightly deformed (foliated/lineated).
HFM19	170 - 1	171 0;	80; Greyish	yish 2; Red	6; Fine-to medium grained	:0	50; Greenish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase 36; Quartz	iartz 10; Biotite	tite 107; Prehnite	nite %	30 slightly deformed (foliated/lineated). Traces of calcite and greenish-white banded aphanitic grains - mylonitic?
HFM19	171 - 1	172 0;	ö	2; Red	2; Fine-grained (<1 mm)	:0	80; Greyish 2	2; Red 6	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase 36; Quartz	iartz 10; Biotite	ite	100; 100 %	00 slightly deformed (foliated/lineated). Traces of greenish aphanitic grains - mylonitic?
HFM19	172 - 1	173 200; Dark	k 80; Greyish	yish 2; Red	2; Fine-grained (<1 mm)	200; Dark	80; Greyish 2	2; Red n	2; Fine-grained (<1 mm)	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase 36; Quartz	lartz 3; Amphibole	oole 10; Biotite	e 60; 60/40	
HFM19	173 - 1	174 0;	80; Greyish	4	Brown 6; Fine-to medium grained	200; Dark	50; Greenish 2	2; Red	2; Fine-grained (<1 mm)	Ð	101061; Pegmatite, pegmatitic granite	49; Plagioclase	3; 32; Potasl Amphibole Feldspar	t Potash 36; Quartz	artz 10; Biotite	e 50; 50/50	
HFM19	174 - 1	175 200; Dark	;0 ¥	4; Brov	Brown 2; Fine-grained (<1 mm)	200; Dark	50; Greenish 2	2; Red n	2; Fine-grained (<1 mm)	101057; Granite to granodiorite, metamorphic, medium grained	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase 36; Quartz		33; Chlorite 10; Biotite	e 60; 60/40	
HFM19	175 - 1	176 0;	50; Greenish	h 2; Red	2; Fine-grained (<1 mm)	:0	20; Reddish 9;	Black	2; Fine-grained (<1 mm)	fe	101057; Granite to granodiorite, metamorphic, medium grained	49; Plagioclase	3; 32; Potash Amphibole Feldspar	tash ar	artz 10; Biotite	e 70; 70/30	
HFM19	176 - 1	177 0;	ö	2; Red	2; Fine-grained (<1 mm)	ö	80; Greyish 2	2; Red ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase 36; Quartz	lartz 10; Biotite	tite 3; Amphibole	oole %	No slightly deformed (foliated/lineated). Traces of amphibolite, epidote and prehnite. Prehnite seems aphanitic.
HFM19	177 - 1	178 0;	80; Greyish	yish 2; Red	2; Fine-grained (<1 mm)	100; Light	20; Reddish 8	8; Grey ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase 36; Quartz	artz 10; Biotite	tite 107; Prehnite	nnite 100; 100 %	00 slightly deformed (foliated/lineated). Traces of prehnite sealed fracture.
HFM19	178 - 1	179 0;	80; Greyish	yish 2; Red	2; Fine-grained (<1 mm)	100; Light	20; Reddish 8	8; Grey ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash 4 Feldspar	49; Plagioclase 36; Quartz	iartz 10; Biotite	ite	100; 100 %	30 slightly deformed (foliated/lineated).
HFM19	179 - 1	180 0;	:0	2; Red	2; Fine-grained (<1 mm)	0;	20; Reddish 8	8; Grey ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase	Quartz 10; Biotite	iite	100; 100 %	00 slightly deformed (foliated/lineated). Traces of white feldspar, possibly from fracture
HFM19	180 - 1	181 0;	80; Greyish	yish 2; Red	2; Fine-grained (<1 mm)	;0	20; Reddish 8	8; Grey ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash Feldspar	49; Plagioclase 36; Quartz	artz 10; Biotite	tite 50; Pyrite	, 100; 100 %	30 slightly deformed (foliated/lineated). Traces of pyrite.
HFM19	181 - 1	182 0;	80; Greyish	yish 2; Red	2; Fine-grained (<1 mm)	0;	80; Greyish 2	2; Red ⁶	6; Fine-to medium grained	101057; Granite to granodiorite, metamorphic, medium grained		32; Potash 4 Feldspar	49; Plagioclase 36; Quartz	artz 10; Biotite	tite 30; Calcite	ie 100; 100	
HFM19	182 - 1	183 0;	20; Red	20; Reddish 9; Black	x 2; Fine-grained (<1 mm)	:0	20; Reddish 9; Black		9; Medium-grained (1- 5 mm)	to tamorphic,	102017; Amphibolite	32; Potash Feldspar	49; Plagioclase	lartz 10; Biotite		3; Amphibole 80; 80/20	one big fragment - the rest very fine grained (untreated). Rock type ratio very uncertain. 20 Amphibolite slightly attered (copper coloured mica?, prehnite).

Drill cu	Drill cuttings				Dai	e: 2004-01-27	Sign.:	Date: 2004-01-27 Sign.: Christin Nordman										
		<u> </u>	Jntreated drill cuttings sample	II cuttings	s sample		Washed a	Nashed and sieved drill cuttings sample	tings sample									
Hole	from	<mark>ل</mark>	Hole from to Lightn. Chrom. Hue Grainsize	uH .mo.	Je Gr	ainsize	Lightn.	ightn. Chrom. Hue G	rainsize	Rock type A	Rock type B Min-1 Min-2 Min-3 Min-4 Min-5 Distr. Kommentar	Min-1	Min-2	Min-3 P	Ain-4 N	in-5	Distr.	commentar
HFM19	- 183	183 - 184 <mark>0;</mark>	:ť	.6	Black 2; F	9; Black 2; Fine-grained (<1 (ö	20; Reddish 9; Black	2; Fine-grained (<1 mm)	102017; Amphibolite	101057; Granite to granodiorite, metamorphic, medium grained	m 49; Plagioclase 3; Amphibole Feldspar 36; Quartz 10; Biotite 90;	3; Amphibole	32; Potash Feldspar	6; Quartz 1	; Biotite 9	90; 90/10 ^s	90: 90/10 slightly deformed (foliated/lineated/).Traces of prehnite, copper coloured mica (7), white feldspar.
HFM19	- 184	184 - 185 <mark>0;</mark>	:0	6: 1	Black 2; F	9; Black 2; Fine-grained (<1 (;0	20; Reddish 9; Black	2; Fine-grained (<1 mm)	102017; Amphibolite		49; Plagioclase 3; Aughribole 36; Quartz 10; Biotite 30; Calcite	3; Amphibole	36; Quartz 1	0; Biotite 3); Calcite 9	100; 100 s	100; 100 sightly deformed (foliated/lineated).