

External memo

From: Kennecott Exploration

RTX AMR Copper

To: Alderan Resources

CC: Martin Sauv , Clinton Roberts, Erik Best, Sara Jergenson

Reference: Sawmill Canyon (Frisco) Annual 2021 Report

Date: 27 January 2022

Number of pages: 27

Sawmill Canyon (Frisco) Annual 2021 Report

2021 Summary of Activities

Kennecott Exploration began 2021 with preparations for a 3-4 drillhole program; however, internal limitations led to the decision to postpone this work. The team refocused on reviewing and prioritizing targets across the property. In lieu of additional drilling, tightly spaced (~25m) UAV (un-crewed aerial vehicle) based magnetic and orthophoto surveys were completed covering areas including the Cactus Breccia, Accrington Skarn, and Reciprocity targets.

As a result of desktop review and the UAV magnetics survey, additional targets or areas of interest were identified and minor follow up field work was completed for some. A total of seven additional drill sites and associated trails were surveyed by Tetra Tech (archaeology) and added to KEX's permit.

In late 2021, brief consideration was given to drilling 1-2 holes but was further postponed namely due to the situation regarding COVID-19. A 3-5 drill hole program was proposed for 2022, but only one of the targets has been approved for 2022 at this time.

Drilling

No drilling activities were completed in 2021. SAWM0009 remains temporarily abandoned and UDGOM has been informed as to if/when KEX will likely return to completed and/or permanently abandon this hole. The project considered the potential for completing a small drill program in fall of 2021; however, the decision was made to further postpone this work due to the situation regarding COVID-19 and namely its impact on medical facilities in the region. In late 2021, a representative UDOGGM was provided with a site tour to verify reclamation practices but no drill sites have been released from the KEX bond to date.

A 3-5 drill hole program was proposed for 2022, however, only one drill target has been approved by KEX management and all other targets will only be considered after additional surface work and review of available data is able to further support these targets. Additional information for the approved drill target is in Appendix A.

Permitting

A permit amendment adding an additional 23 drill sites was approved by UDOGGM in January 2021. In August 2021, 7 more sites were culturally surveyed and added to the permit with amendment approval in December 2021. There are no immediate plans for additional permitting work as of the time of writing.

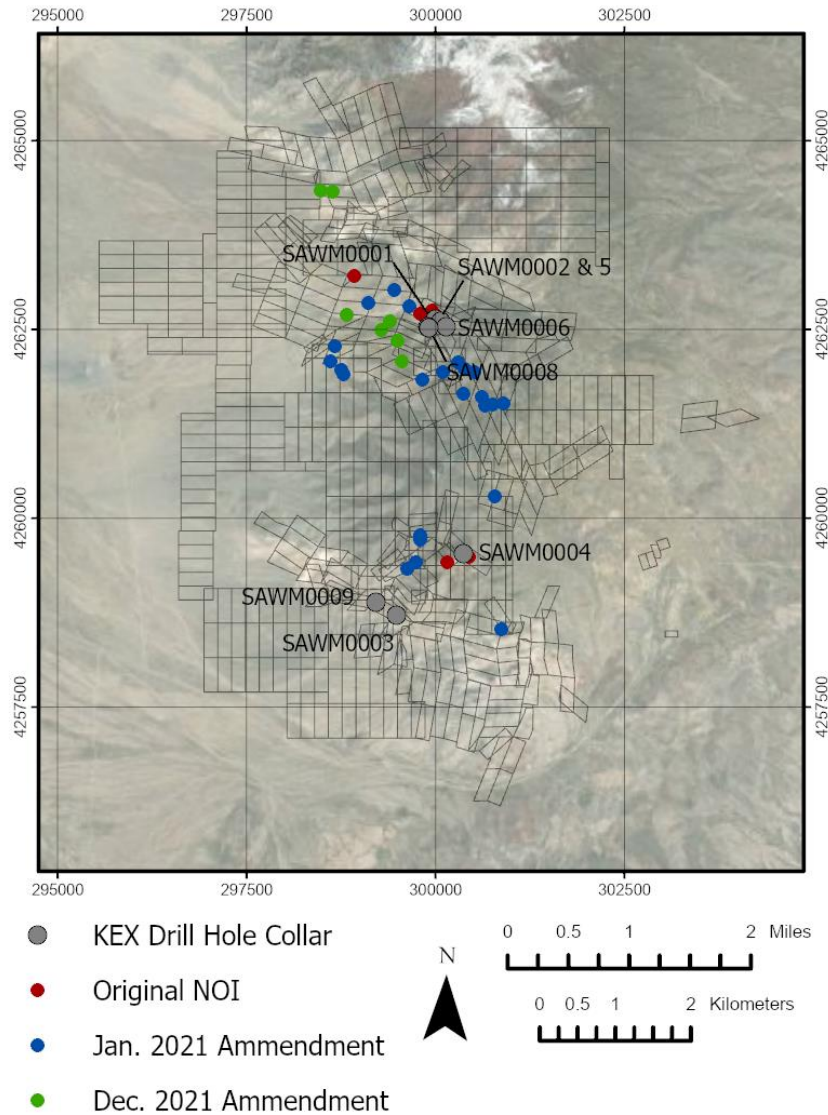


Figure 1. All current UDOGM approved drill sites colour coded by permitting round and KEX drill collars from 2020.

Health, Safety, Environment, and Communities

COVID-19 continues to remain an influencing factor in the timing and type of work to be conducted by KEX on the project. Anticipated commencement of field work is scheduled for late Q2 2022 but will be in large part determined by developments regarding COVID-19 over the course of Q1 2022.

The project has remained in occasional contact with local government offices and some individuals through the course of the year to keep key community stakeholders informed of plans and activities.

Geology

Only limited onsite technical work was completed in 2021 including reviewed two areas of interest over four days of field work: a high mag feature just south-southwest of the Cactus Breccia (Copper Gulch and Southeast Cactus Corridor) and a resistivity low (conductive) anomaly between Accrington and Reciprocity. The resistivity low was visited again in late 2021 to review permitted drill sites and

determine appropriate azimuths/dips for potential drilling but the decision was made to postpone drilling activities.

All other technical work was completed through desktop review and discussion of available data with key findings including the identification of the potential porphyry targets at the Reciprocity resistivity conductor and southwest of the Cactus Mine area (often referred to as Copper Gulch). Both targets were included in proposed drilling for 2022; however, only the Copper Gulch target proximal to the Cactus Breccia was approved and budgeted for in 2022. Ideally, additional, focused field work will further support drilling of other targets but the decision to drill will be results driven. A summary description and supporting images for the approved target at Copper Gulch are in Appendix A.

Two visits were made to the Utah Geologic Survey's facility to review three historic drill holes. There include 520-1, 520-2, and 520-3 which are all proximal to the Copper Gulch target. A summary of observations in in Appendix B. Re-logging of selected Alderan drill holes was anticipated for late 2021; however, other tasks took priority and this work is expected to be completed in H1 of 2022.

Geophysics

UAV based magnetics and orthophoto surveys were completed in Q2 2021. These surveys covered the majority of Sawmill Canyon in greater detail than previous aerial surveys for the property. A total of 21.5 km² were flown for magnetics at 25m line spacing (Figure 2) and 30.8 km² for the orthophotos. Results clearly define existing targets areas with known magnetic signatures and have highlighted areas of interest for further follow-up.

KEX in-house processing and modelling of the magnetics data was completed in Q2-Q3. Key outcomes included further defining magnetic lows associated with known tourmaline breccia hosted mineralization (i.e. Cactus Mine), increasing the resolution of models defining the Copper Gulch target zone and informing interpretations of geometries, etc., and identifying discrete magnetic lows in areas where the geology is poorly understood due to limited existing data. Examples of KEX products are in Appendix D.



Figure 2. Sawmill Canyon UAV magnetic survey. Magenta points used for final mapping; green points were removed from the survey dataset. Line spacing at 25m. Map provided by MWH.

Expenditure

Tables 1 and 2 include a summary of expenditures for 2021. The main project costs were related to the UAV Magnetism Survey, Cultural Surveys and permitting activities, minor field work, and land payments. The additional spend in 2021, bring the total all-in expenditure to **\$4,800,020**.

2021							
	Drilling & Geophysics	Drilling Support	Professional & Consultants	Field Support	Staff	Land	Misc
January			\$8,689	\$4,266	\$29,694	\$379	
February			\$7,071	\$11,051	\$58,697	\$73	
March			\$7,376	\$5,533	\$57,772	\$40,155	\$72
April			\$5,061	\$3,071	\$38,311		
May	\$56,000	-\$538	\$4,364	\$3,604	\$37,794		\$323
June	\$86,324		\$510	-\$3,655	-\$29,210	\$125,005	
July	-\$1,654		\$1,514	\$419	\$7,556	\$57,134	\$265
August			\$9,000	\$666	\$1,602		\$252
September			-\$1,139	\$1,361	\$7,453		\$141
October			\$2,083	\$2,303	\$20,930		\$705
November			\$545	\$2,820	\$24,824	\$100,000	\$393
December			\$450	\$1,536	\$27,268	\$147	\$316
Y-T-D	\$140,670	-\$538	\$45,524	\$32,976	\$282,691	\$322,893	\$2,467

Table 1. Summary of expenditures for Sawmill Canyon for the year 2021 by month.

	2021					2020	Project
	Q1	Q2	Q3	Q4	YTD Spending	Total	Total
Drilling & Geophysics	\$0	\$141,786	-\$1,654	\$0	\$140,132	\$1,606,696	\$1,746,828
Professional & Consultants	\$23,137	\$9,935	\$9,375	\$3,077	\$45,524	\$677,061	\$722,585
Field and Transportation	\$20,851	\$3,021	\$2,446	\$6,659	\$32,976	\$301,971	\$334,948
Payroll & Benefits	\$146,163	\$46,895	\$16,611	\$67,838	\$277,507	\$684,122	\$961,629
Titles & Tenements	\$40,606	\$125,005	\$57,134	\$100,147	\$322,893	\$269,310	\$592,202
Travel & Accommodations	\$72	\$323	\$658	\$1,414	\$2,467	\$2,525	\$4,992
Administrative Charge 10%	\$23,083	\$32,696	\$8,457	\$18,432	\$82,668	\$354,168	\$436,837
Quarterly Totals	\$253,912	\$359,660	\$93,027	\$197,568	\$904,167	\$3,895,853	\$4,800,020

Table 2. Subtotal of expenditure by quarter with administrative charge and total earn-in expenditure for 2021 and annual summaries.

Data Package and Handover

Data provided to Alderan Resources in 2021 included deliverables and results from the UAV magnetism survey, orthophotos and WV3 deliverables (on a physical hard drive), and limited surface sample assay results. No other material or noninterpretive datasets have been generated.

Commercial

KEX opted to postpone the final option payment of \$350k for the Shoshone ground and will likely look to do so again in 2022. A payment in lieu of exploration expenditure was also made on the Northern Carbonate Leases. All other requirement payments have been made or where there are other exploration spend requirements, these have been met by carry over from previous campaigns.

Report prepared by:



Robert Rush
Senior Project Geologist
Sawmill Canyon/Frisco Project Manager

With assistance from project geologists: Chris Ballard.

Report reviewed by: Martin Sauvé, and Clinton Roberts.

APPENDIX A: Descriptions and images related to the Copper Gulch porphyry target

Permit ID	Hole ID	Datum	Easting	Nothing	RL	Dip	Azimuth	Planned Depth (m)
KEX_2021_5		NAD83 12N	299284	4262494	1934	-65	120	500
KEX_2021_4		NAD83 12N	299400	4262602	1935	-60	140	500

Hole: KEX_2021_5

KEX_2021_4 is a potential follow up site.

Target Area: Copper Gulch (mag high southwest of the Cactus Breccia zone).

Drill Hole Target: the area is a coincident mag high (circled by mag lows), Cu in rocks surface anomaly (modest but above background; from a survey done in the 1960s) with surface mapping showing the presence of mineralized and phyllically altered porphyry dikes. The target is approximately 1500x500m, has a similar trend to other structures observed or interpreted, and where there are historic holes nearby, they do not properly test the target. The surrounding mag lows are interpreted to represent potential BXTO type targets.

Specifications: The hole will collar in HQ and continue to target depth with the potential to reduce to NQ if drilling conditions require.

Field Work Plans: Only a few days of field work have been completed to date. Additional mapping and sampling are required to better understand the geology of the target area (mag high and surrounding mag lows). Additional surface sampling through the area of the historic survey grid is warranted to further validate the historic assays. More detailed mapping of porphyry dikes and their distribution and orientations would greatly benefit the target and future modelling. Results of additional field mapping are not anticipated to have any significant impact on current drill plans.

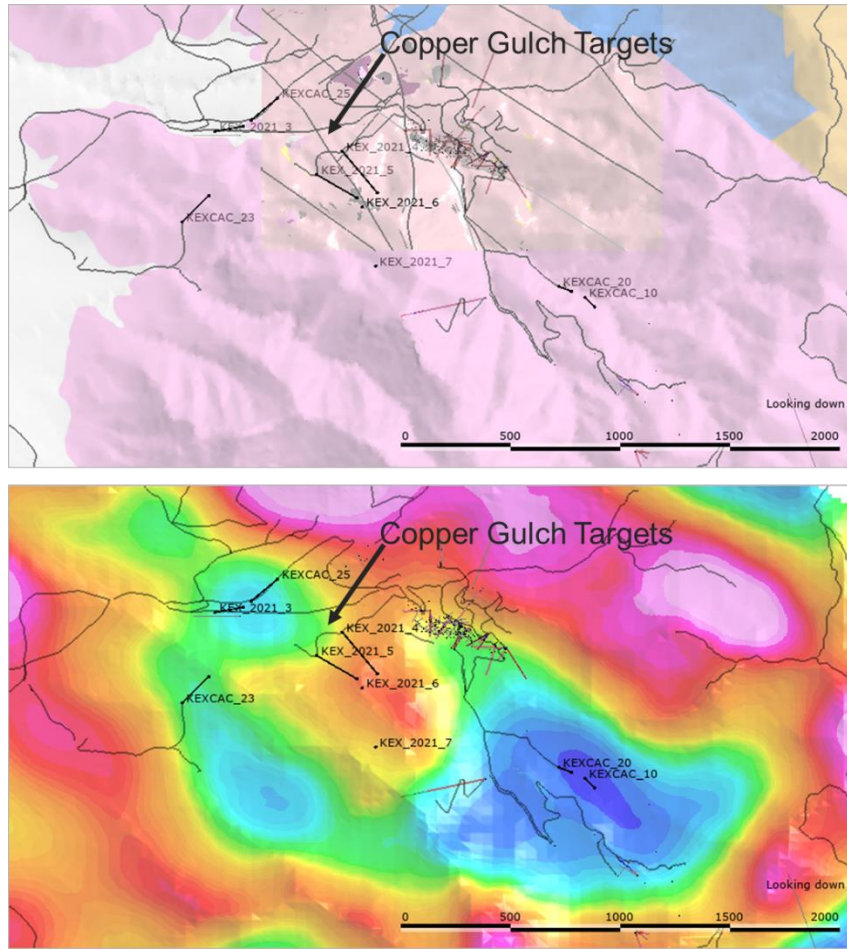


Figure 1: Copper Gulch proposed holes on geology (top) and 500m magnetics inversion depth slice (bottom).

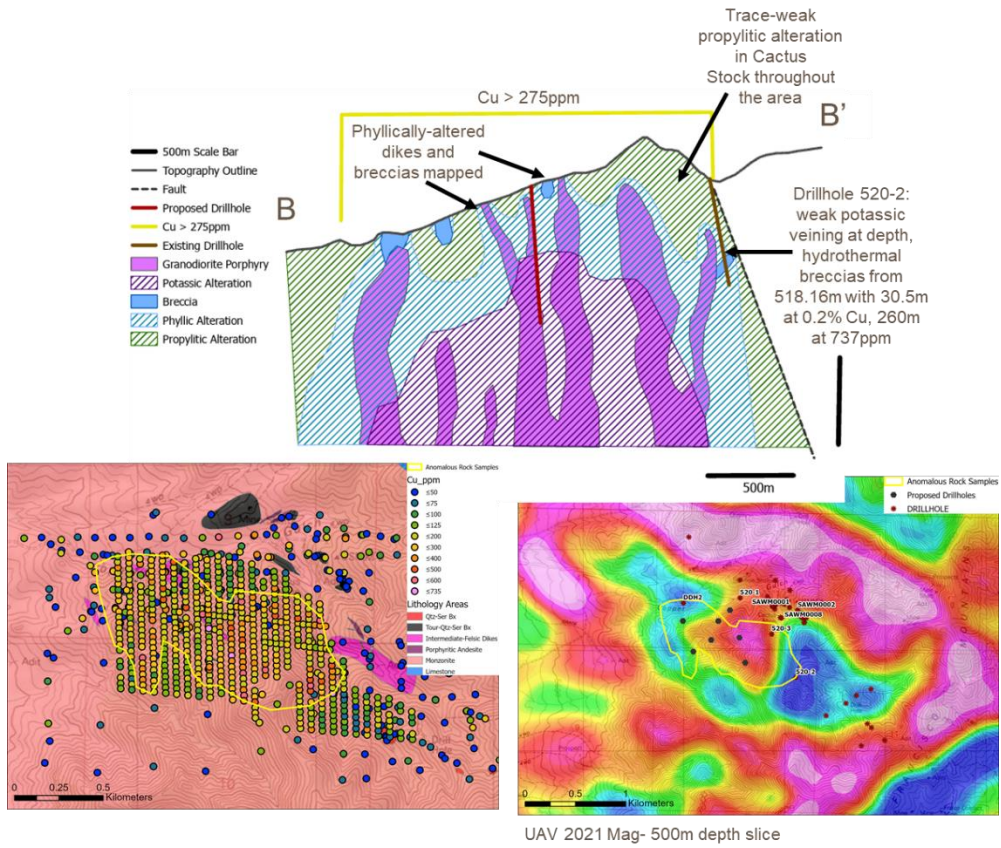


Figure 2. Conceptual cross section (top), historic surface rock assay results (bottom left), and 500m magnetics inversion depth slice (bottom right).

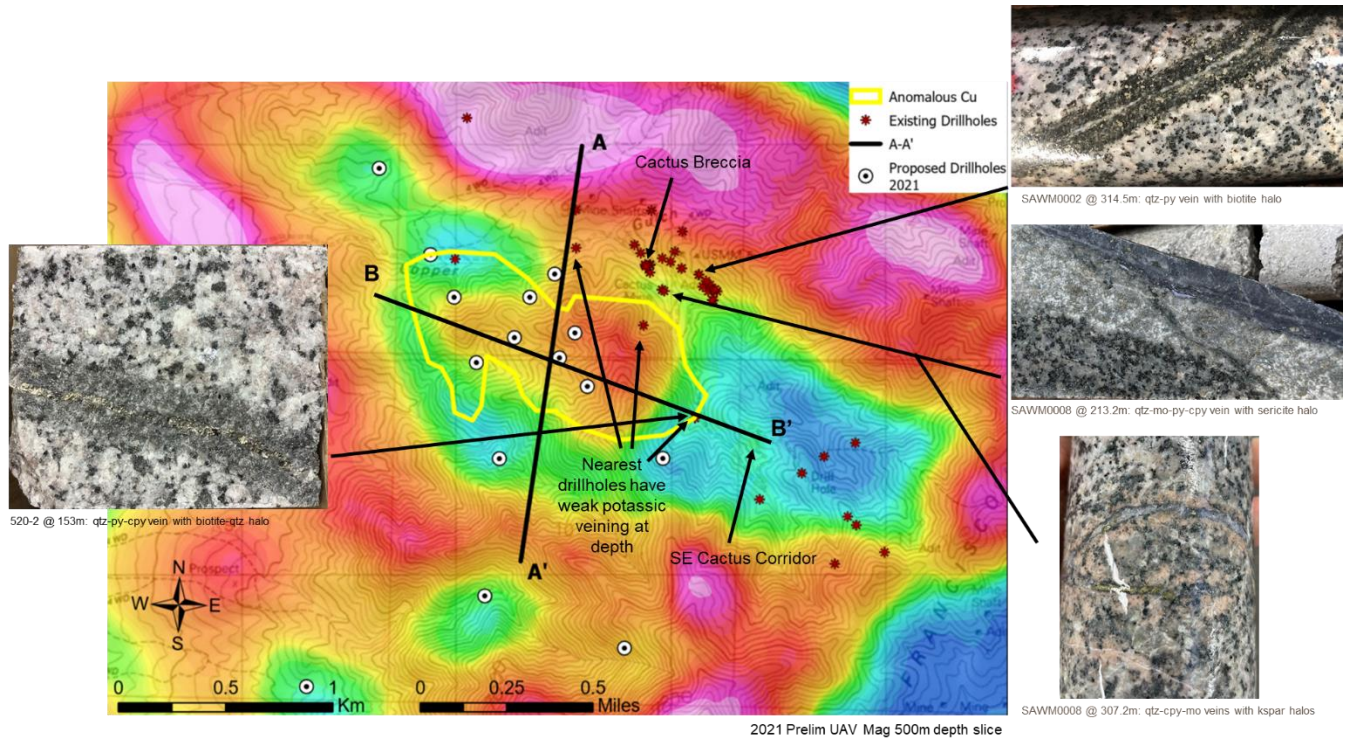
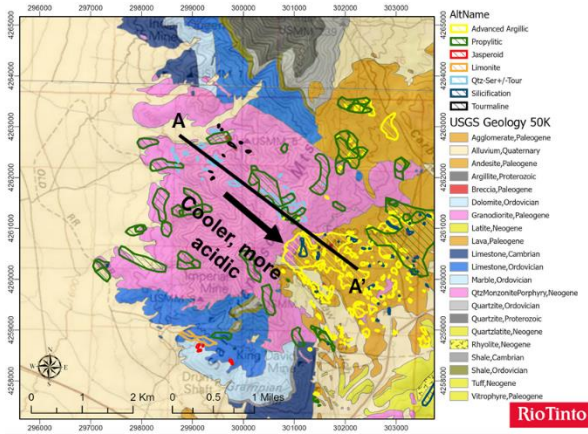
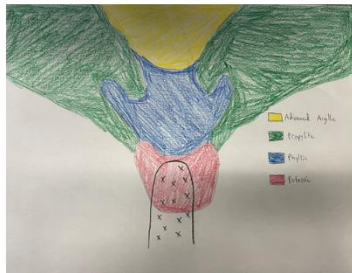


Figure 3. Representative rock/core photos from the area around Copper Gulch.



- Alteration moves from phyllic > potassic by Cactus to advanced argillic in the volcanics to the southeast, possibly one system that has been tilted and faulted?
- Alteration mapping over the Cactus Stock has been limited and needs more field work



Tilted and Faulted

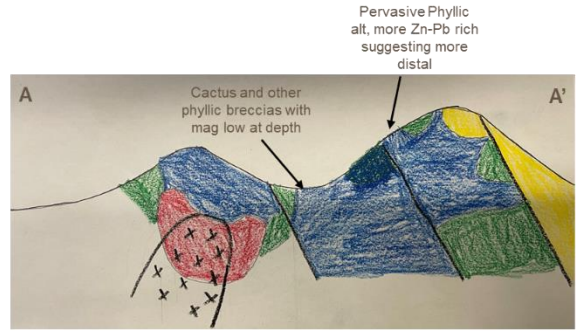


Figure 4: Conceptual structural setting for Copper Gulch.

APPENDIX B: Summary of observations during historic core re-logging

Historic hole 520-2 was examined at the Utah Geological Survey. The hole is located on the periphery of the identified magnetic low and hypothesized porphyry center south of the Cactus Breccia. biotite+/-quartz-pyrite-chalcopyrite veins (*Figure 1*) are encountered from surface and persist for much of the hole, locally increasing up to 0.5% vol. Weak quartz-pyrite-sericite veins are observed at surface and decrease in intensity with depth, disappearing by 320m. Weak Shreddy biotite after primary mafics is first observed around 277m and increases in intensity to moderate with depth. Tourmaline-quartz-chalcopyrite-pyrite+/-magnetite veins and breccias (*Figure 2*) are observed below 206m, with the cpy/py ratio increasing with depth up to 5/1 by 650m. Significant copper intercepts (high of 0.2% Cu from 640-670m) within the hole are associated with tourmaline veins/breccias. Tourmaline veins in the hole noticeably lack the distinct green illite/phengite halos observed at Cactus, and often have kspar halos in 520-2 suggesting a higher temperature. Trace chalcopyrite-pyrite+/-quartz-molybdenite veins (*Figure 3*) are encountered at the bottom of the hole, with the cpy/py ratio in these veins also increasing with depth. Trace-weak biotite-quartz-sulphide veining throughout the hole and shreddy biotite replacement at depth suggest 520-2 might be located on the periphery of the potassic zone of a porphyry system. The observations from 520-2 support the idea of a possible porphyry center below a large magnetic low south of the Cactus area (*Figure 4*).



Figure 1: 153m- 1mm wide quartz-pyrite-chalcopyrite vein with biotite-quartz halo



Figure 2: 657m- chalcopyrite-tourmaline-quartz cemented breccia



Figure 3: 736m- chalcopyrite-quartz vein

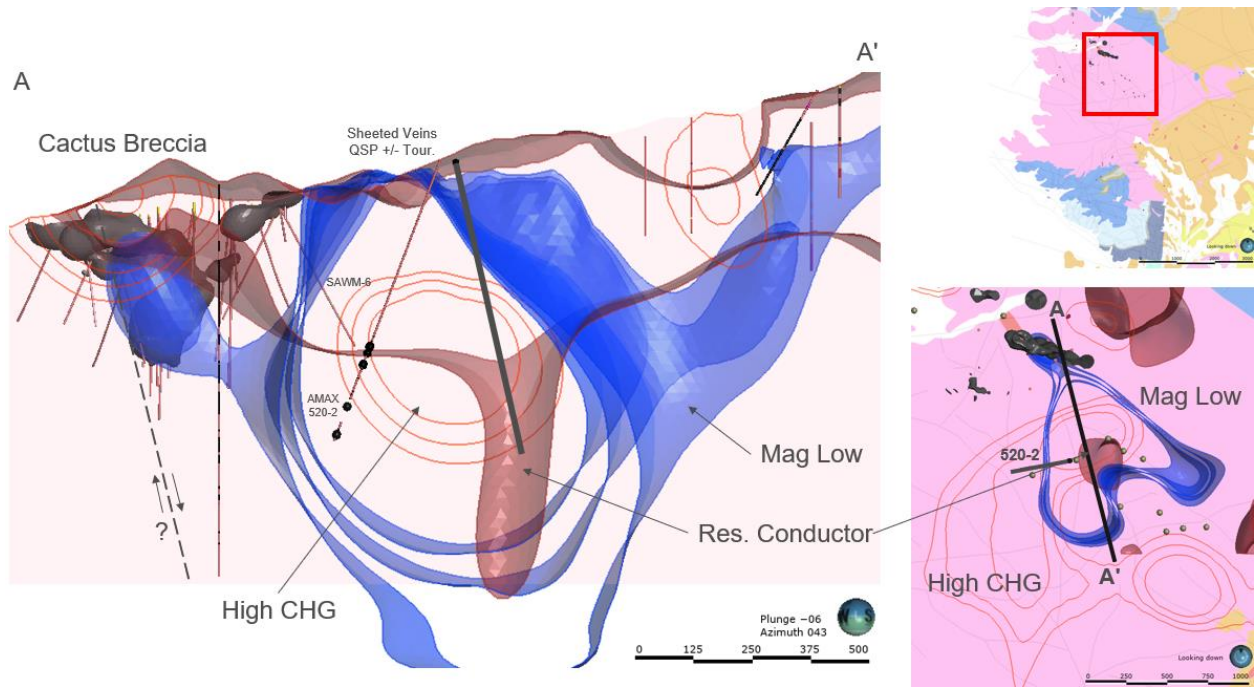


Figure 4: Cross section looking East through the magnetic feature south of Cactus

Review of two historic AMAX drill holes was completed at the Utah Geological Survey including 520-1 and 520-3, which are the closest existing holes to the Copper Gulch porphyry target (See Figure 5). Both holes were dominantly within the Cactus Stock monzonite with only minor zones of hydrothermal breccia. Trace-weak potassic and phyllic veining is found throughout both with local intervals of up to 5% vein volume. Veins are mainly biotite-magnetite+/-pyrite-chalcopyrite with lesser quartz-pyrite-sericite, quartz-chalcopyrite-molybdenite-ksp, and chalcopyrite+/-pyrite-molybdenite (See Figures 6-7). The historic holes lie between the Copper Gulch target and the nearest RTX hole (SAWM0008) which saw similar veins, but at a lower density. Vein diversity and density supports the idea of being on the periphery of a porphyry system.

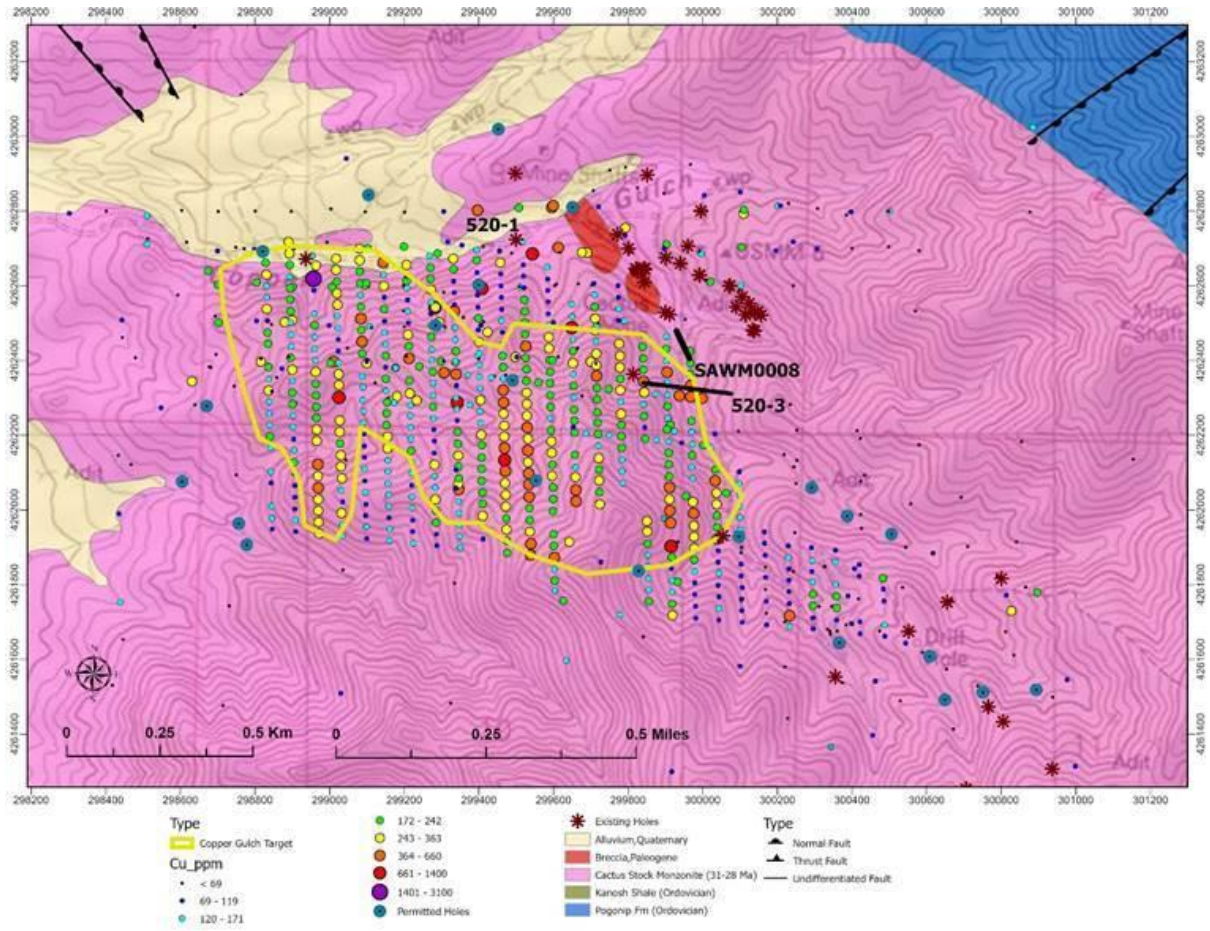


Figure 5: Copper Gulch/Cactus area map showing Cu in rocks

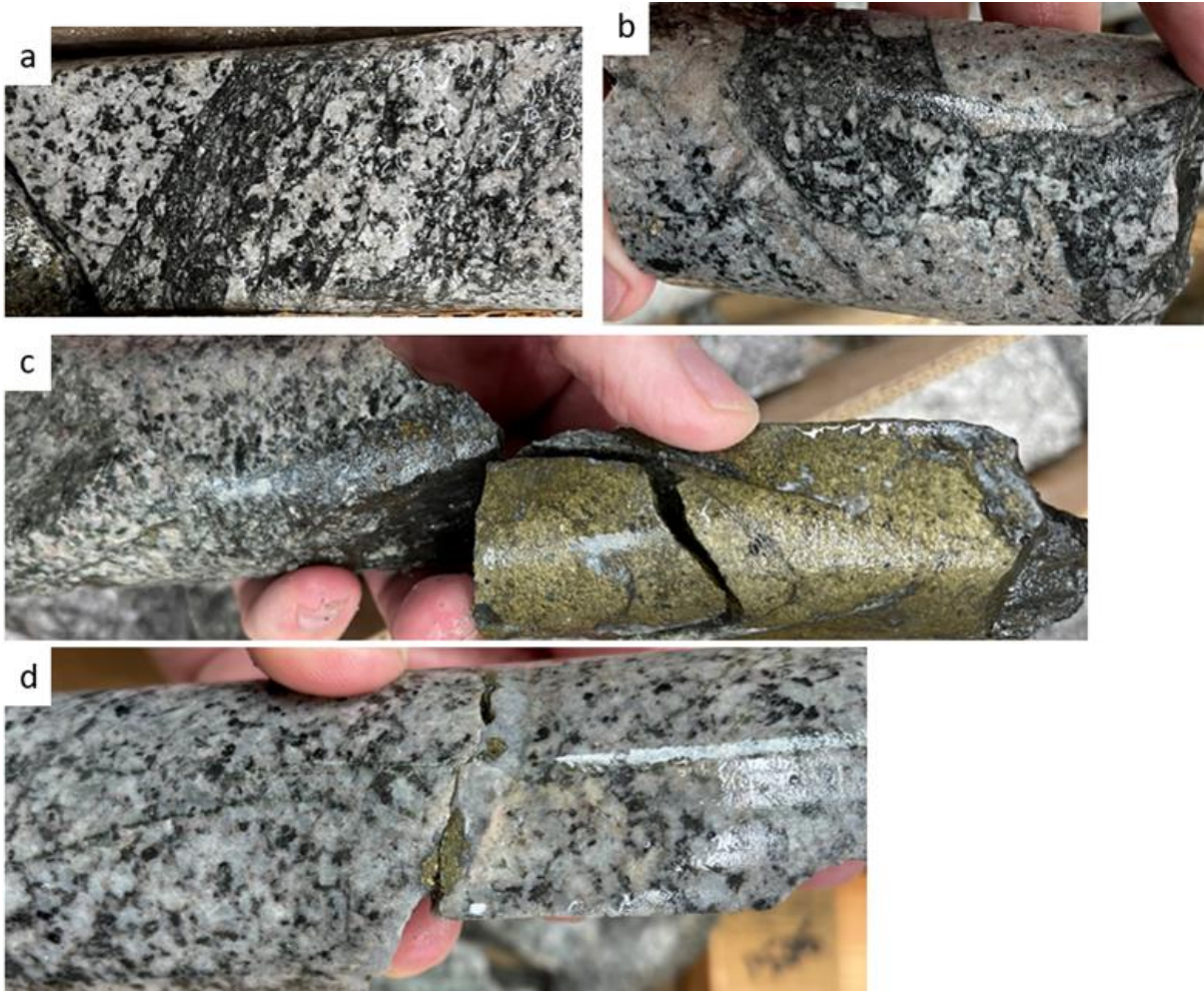


Figure 6: Drillhole 520-1 Photos - a) biotite-magnetite-pyrite-chalcopyrite veins/breccia at 208.2m; b) quartz-biotite-pyrite breccia at 328m; c) quartz-biotite-kspar with center-line chalcopyrite vein at 446.2m; d) quartz-chalcopyrite-molybdenite-kspar vein at 459.6m

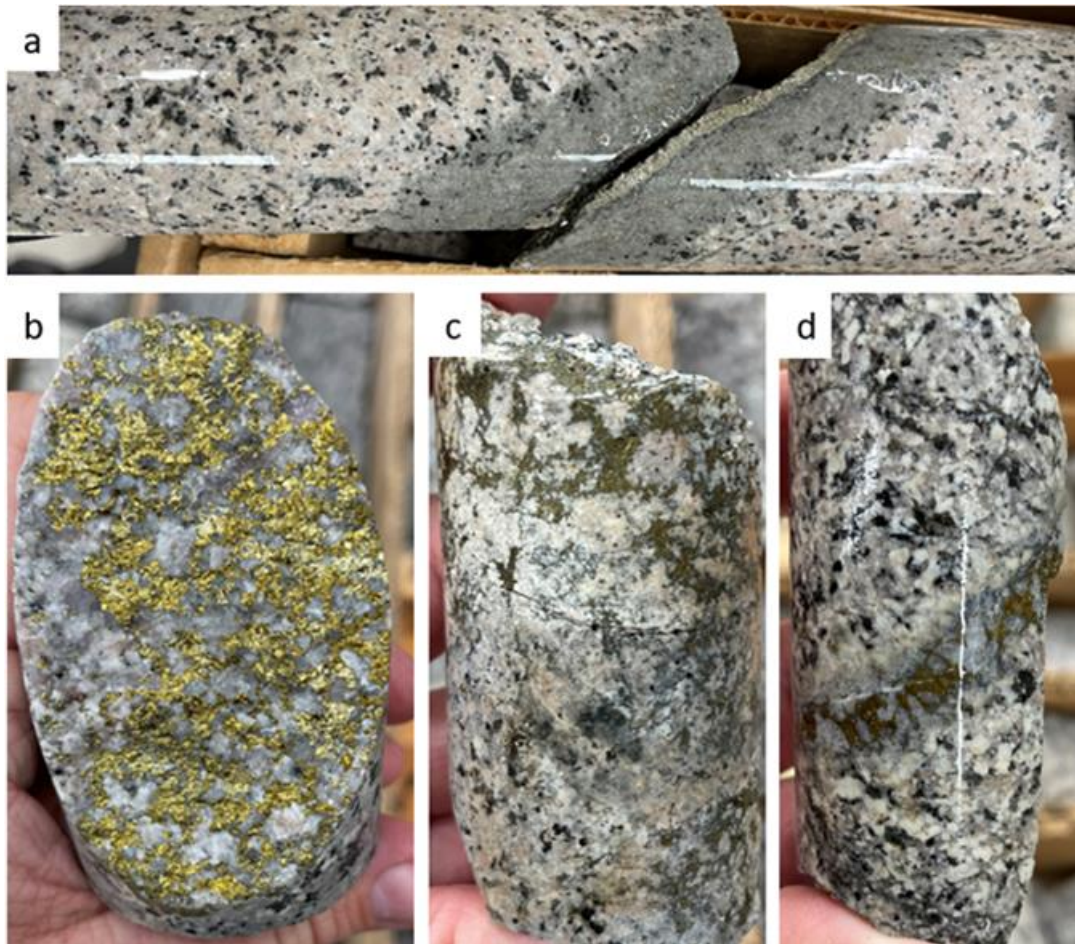
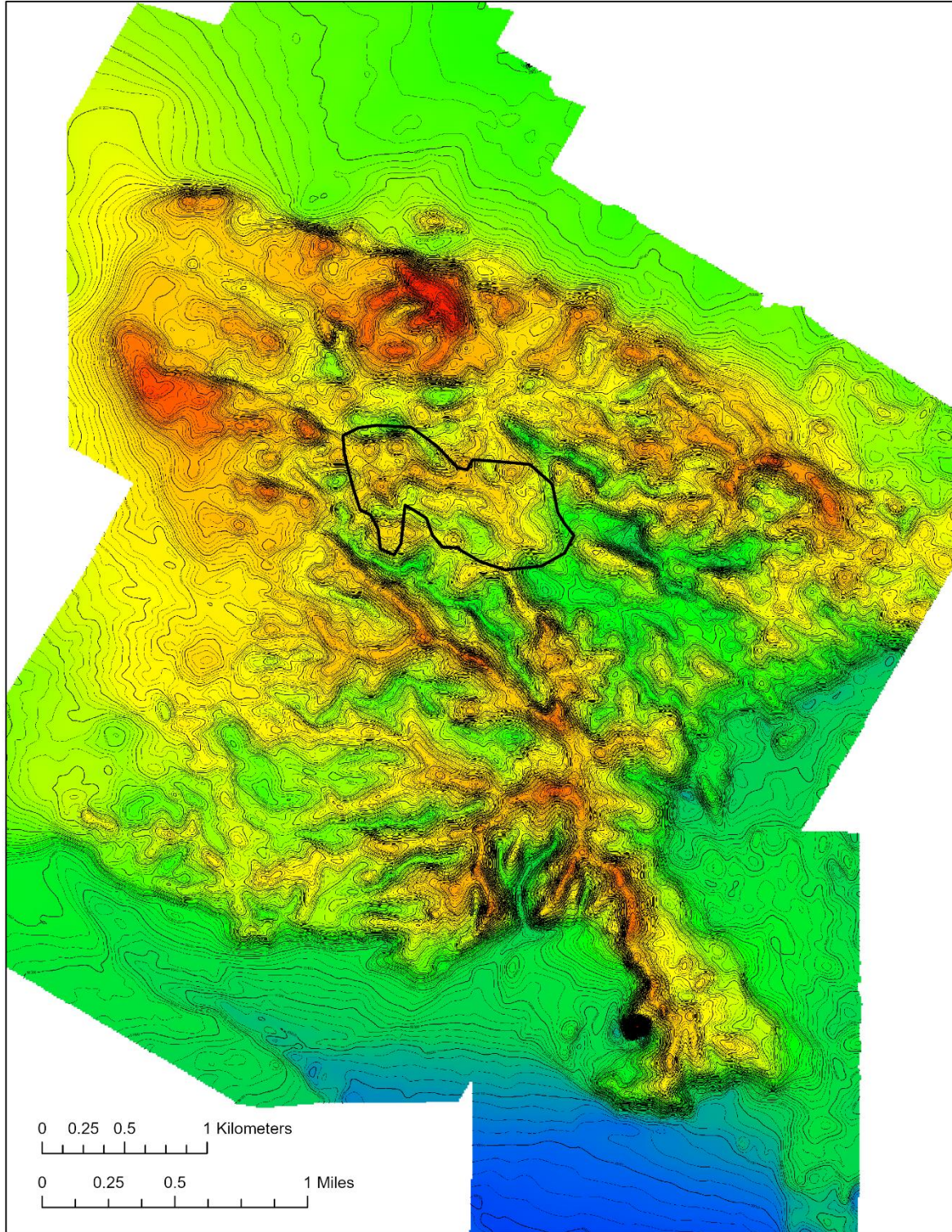


Figure 7: Drillhole 520-3 Photos - a) pyrite-quartz-sericite vein at 153m; b) chalcopyrite veinlet at 537.4m; c) quartz-chalcopyrite breccia with kspar altered clasts at 572.7m; d) quartz-chalcopyrite-molybdenite-kspar vein at 583.4m

**APPENDIX C: Copper Gulch Cu anomaly in surface rock sample grid plotted on MWH UAV
Magnetics RTP**



APPENDIX D: KEX in-house UAV Magnetics Inversion Depth Slices

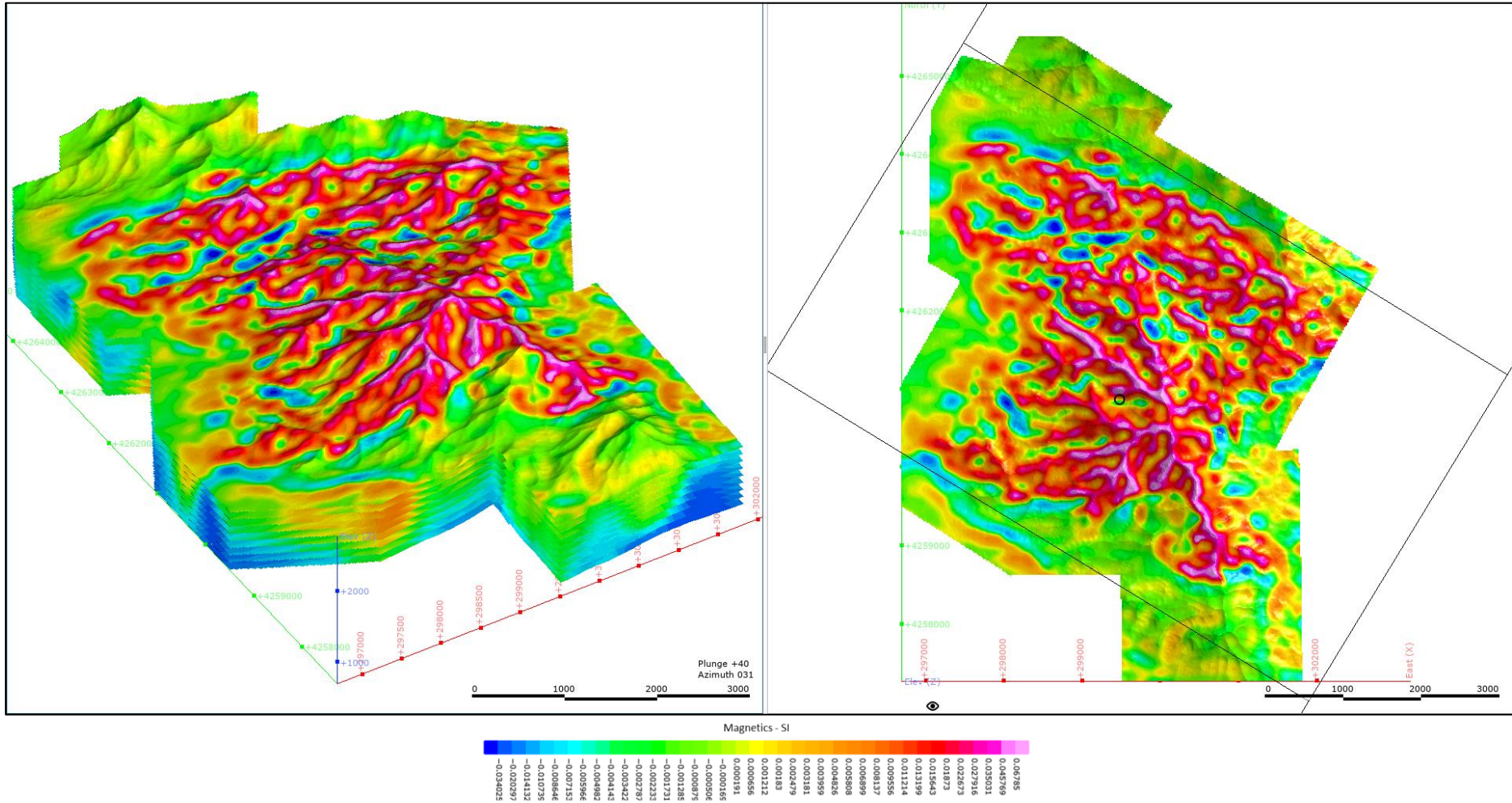


Figure 1. 100 m Depth Slice

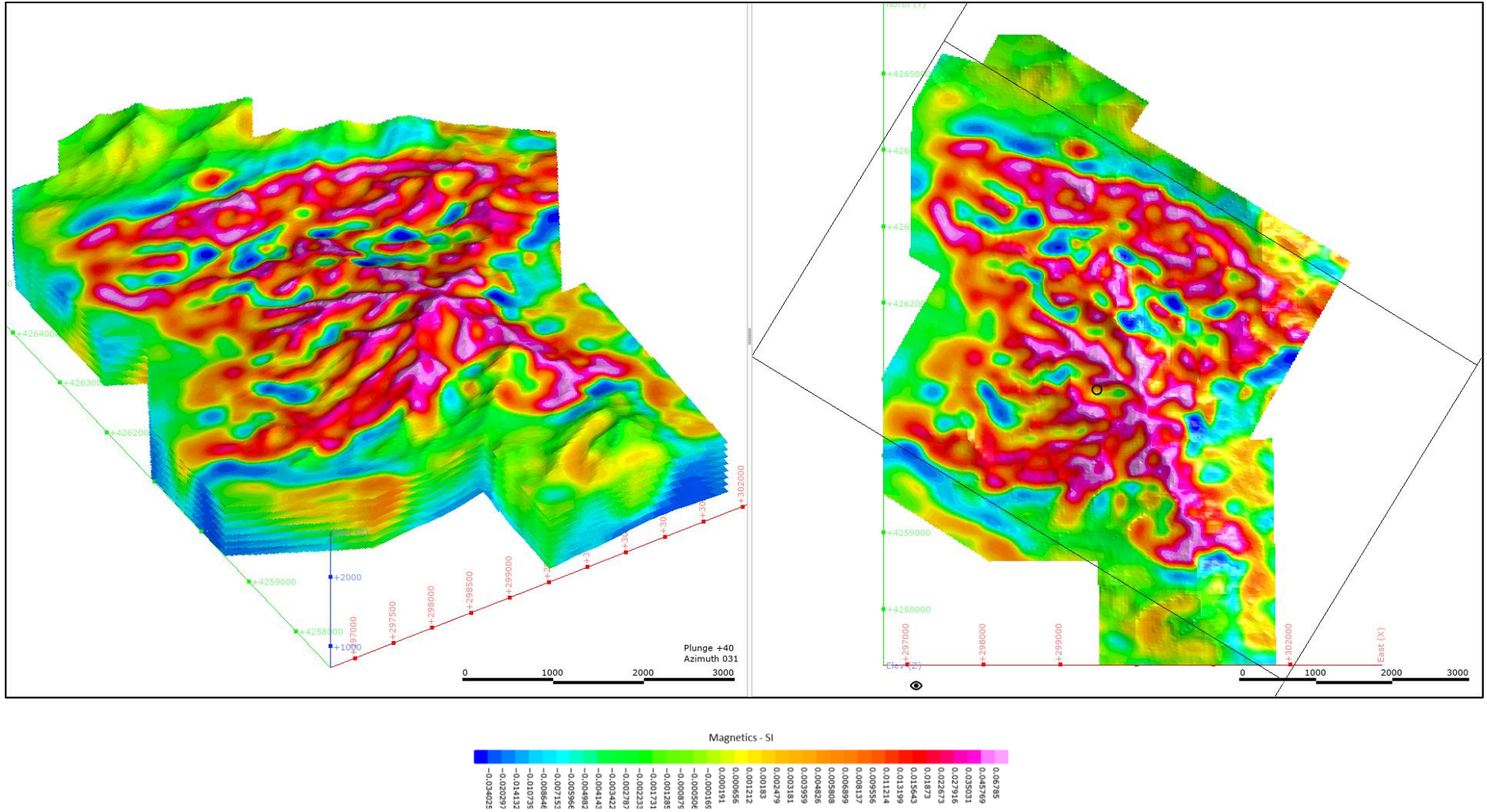


Figure 2. 200m Depth Slice.

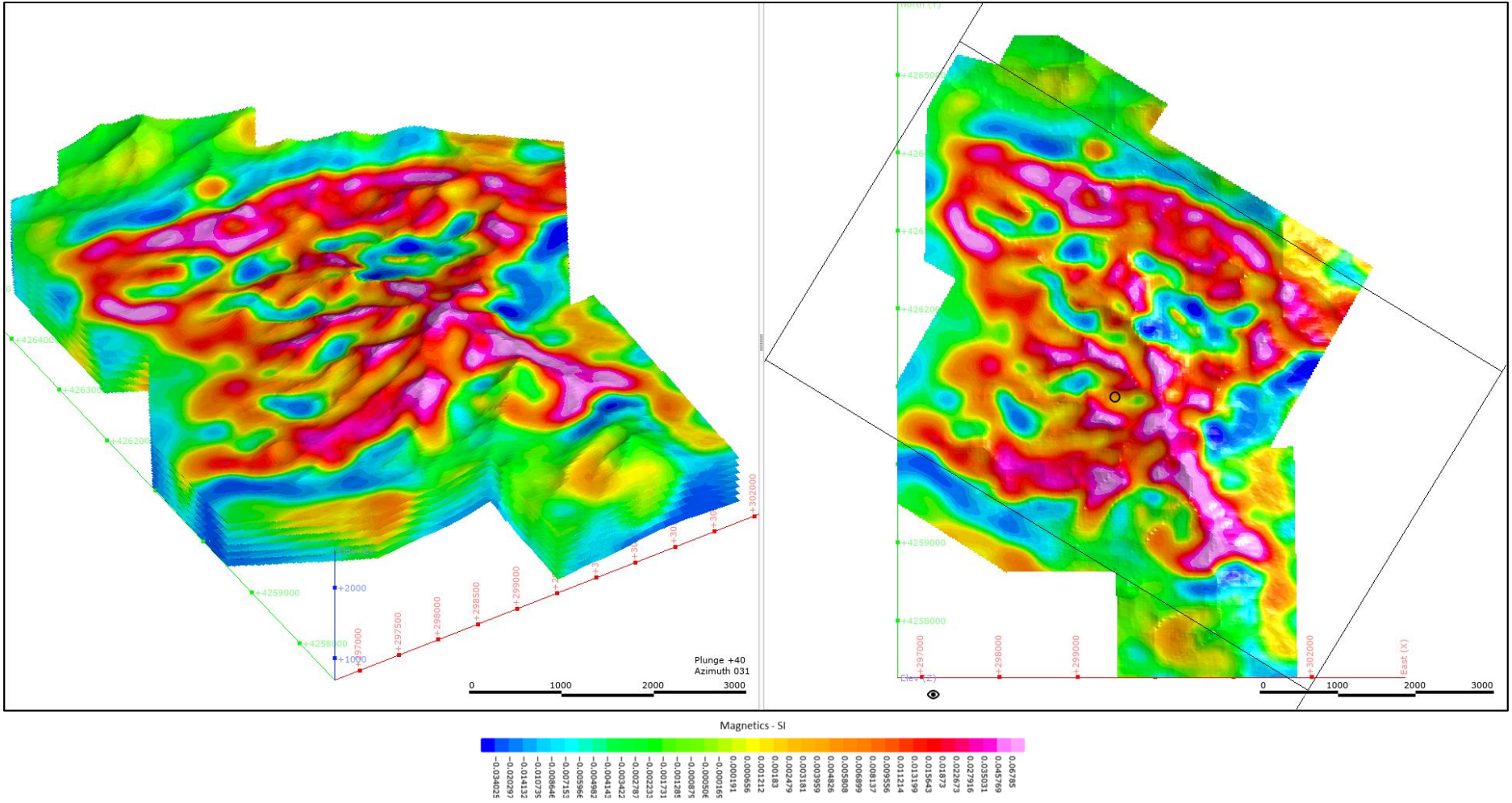


Figure 3. 300m Depth Slice.

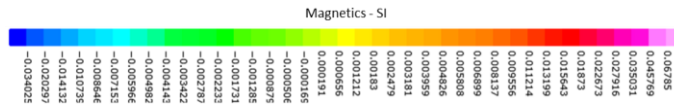
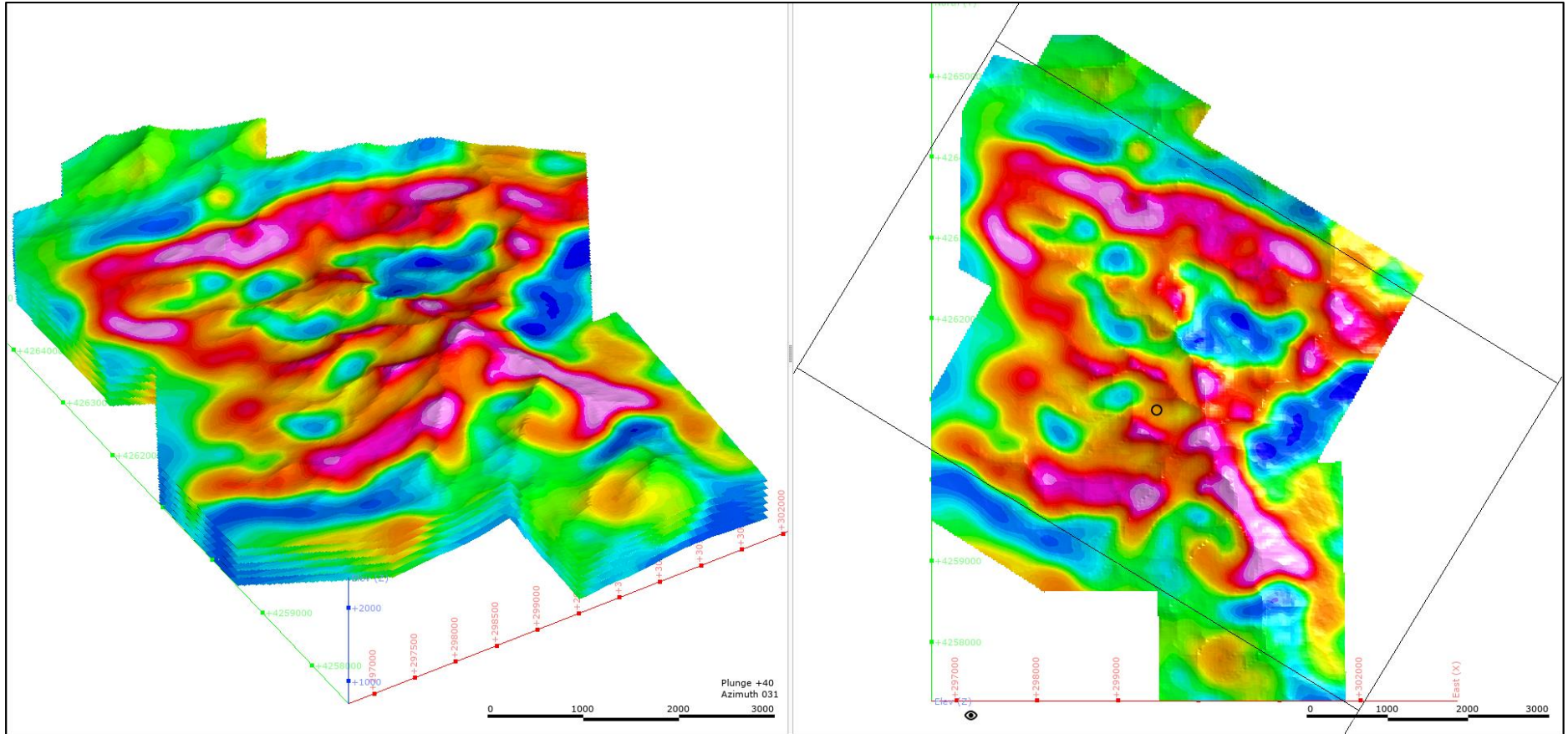


Figure 4. 400m Depth Slice.

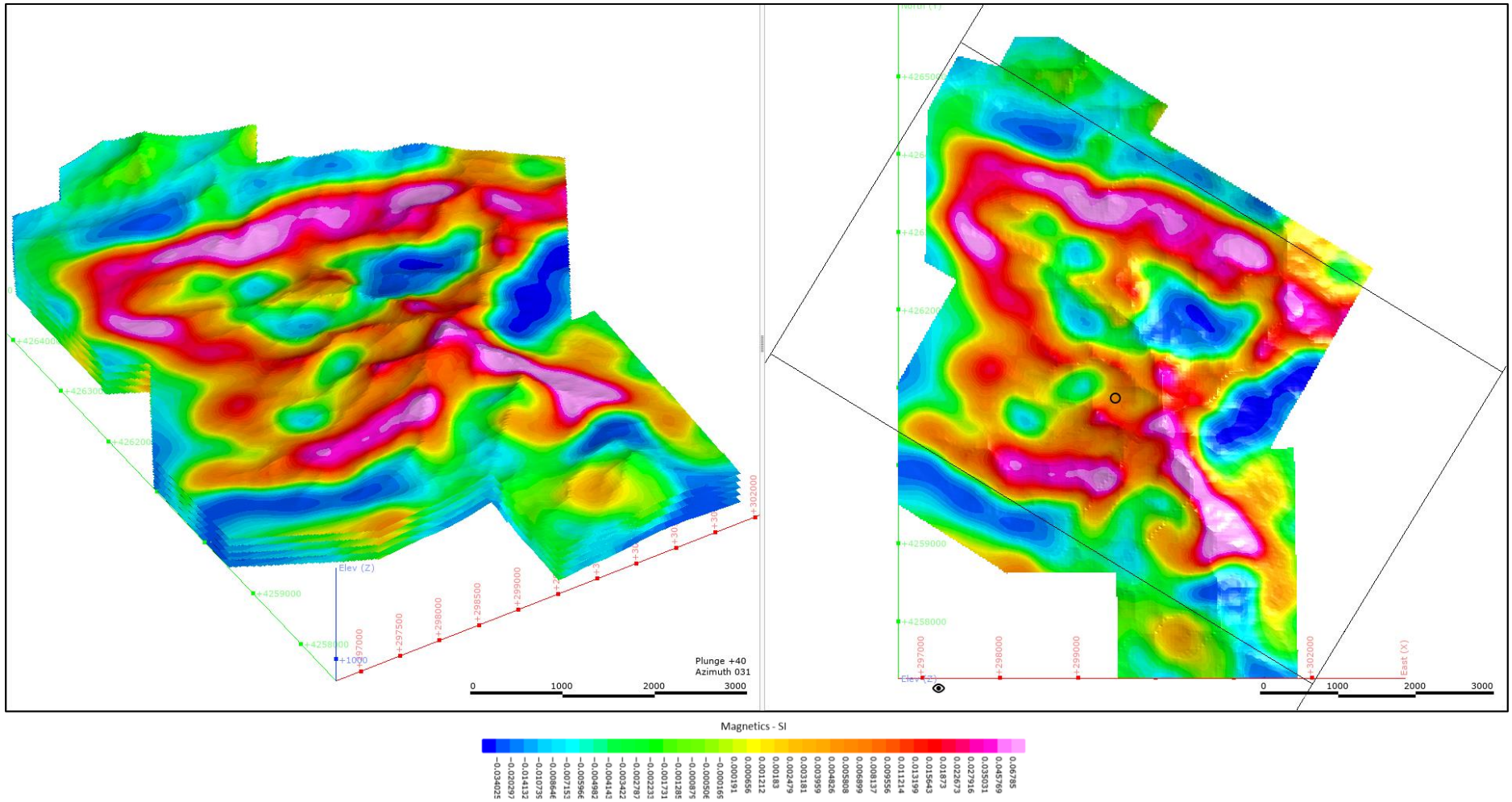


Figure 5. 500m Depth Slice.

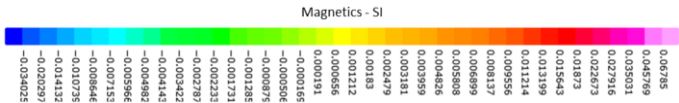
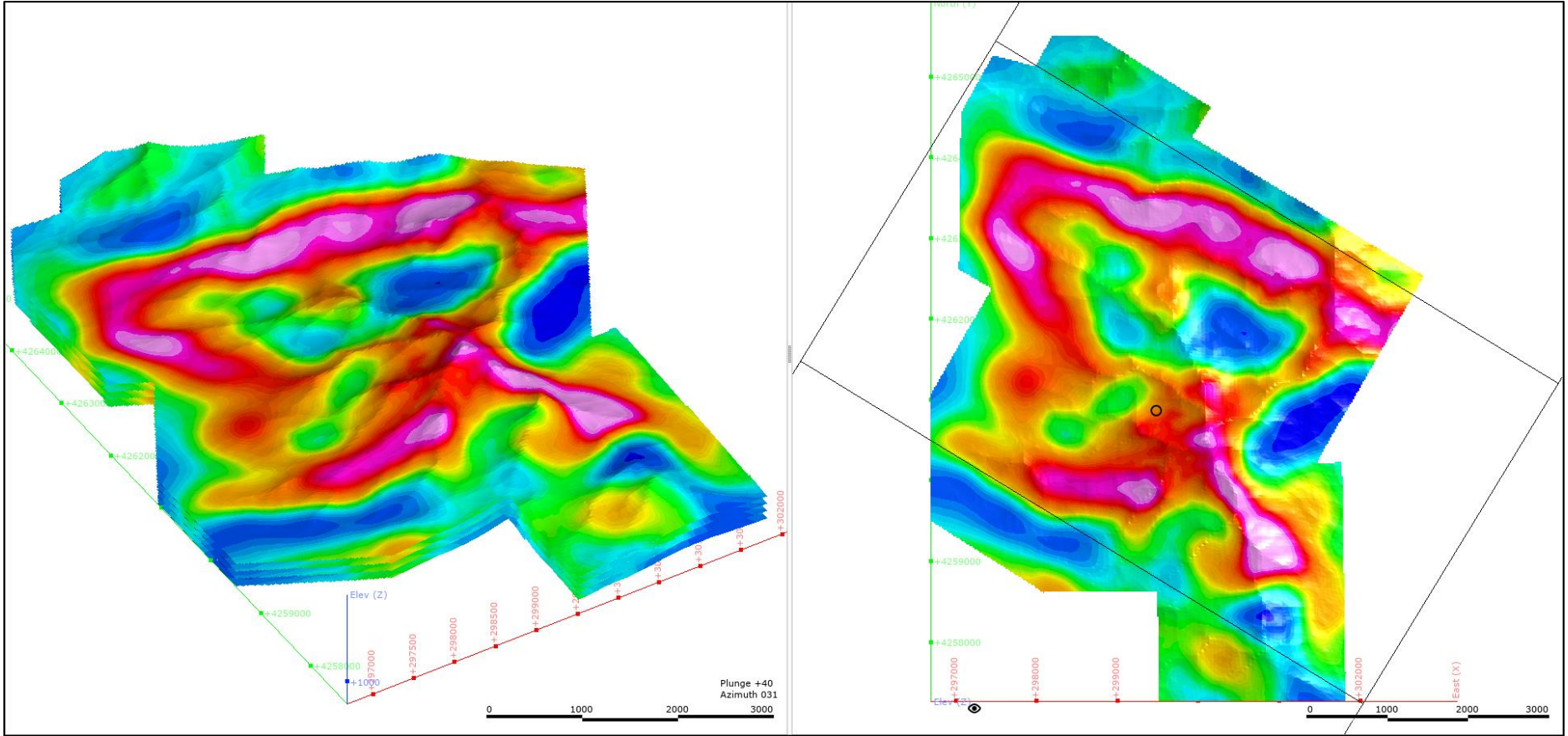


Figure 6. 600m Depth Slice.

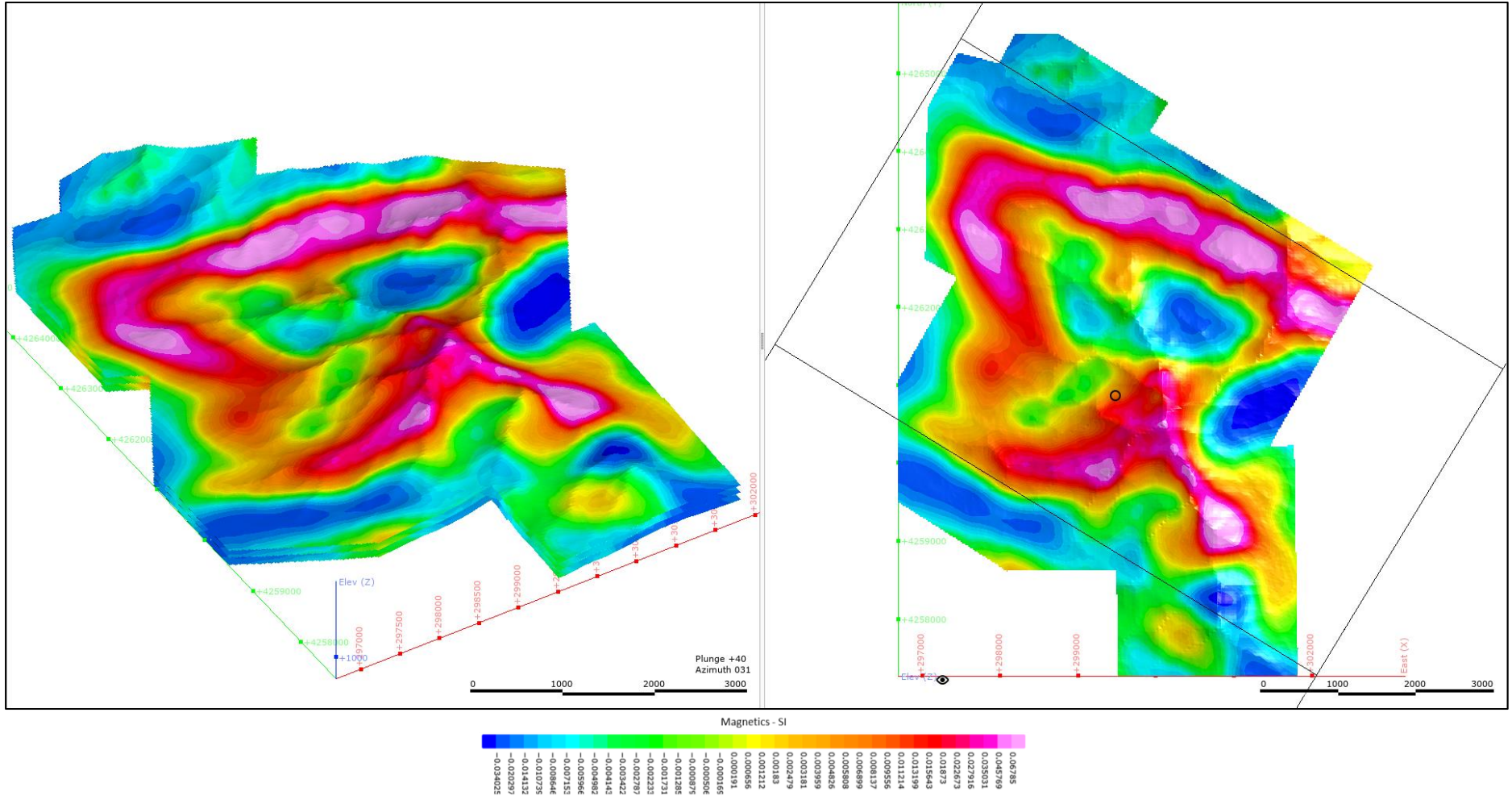


Figure 7. 700m Depth Slice.

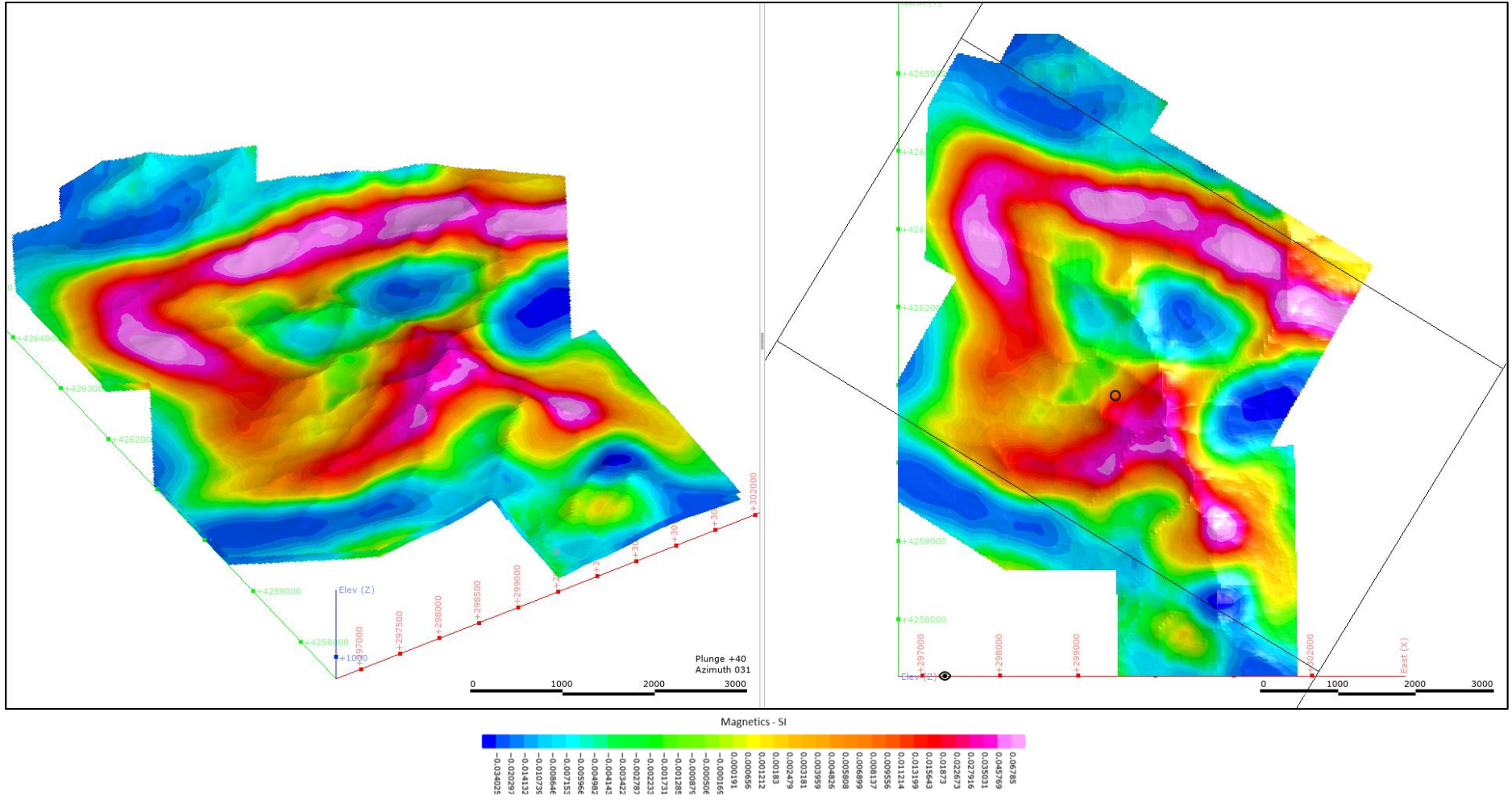


Figure 8. 800m Depth Slice.

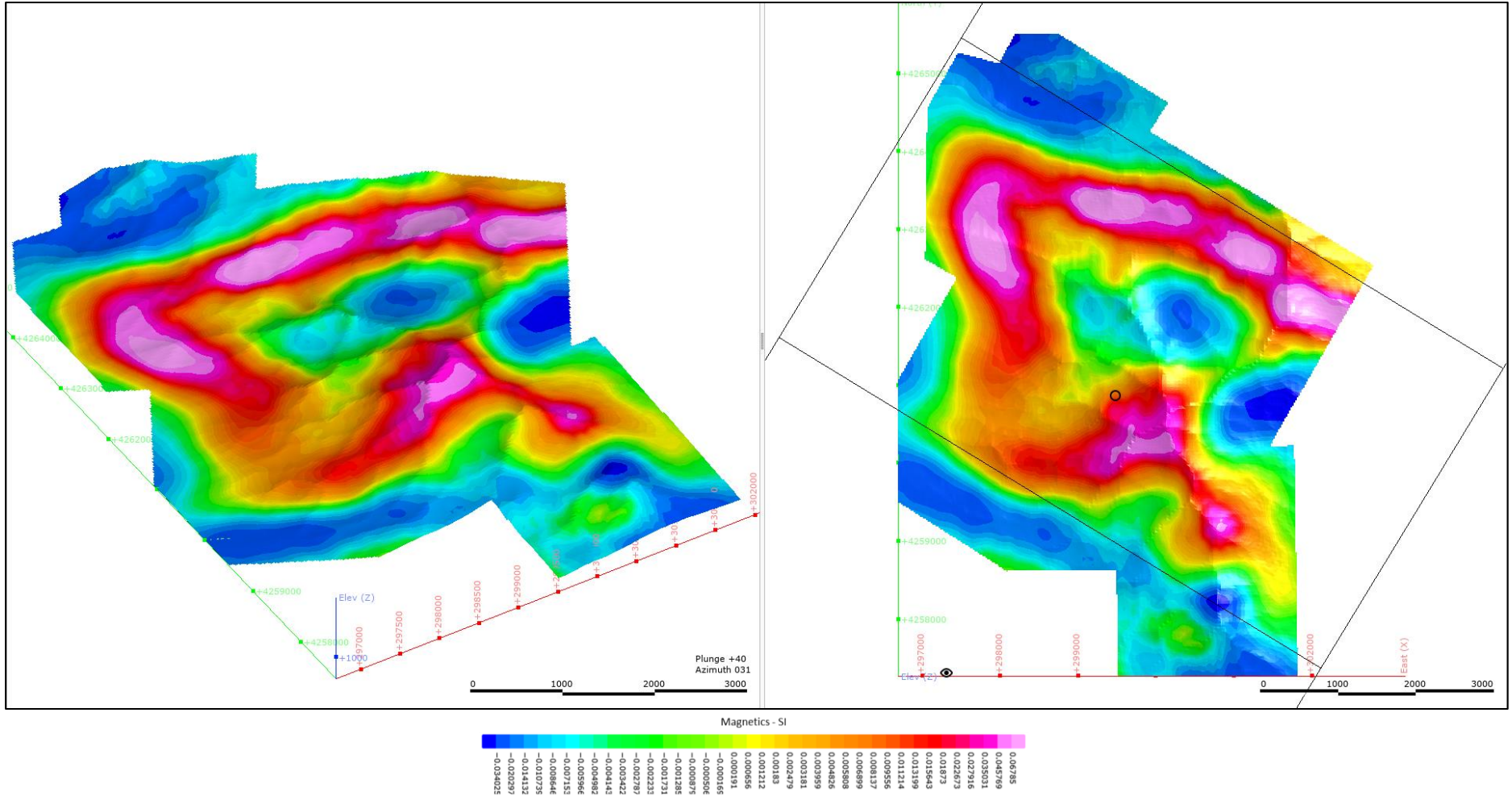


Figure 9. 900m Depth Slice.

APPENDIX E: 2022 Proposal Slides

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Frisco / Sawmill Canyon- 2021 Plan

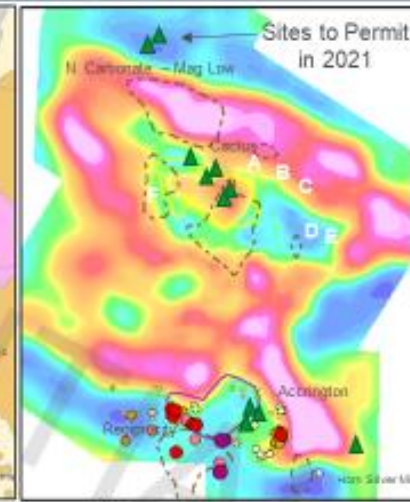
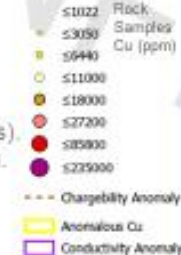


Project Name	2021 Q1	2021 Q2	2021 Q3	2021 Q4
Frisco/Sawmill Canyon		UAV Mag	Permitting	Drilling? (RC/DD)

- Context:
- ✓ Potential for high grade starter case shown at Cactus and Accrington. Others possible.
- ? Next Step – Identify Porphyry source(s) with potential to meet MVP model.

- 2021 Work Plan:
- Drilling postponed due to prioritization.
- UAV mag survey completed.
- Field work (based on availability of geologists).
- Continued desktop data review/interpretation.
- Permitting for newly identified targets.

- Deliverables/Milestones:
- UAV magnetics identifies new targets and better resolution of existing targets.
- Desktop/Field work identifies & strengthens targeting.
- Drill preparedness for 2021 and planning for 2022.



A Biotite breccia with potassically altered clasts

Sawmill Canyon @ 307.2m: qtz-cpy-mo veins with kspar halos

Sawmill Canyon @ 314.5m: qtz-py vein with biotite halo

520-2 @ 153m: qtz-py-cpy vein with biotite-qtz halo

520-2 @ 657m Cpy Mineralization



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Frisco / Sawmill Canyon- 2022 Plan

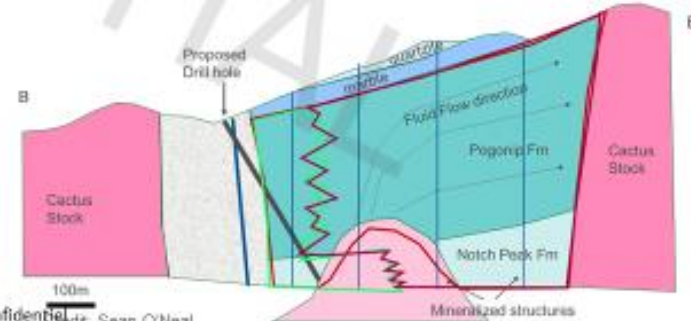
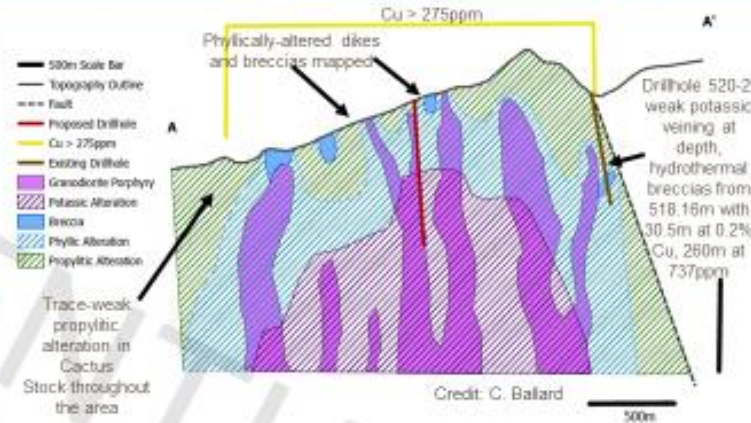


Project Name	2022 Q1	2022 Q2	2022 Q3	2022 Q4
Frisco/Sawmill Canyon	Drilling (00)			

- Context:
 - ✓ Potential for high grade starter case shown at Cactus and Accrington. Others possible.
 - ? Next Step – Identify Porphyry source(s) with potential to meet MVP model.
- 2022 Work Plan:
 - Drilling – Complete SAWM0009.
 - Drill 3-4 holes (2000-2500m) targeting porphyry style mineralization.
 - Field Work – Focus on newly identified target areas with little to no historic work.
 - Ridge and Spur sampling.
- Deliverables/Milestones:
 - Drilling identifies favorable mineralization and/or geology to support larger, longer life type deposit to meet MVP model.
 - Field work to understand new geophysical anomalies and determine potential for drill targeting.



SAWM0001 mineralized BXTO at 280.21m (Sample 0.59m)



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