High-level Assessment of Copper Dream project in NE Sudan

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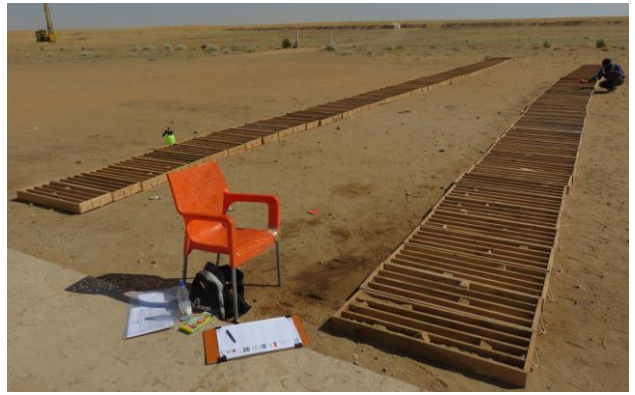
April 24

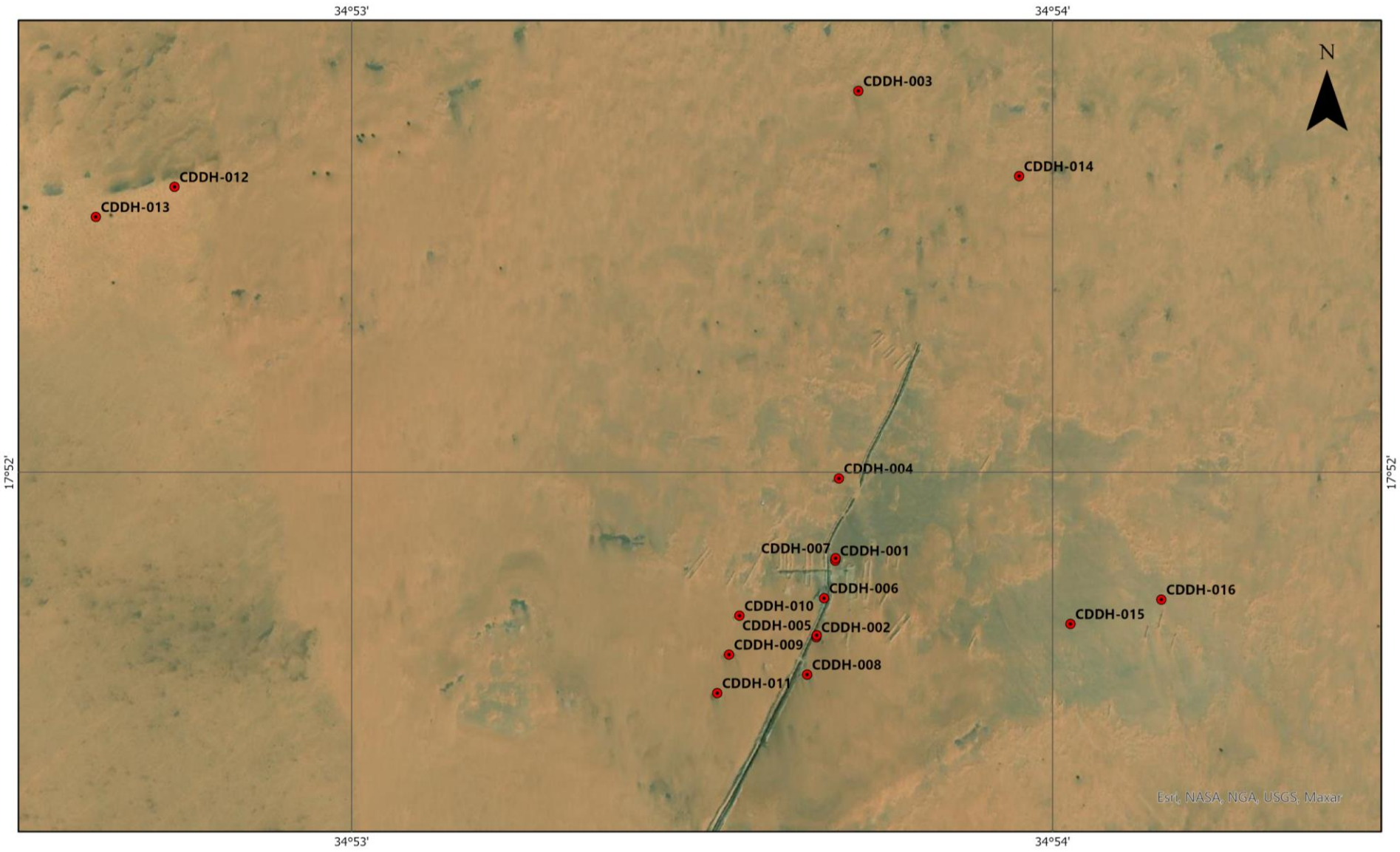
Objectives

1. Ascertain nature of mineralisation at Copper Dream
2. Assess economic viability of deposit
3. Consider and recommend further steps

Methodology

- Review of RC and DDH logs, diamond core images, geochemical data, 3D Leapfrog model, geological & geophysical information
- Identify and log representative DDH core (Anaconda logging method); completed detailed logging of CDDH-001, 002 and 013
- Ground-truth outcrop (none identified) and existing trenches (mostly back-filled but on-site work included logging of major N-S trench and three newly developed E-W trenches in late 2022)





ANS EXPLORATION

Copper Dream

January 2023 - Datum WGS84

Meters

0 250 500

Findings (1)

- Copper Dream undoubtedly a porphyry Cu (±Au-Mo) deposit, based on petrographic and petrological constraints (c.f. Petrolab Report from 26/01/2023), nature and style of both alteration and mineralisation, textural evidence and geological context (see appendices); opens region up for PCD exploration
- Oxide portion of deposit potentially economically viable, subject to further closed-spaced drilling and MRe definition
- Due to low primary Fe content of host rock intrusion, VTEM ineffective in identifying mineralised portion of PCD; IP chargeability has delineated 'bulls-eye' target coincidental with high-grade core of deposit
- Copper Dream deposit situated within evolved (felsic) intrusion beneath Cenozoic lake sediments (up to 5m)

Findings (2)

- Represents primarily a geophysical target; any as yet undiscovered PCDs in the general area are likely to be situated in similar setting; trenching (to >3m depth) useful in delineating outline and high-grade core of deposit
- Copper Dream characterized by low-Fe/high-Cu grades, as evidenced by very limited primary or hydrothermal magnetite, overall low abundance of pyrite, and predominance of bornite over chalcopyrite in hypogene portion of deposit
- Deposit defined by well-developed alteration zonation, including potassic, propylitic, phyllic and argillic alteration
- Core of system intersected in CDDH-001, 002, 005, 008 and 010 (i.e., drilling to date did not 'miss' centre of mineralisation at Copper Dream)
- CDDH-013 – 015 entirely within distal (phyllic to argillic) portion of alteration zonation

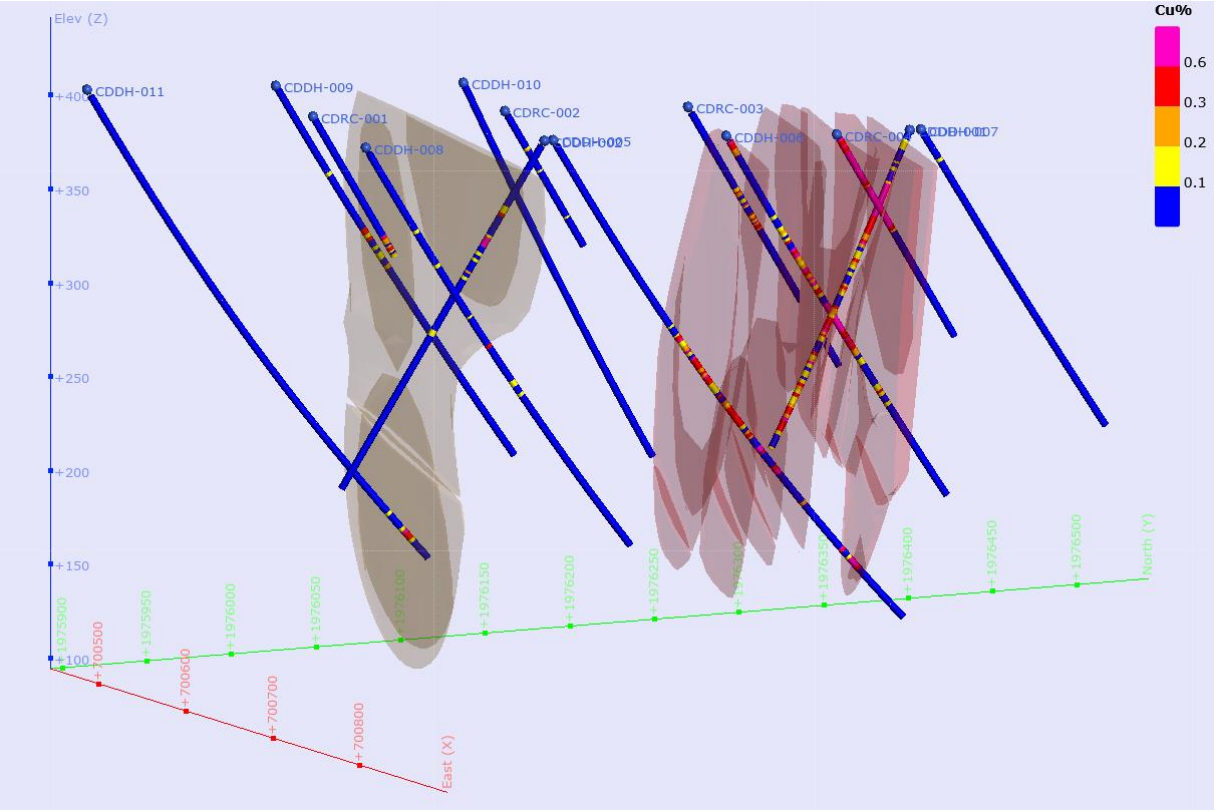
Findings (3)

- Deposit closed off to North, South and East; limited upside potential to West of current drilling
- Deposit developed under relatively high lithostatic pressure conditions in deeper levels of the crust, as evidenced by virtually absent breccia and low abundance of stockwork veins
- Lack of lithocap and/or epithermal mineralisation likely due to erosional influences
- Overall, primary portion of Copper Dream deposit considered too small to be economic, based on erratic and infrequent grade distribution, as well as lateral extent of system; however, significant upside potential exists in wider region within and outside of current EL area

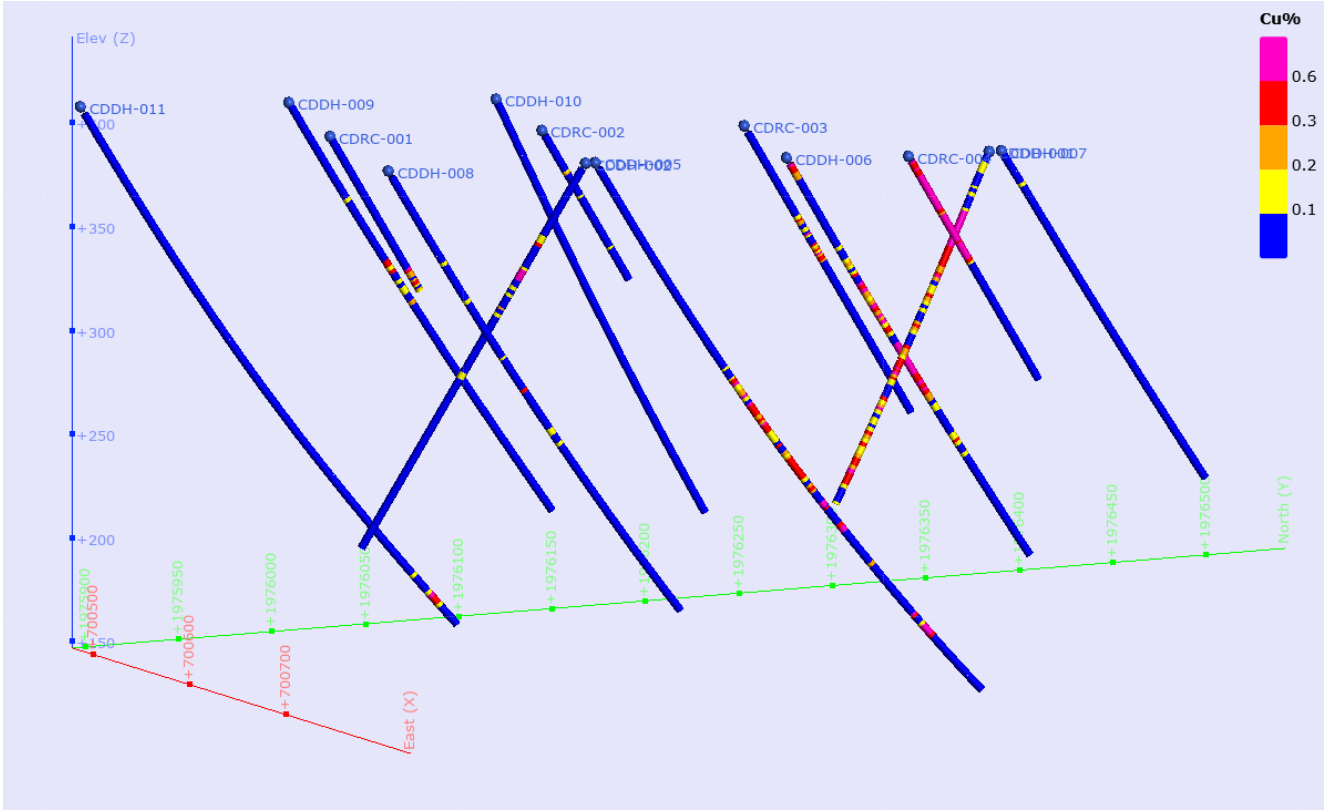
Next steps and recommendations

- Consider delineation of oxide-only resource via closed-spaced drilling across high-grade core of deposit (to ca. 85m depth)
- Review existing geophysical data to delineate additional targets (see appendices)
- Undertake geophysical targeting study within and beyond current EL boundaries, using ground-based GAIP and DDIP line survey methodologies
- Use trenching (to depths of at least 3m) to test and ground-truth geophysical anomalies; complement with RAB/AC drilling and collect bottom-of-hole samples to delineate geochemical vectors
- Extend current geochemical assay suite to include As, Mo, Sb, Te, Pb, Zn, Ag to enable the development of a better constrained ore deposit model and improve understanding of ore genesis, with implications for targeting of 'CD-like porphyry deposits in region of interest
- Consider using hypospectral analysis of drill core to develop comprehensive alteration zonation models; this also provides valuable vectors towards high-grade core of 'fertile' porphyries

Appendix

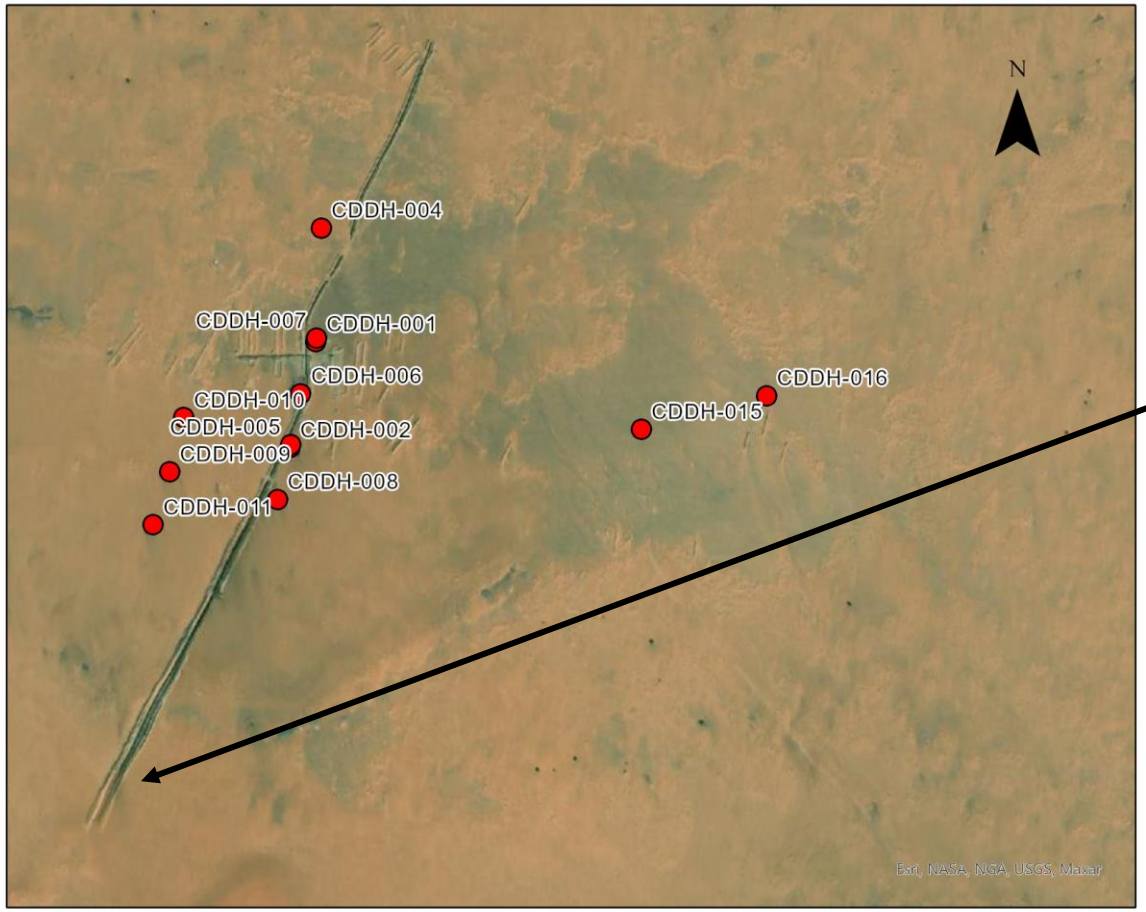


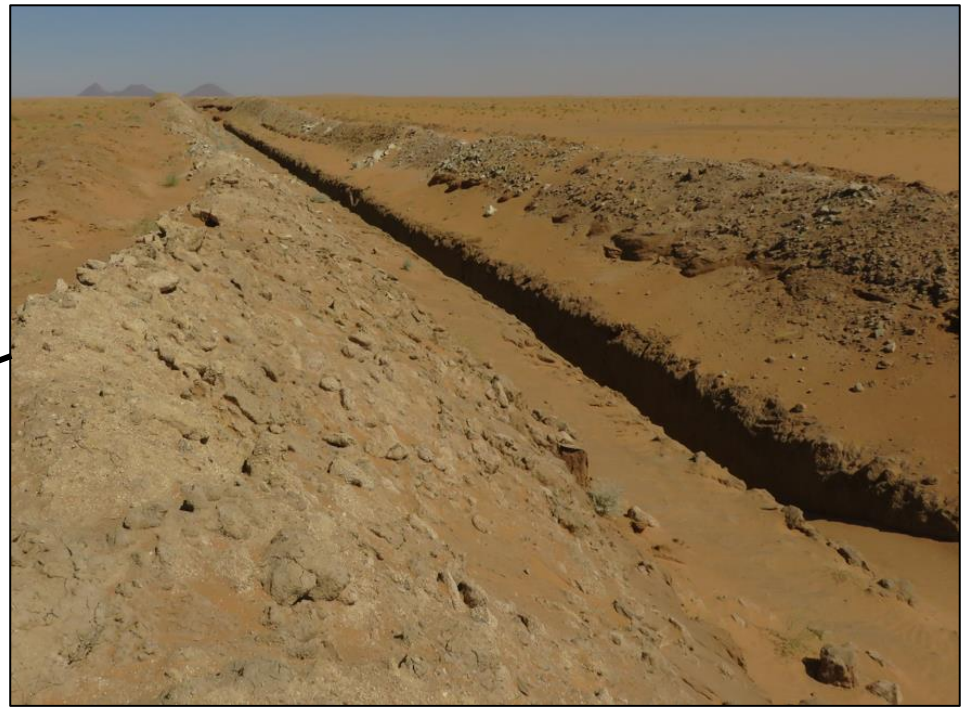
Screenshot of 3D LF model of Copper Dream, showing Cu grade distribution in DDH; of note is the erratic and limited-width nature of mineralisation, especially away from the core zone of the deposit



Screenshot of 3D LF model of Copper Dream, showing logged lithology; except for minor intervals of post-mineralisation mafic dykes (there are two distinct types of MD, of which only one hosts secondary Cu-Ox) and intervening diorite, the principal host rock is a low-Fe granite - granodiorite

Appendix





Outline of the Copper Dream deposit, showing DDH collar locations, newly drilled (late 2022) holes and orientation of the 'big' N-S trench that extends across most of the alteration zonation and delineates well both the core zone of the mineralised zone, and its periphery.

Appendix

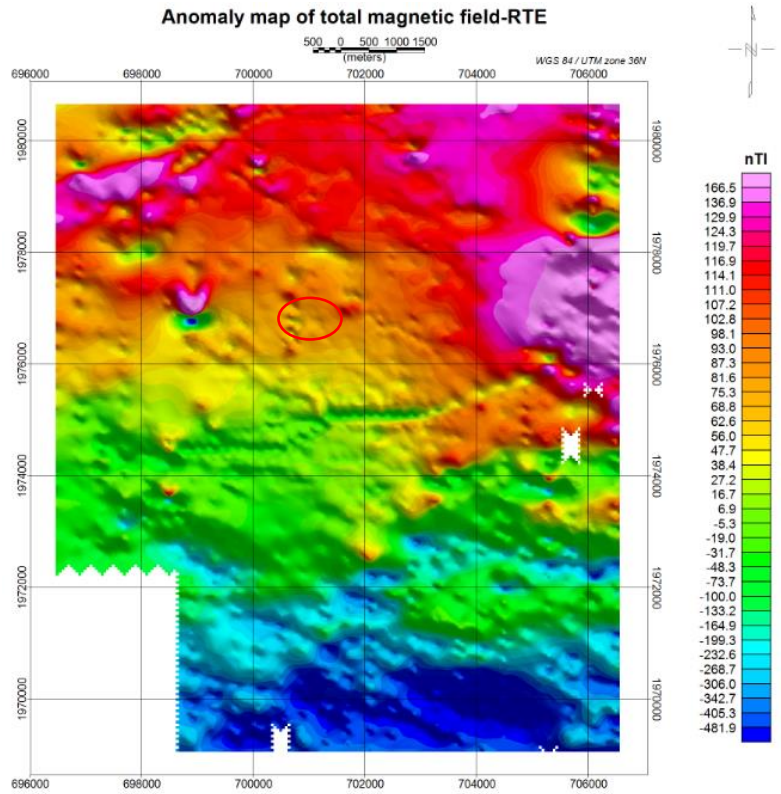
Set of steeply-dipping 'sheeted' A-veins exposed in N-S trench near DDH-010 collar.

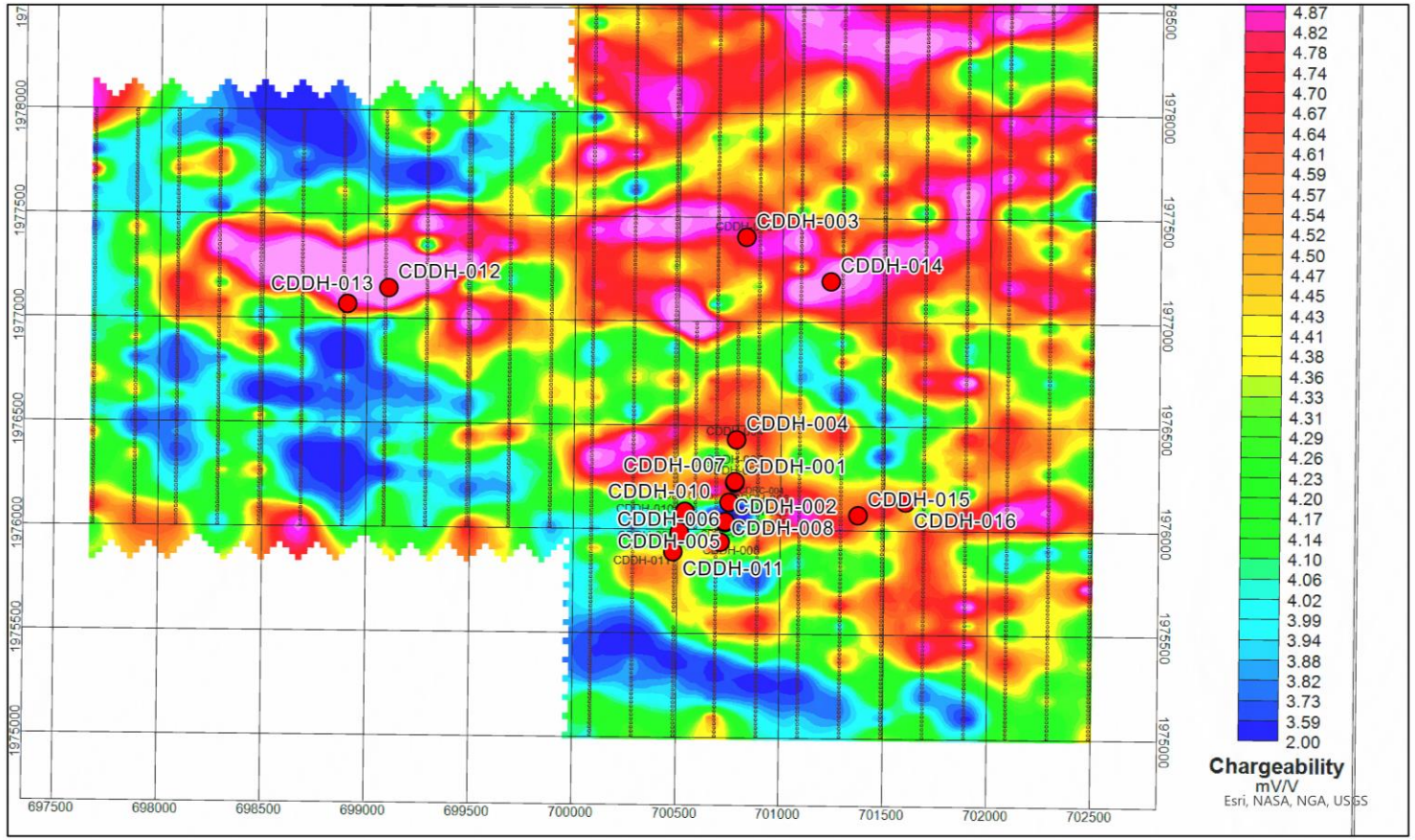
One of three E-W trenches dug in late 2022 and situated entirely within the NE portion of the (distal) phyllic-argillic alteration zone of Copper Dream.

Exposure of post-mineralisation mafic dyke in 2022 trench; note absence of secondary Cu-Ox.

Cu-Ox staining on fracture surfaces within phyllic-argillic altered granite in 2022 trench. Note absence of 'feeder' beneath Cu-exposure.

Appendix

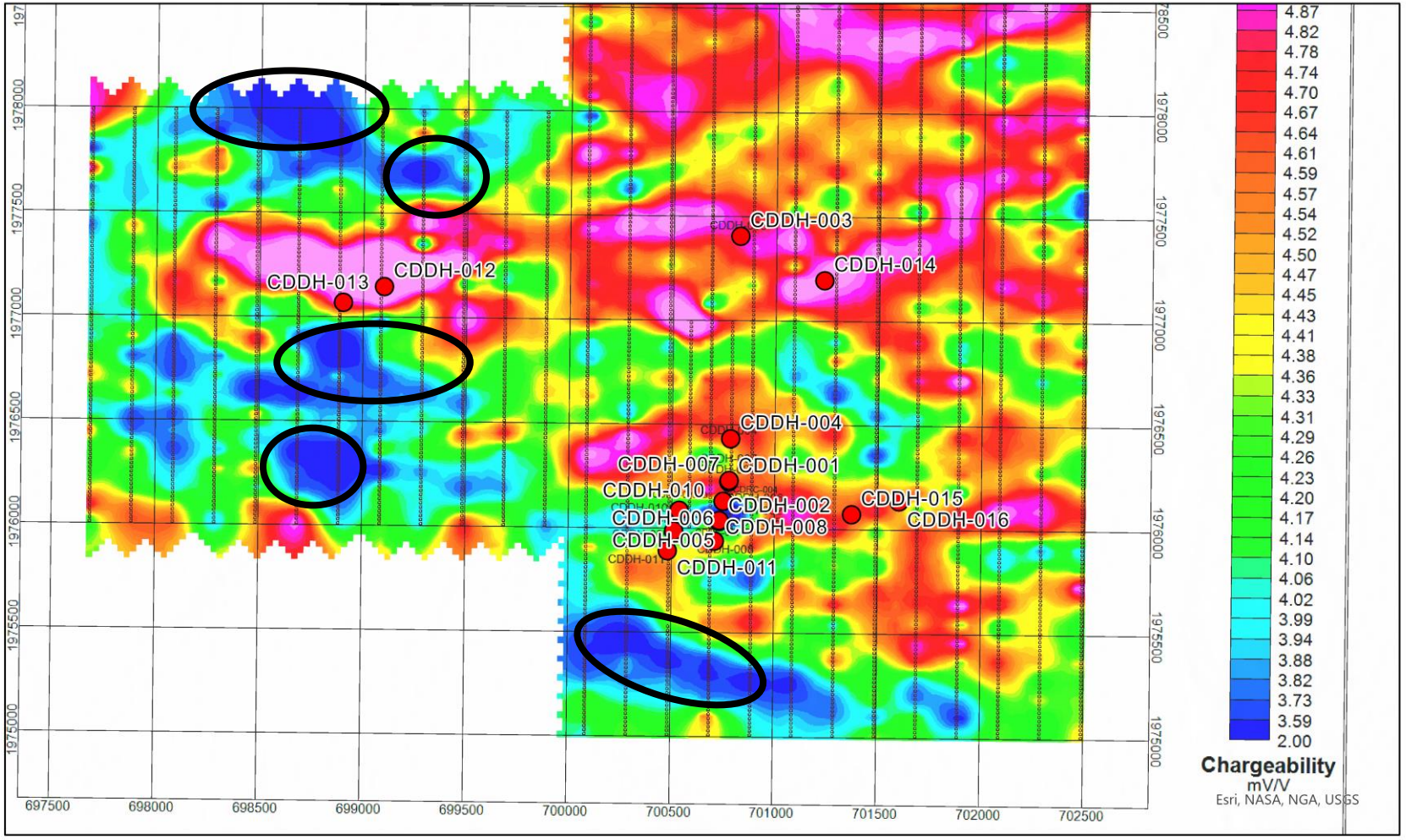




TMI-RTE image of survey area (above), providing extremely limited information on the existence of Copper Dream (indicated by red ellipsoid) when compared to output from IP chargeability contour modelling (right).

Appendix

Potential concealed 'CD-like' PCD target areas (outlined by black ellipsoids) within current extent of IP survey area considered worthy of follow-up by trenching, ground-based GAIP/DDIP and auger drilling.



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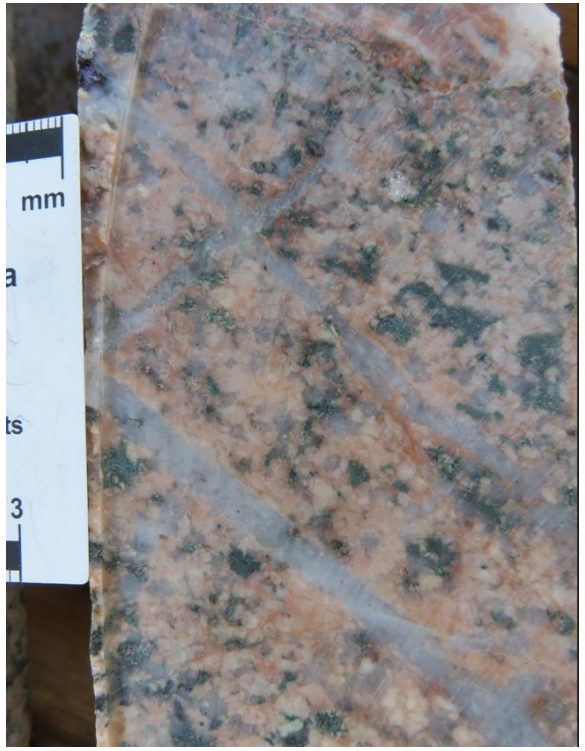
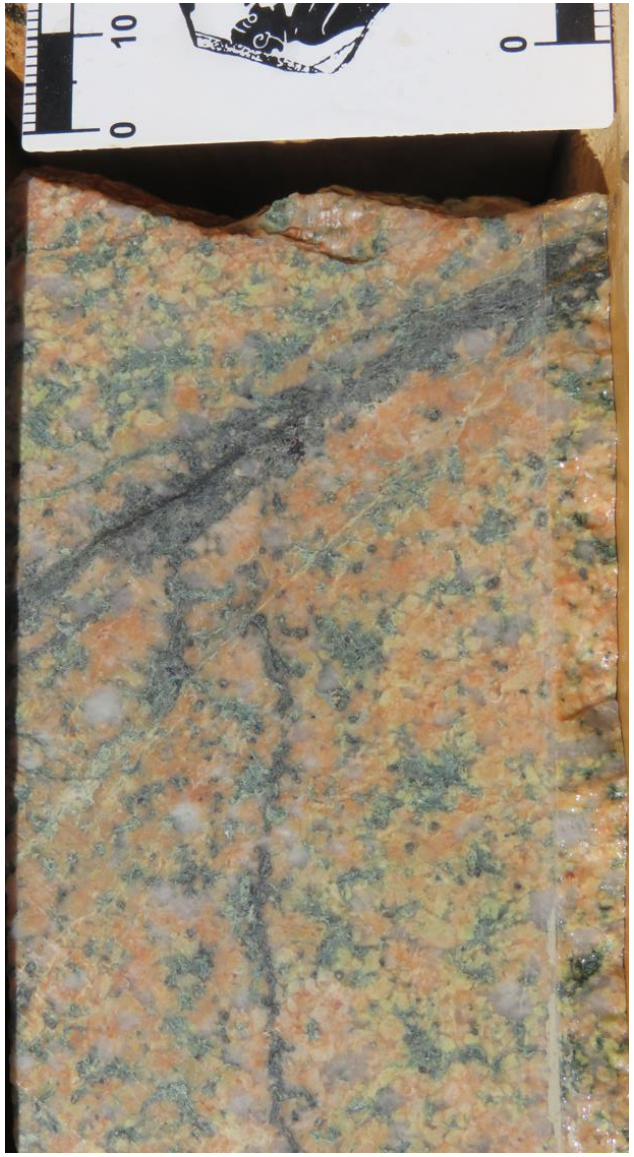


Rare set of A-veins exposed in CDDH-001 at 164.7m.

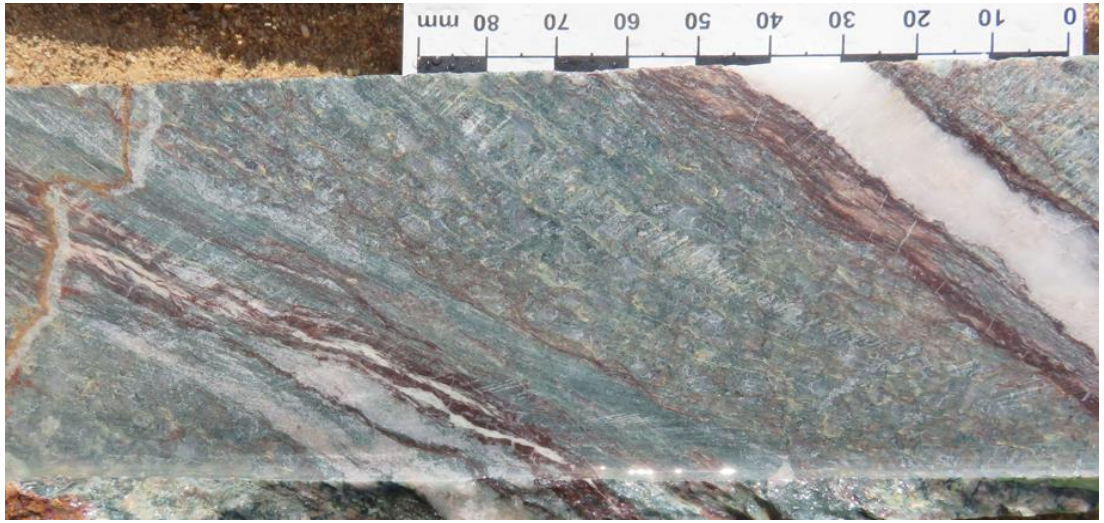
Bornite clot (partially altered to covellite) in CDDH-002 at 181.5m.



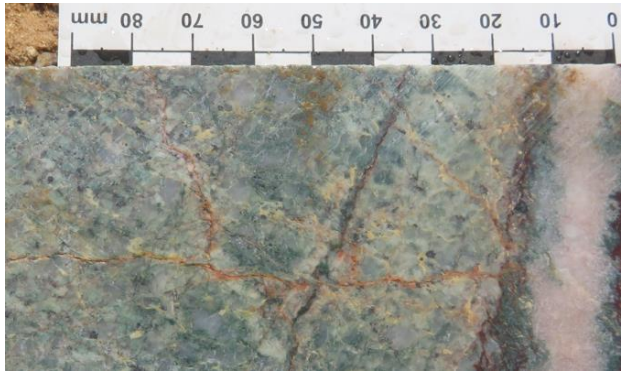
Bornite-bearing C-vein set in CDDH-001 at 152m.

Appendix

Potassic-altered granite (CDDH-001, 44 – 45m) containing clots of biotite-chlorite-epidote-feldspar-bornite within partially replaced groundmass.

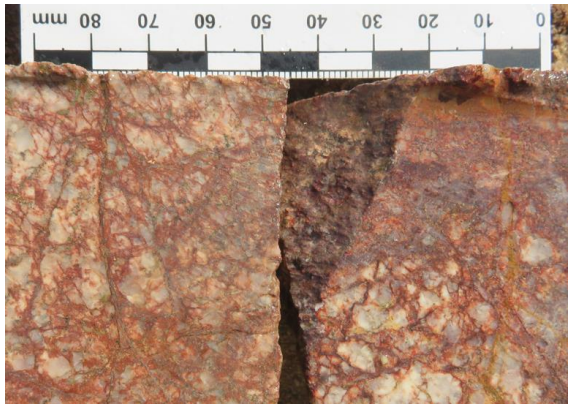


Localised high-strain zone at contact between potassic-propylitic altered granite and granodiorite (CDDH-001; 177.3m).



Contact between propylitic altered granite (right hand side of photo) and potassic altered granodiorite (CDDH-001; 181m).

Barren but intensely ferruginised and fractured granite (CDDH-002; 27m).



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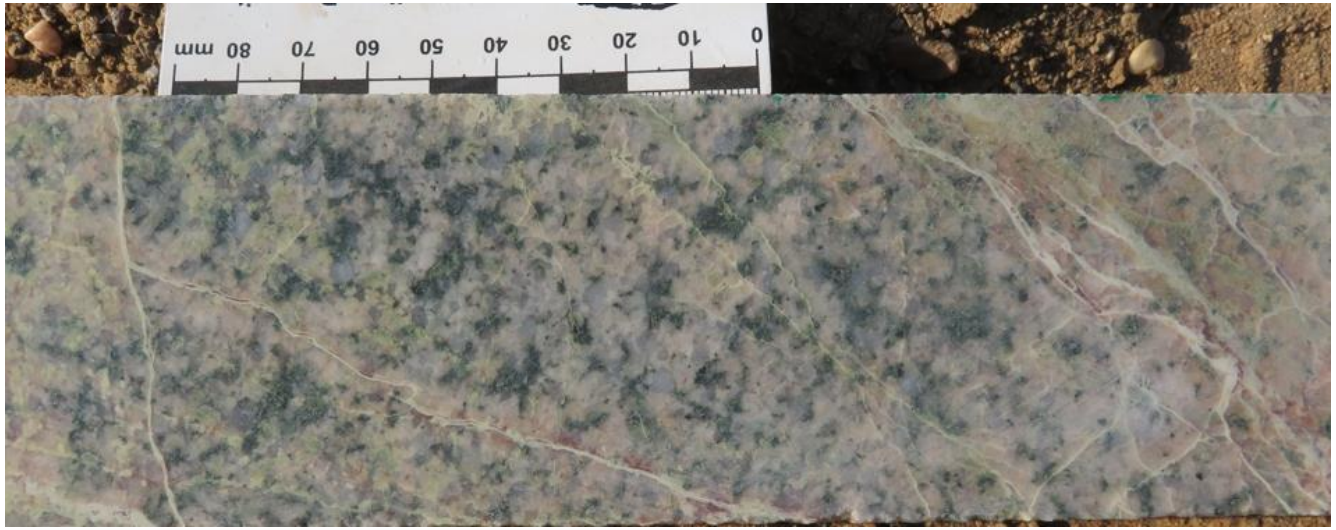
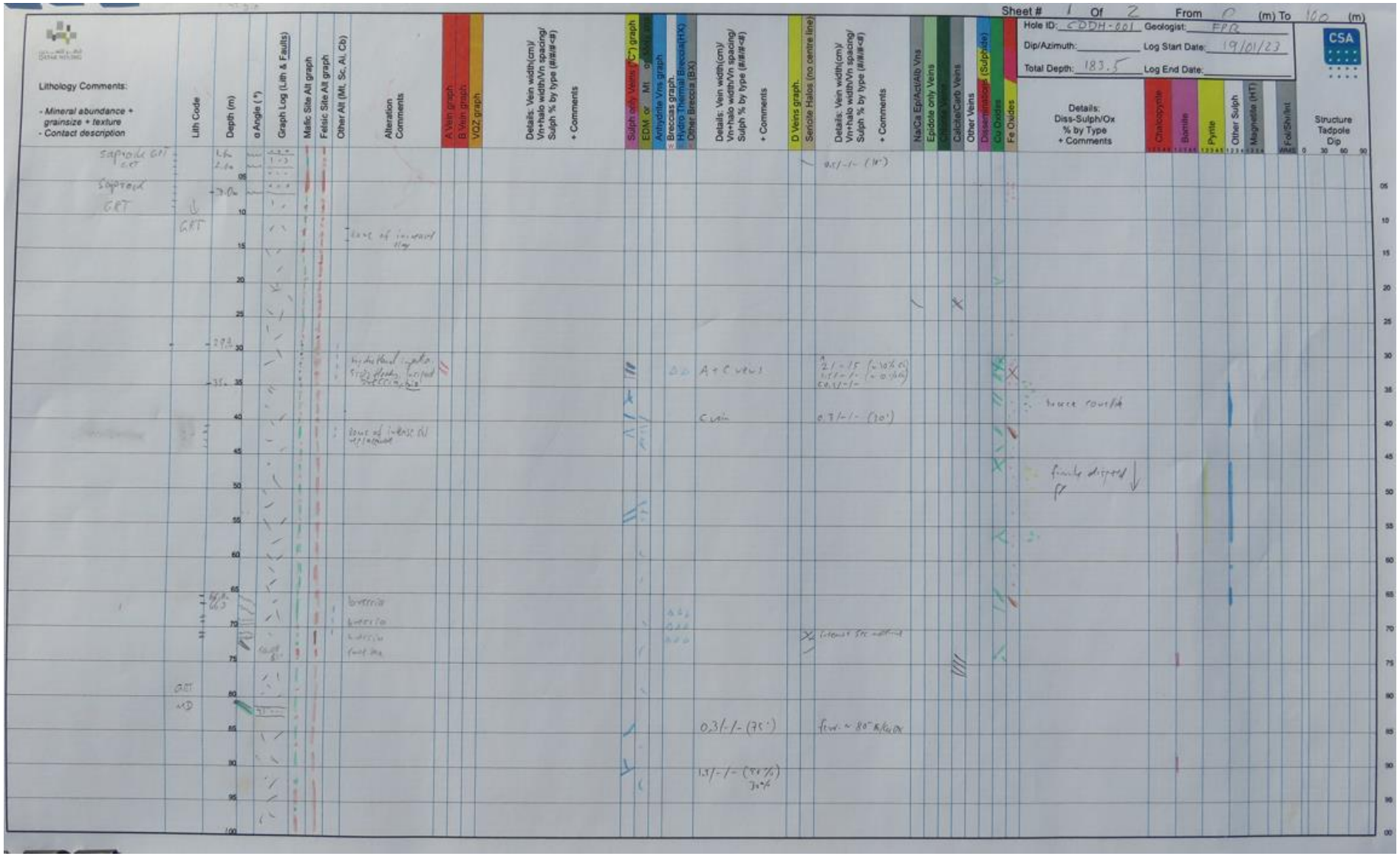


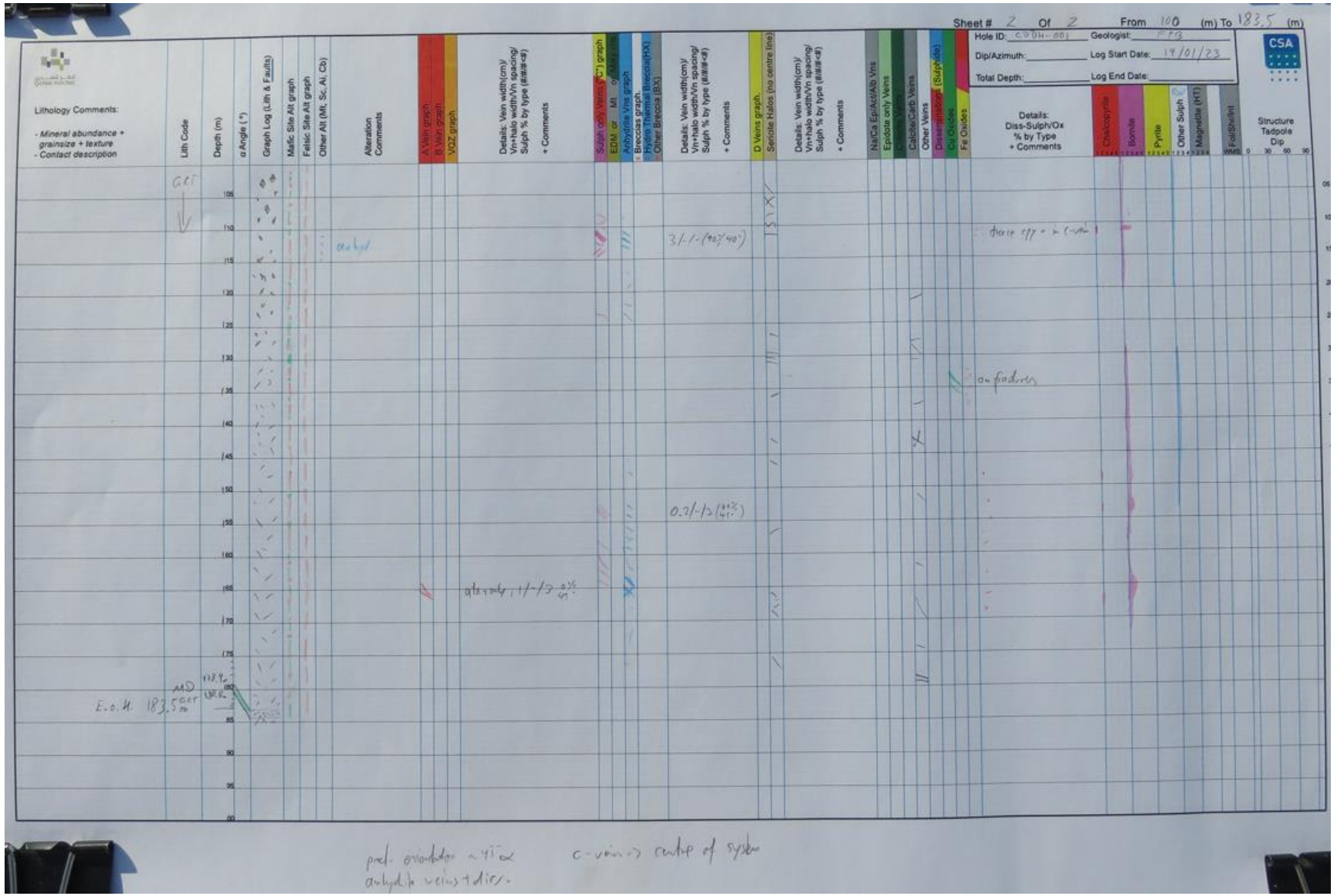
Set of sericite haloes in weakly phyllic-altered granite in CDDH-013 (146m)

Secondary Cu-Ox in veinlets within ferruginous, phyllic-altered granite in CDDH-013 (13.5m)

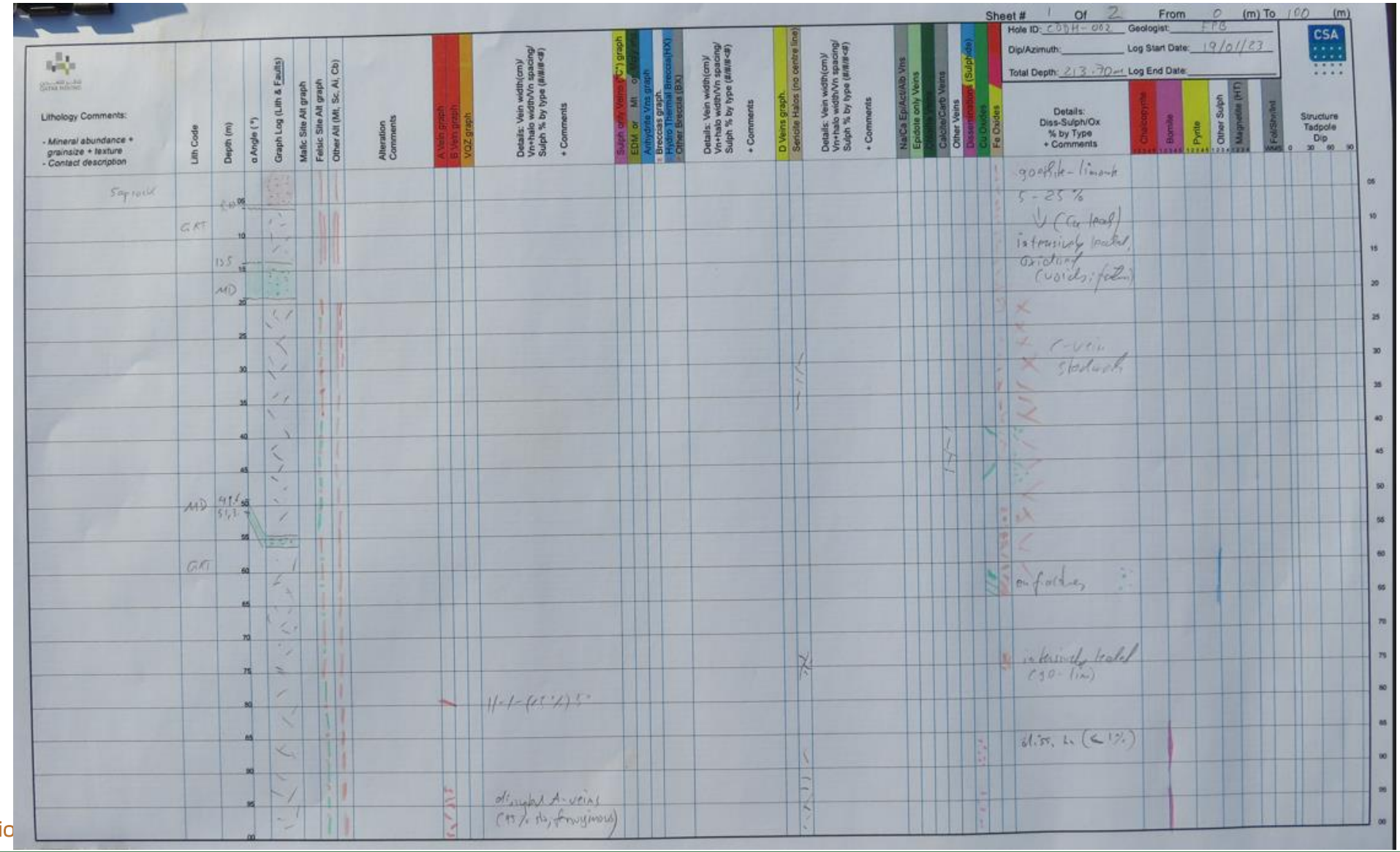
Anaconda Logging Sheet CDDH-001



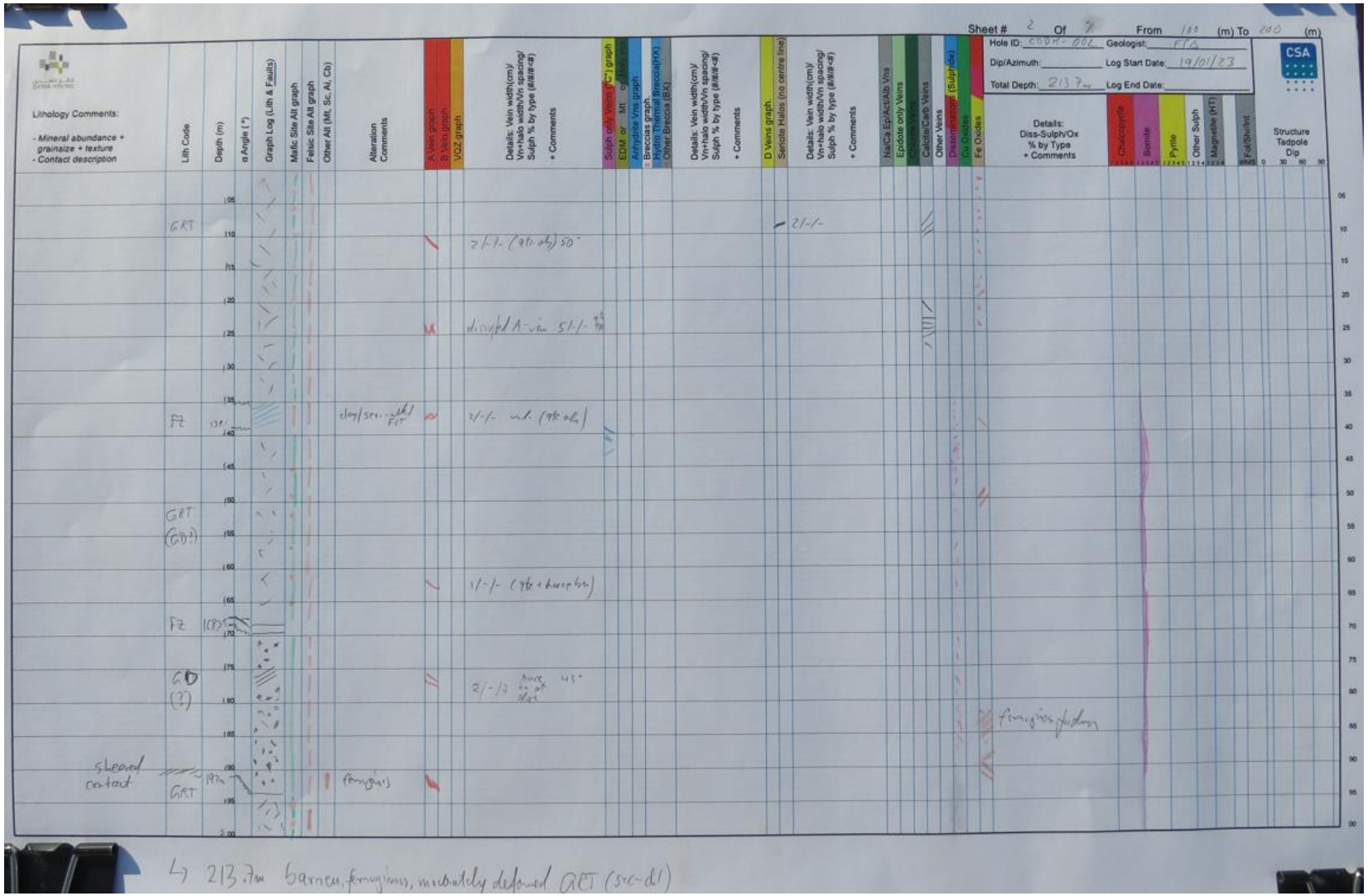
Anaconda Logging Sheet CDDH-001



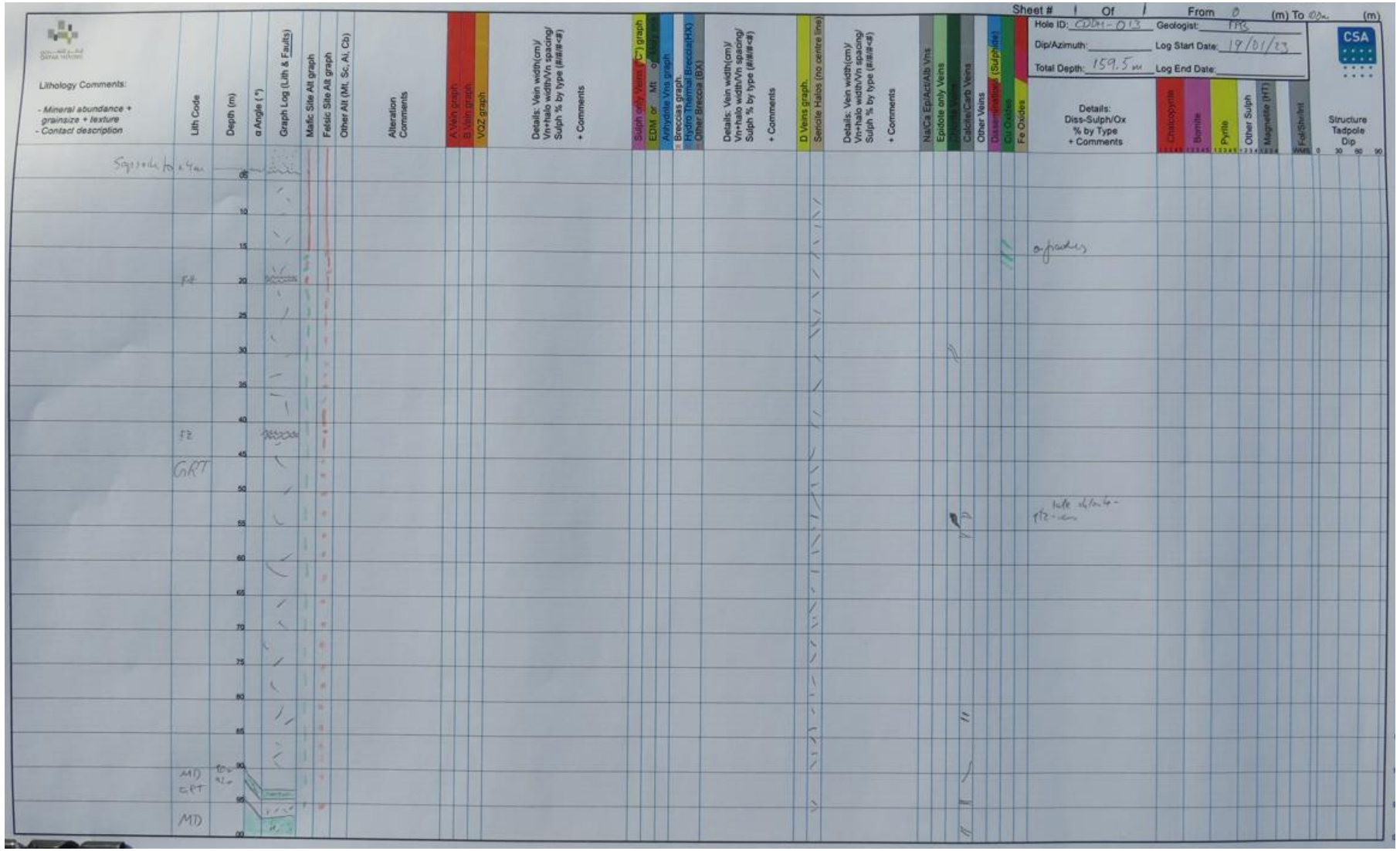
Anaconda logging sheets for CDDH-002 (top 200m only)



Anaconda logging sheets for CDDH-002 (top 200m only)



Anaconda logging sheet for CDDH-013 (top 100m only)



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