The Oreo Mountain Prospect and Exploration History, Metallogenics and Current Industry Activity in the Tanacross Quadrangle, East-Central Alaska

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David A. Hedderly-Smith, Ph.D., P.G.
D.A. Hedderly-Smith & Associates

Casino Cu-Au-Mo-Ag Deposit

Porphyry copper system 300 km NW of Whitehorse

Proven & Probable Resource

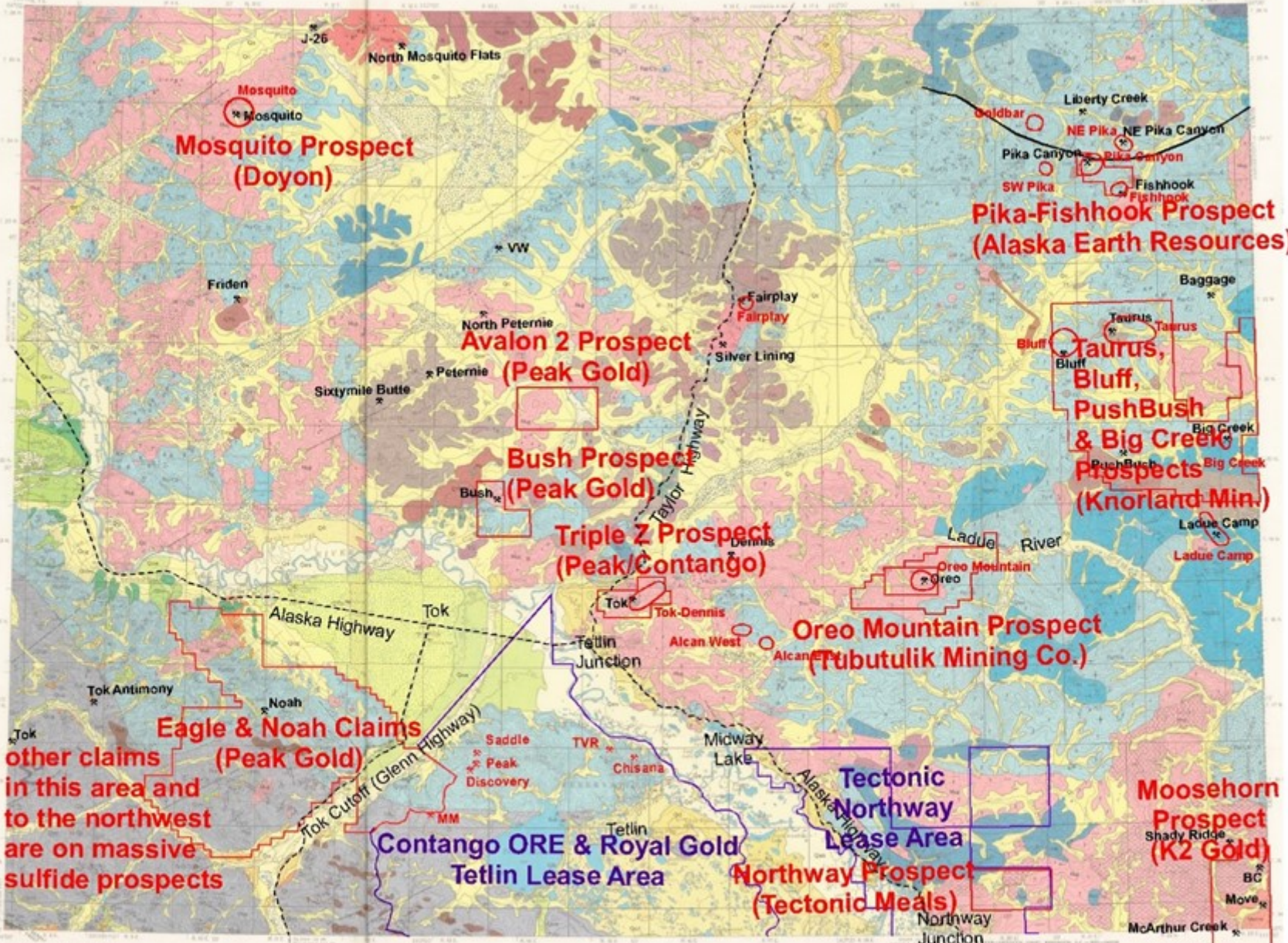
- 965 million tonnes mill ore + 157 million tonnes heap leach
- 4.5 billion lbs copper ($11.7 billion)
- 8.9 million oz gold ($14.7 billion)

Inferred Resource

- 1.7 billion tonnes mill ore
- 5.4 billion lbs copper ($14 billion)
- 9.0 million oz gold ($14.8 billion)

Totaling a contained resource of over $55 billion (plus Ag & Mo)!

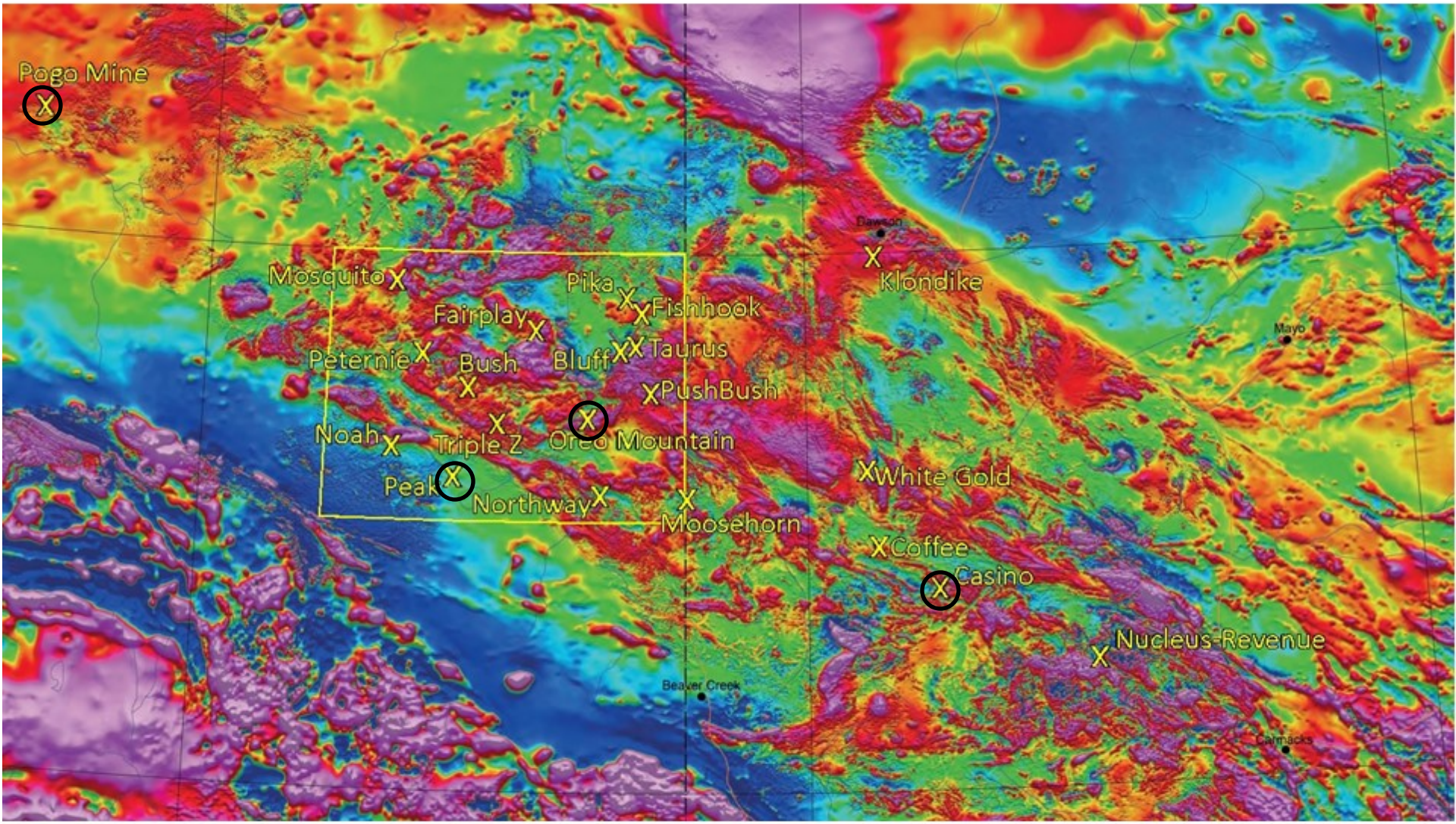
Exploration History of the Tanacross Quadrangle Area, East Central Alaska		
pre-1930s	Largely focused on placer gold; probably since discovery in the Fortymile District to the North in the 1890s	individual prospectors & miners
1930s	Depression-era exploration and minor production of placer gold (Liberty Creek[?], McArthur Creek[?], Tok[?])	individual prospectors & miners
1960s	1959-1967 Pedro Dredge in Chicken; discovery of Casino Cu-Mo 200 mi SE in the Yukon led to porphyry Cu-Mo exploration and discovery work at Taurus, Bluff, Peternie, etc.	USSR&M/FE Company, Resource Associates of Alaska
1970s	Continued Casino-inspired exploration work directed towards porphyry Cu-Mo targets, led by Taurus.	IMC, ASARCO, Duval, CSMC, Inspiration, Rioamex
1980s	Tintina Gold Belt gold exploration throughout the Yukon-Tanana Uplands.	WGM, Central Alaska Gold
1990s	Continued work at Taurus including Noranda; 1996 Senator Minerals re-staked Taurus; North Pacific; work on Doyon lands by North Pacific.	Noranda, Senator Minerals, North Pacific Minerals
2000s	Full Metal Minerals and BHP-Billiton re-staked numerous claim blocks on porphyry targets including Bluff & Oreo Mountain; they also had a j-v with Doyon.	Full Metal Minerals, BHP-Biliton
2010s	Peak Gold discovery by Contango ORE on Tetlin lease. New claim blocks established on Triple Z (Contango/Peak Gold),Taurus-Bluff (Kenorland - optioned to Freeport), Oreo (Tubutulik - optioned to Rio Tonto), Pika-Fishhook (AER), Road Metal-Northway (Tectonic), Moosehorn (K2 Gold).	Contango Ore; Peak Gold J-V; Kenorland, Tubutulik Mining Co., Freeport-McMoran, Rio Tinto, Tectonic, AER, K2 Gold



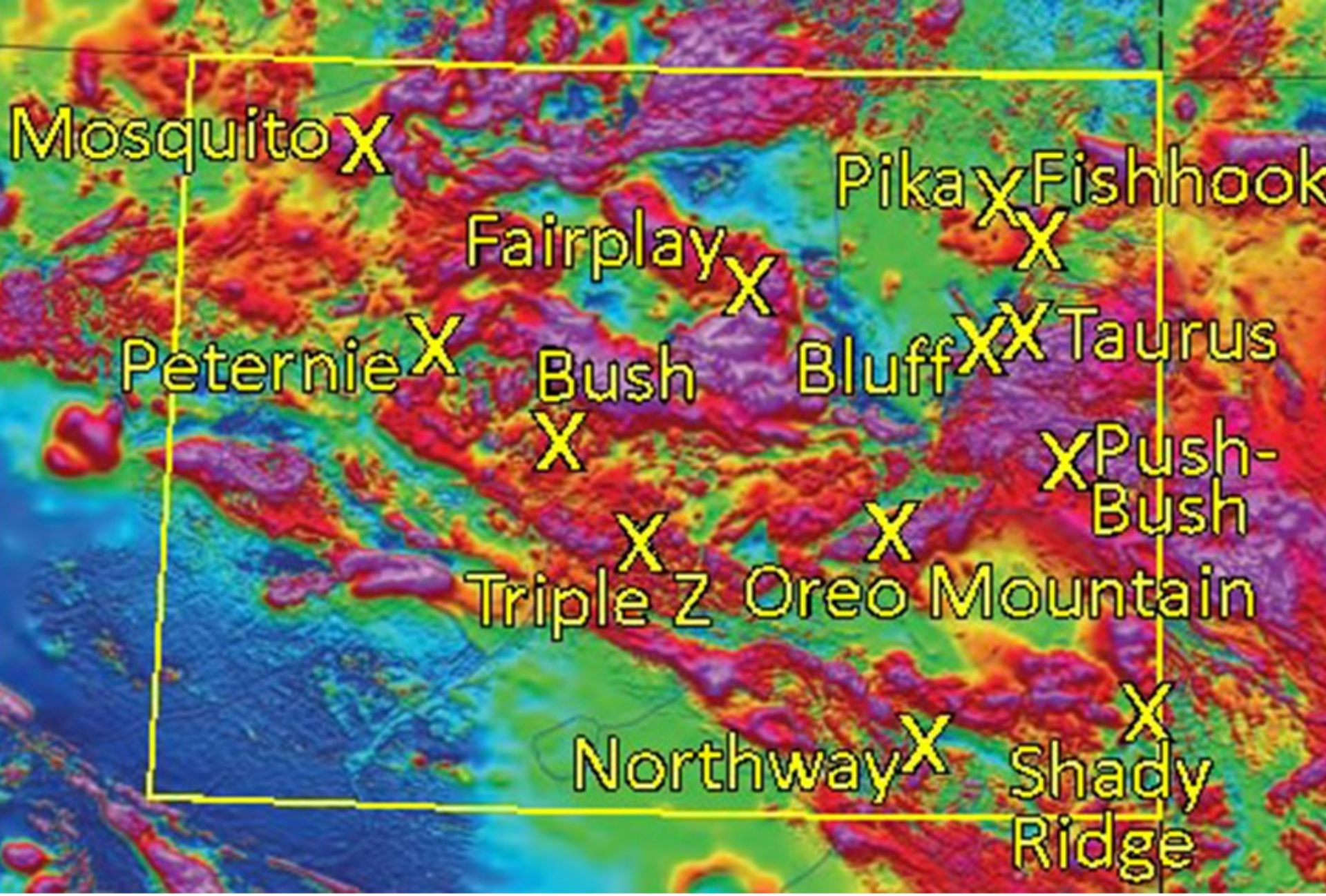
RECONNAISSANCE GEOLOGIC MAP OF THE TANACROSS QUADRANGLE, ALASKA

By

Helen L. Foster



base from Oneschuck, 2019



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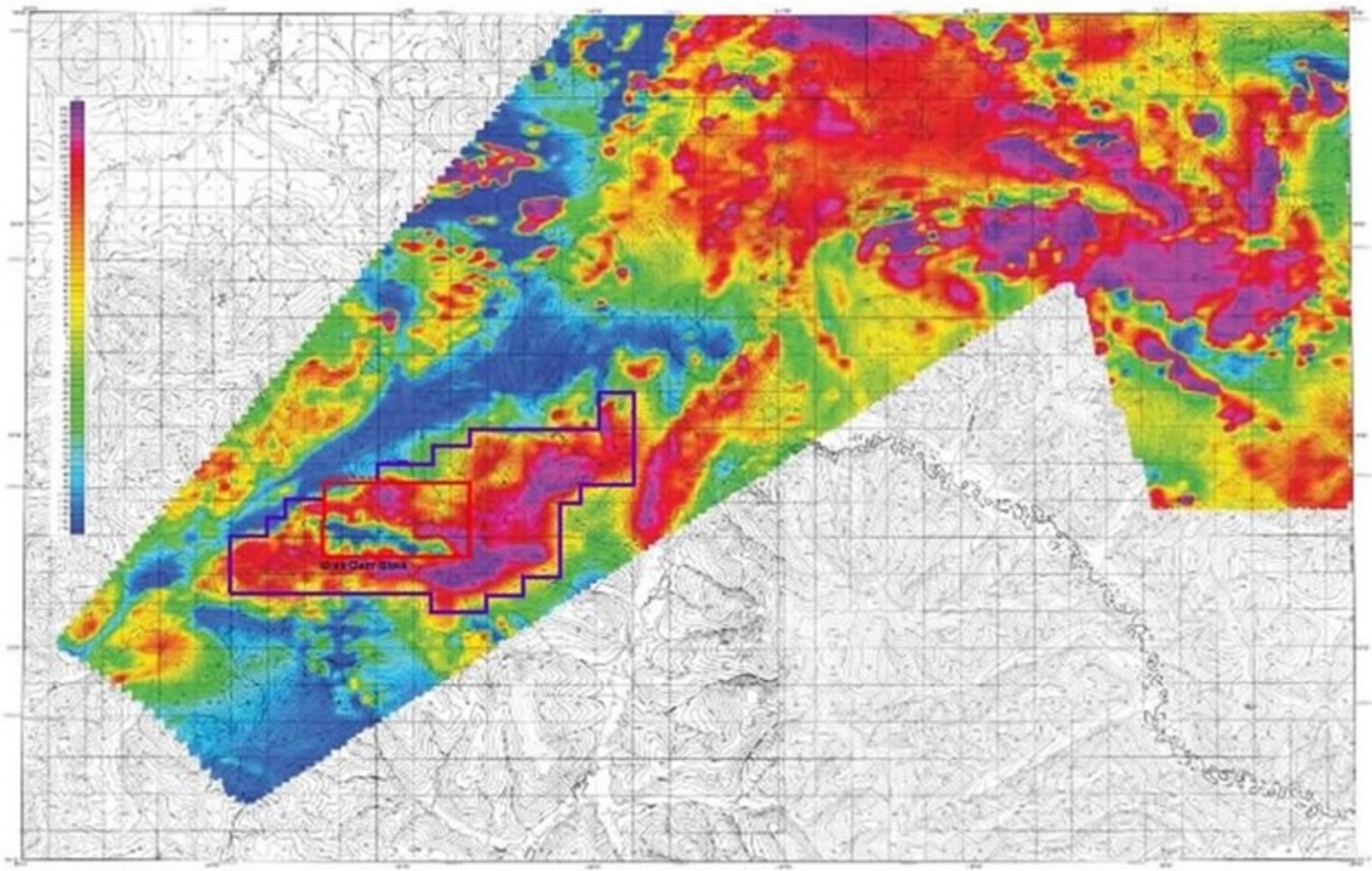


RESIDUAL MAGNETIC FIELD OF THE LADUE SURVEY AREA, FORTYMILE MINING DISTRICT, EASTERN ALASKA

PART OF TANACROSS QUADRANGLE

Figure 4 (from Burns *et al.*, 2011)

Sanchez *et al.*, 2014, **Extracting ore-deposit controlling structures from aeromagnetic, gravimetric, topographic and regional geologic data in western Yukon and eastern Alaska**

- ten major NW-trending fault systems
- seven NE-trending fault fracture systems

Suggest significant metallogenic importance to the NW-trending, orogen parallel, Big Creek and Teslin faults in the Yukon which extend into the Tanacross North fault.

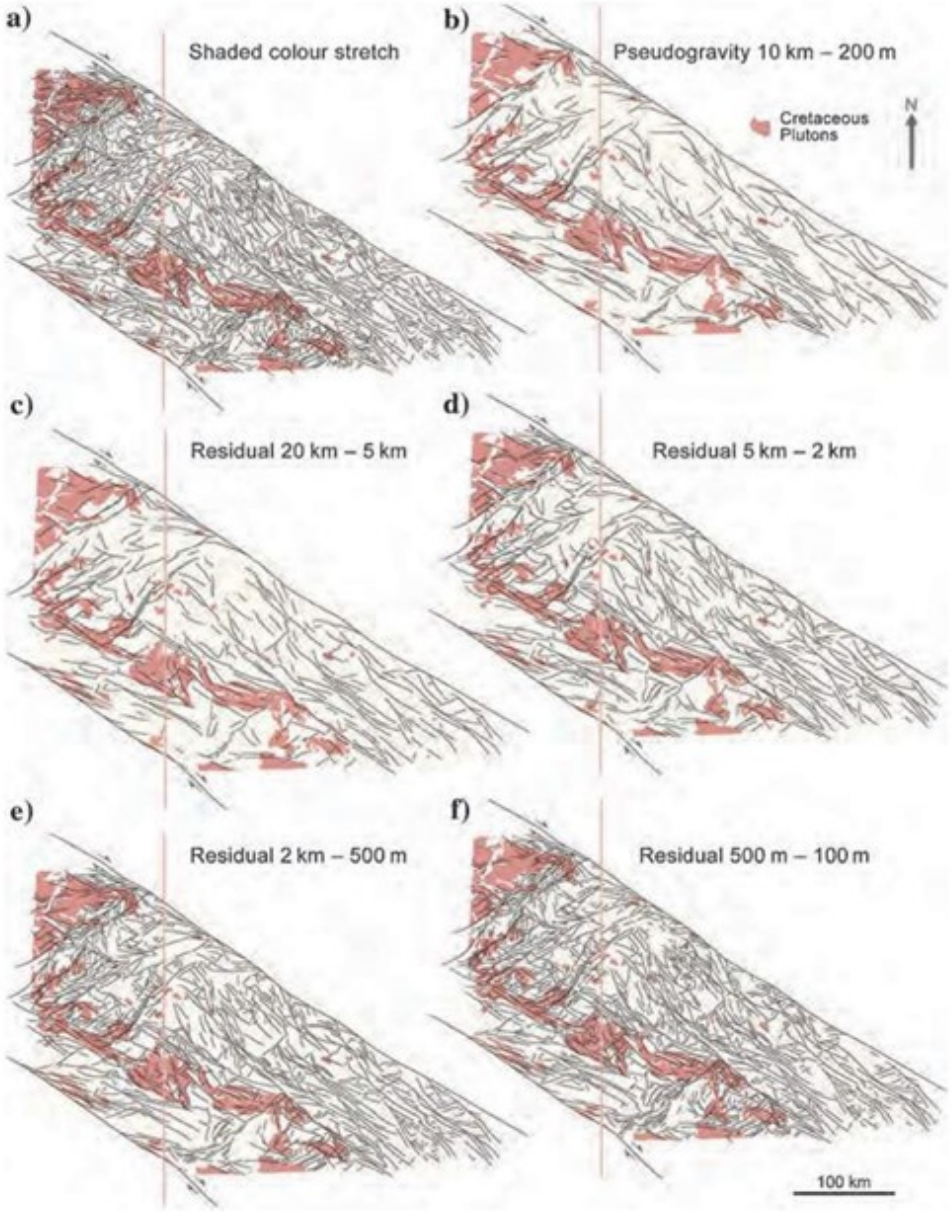


Figure 6. Aeromagnetic lineaments evaluated across a series of upward-continued residual filters of the RTP grid. (a) Unfiltered color stretch, (b) pseudogravity RTP (10 km–200 m), (c) residual very deep (20–5 km), (d) residual deep (5–2 km), (e) residual intermediate (2 km–500 m), and (f) residual shallow (500–100 m).

from Sanchez *et al.*, 2014

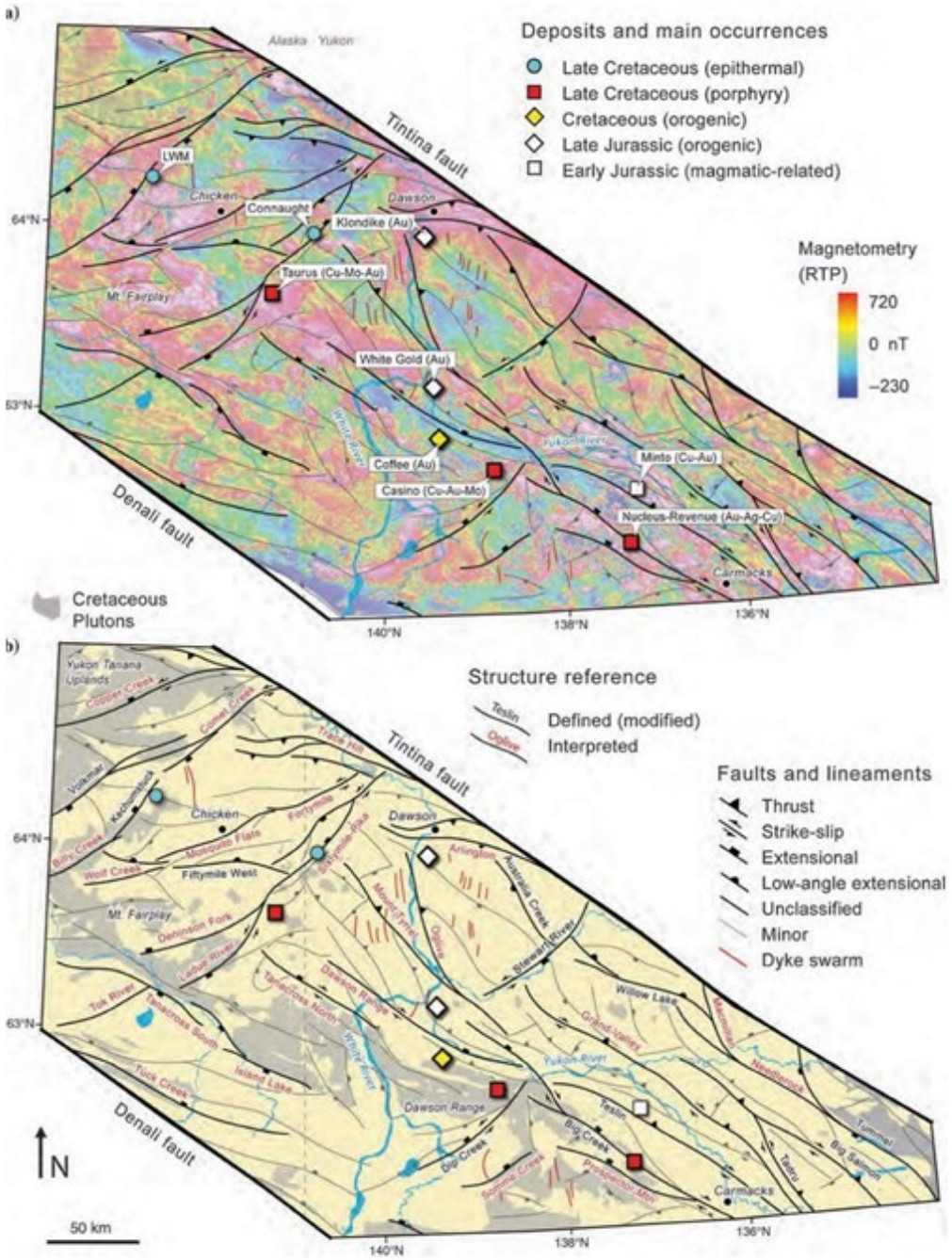


Figure 11. Simplified aeromagnetic lineament and magnetite-destructive fault system maps and the distribution of significant min eral deposits. (a) RTP magnetic map and (b) map of Cretaceous plutons and newly proposed and previously defined fault systems.

from Sanchez *et al.*, 2014

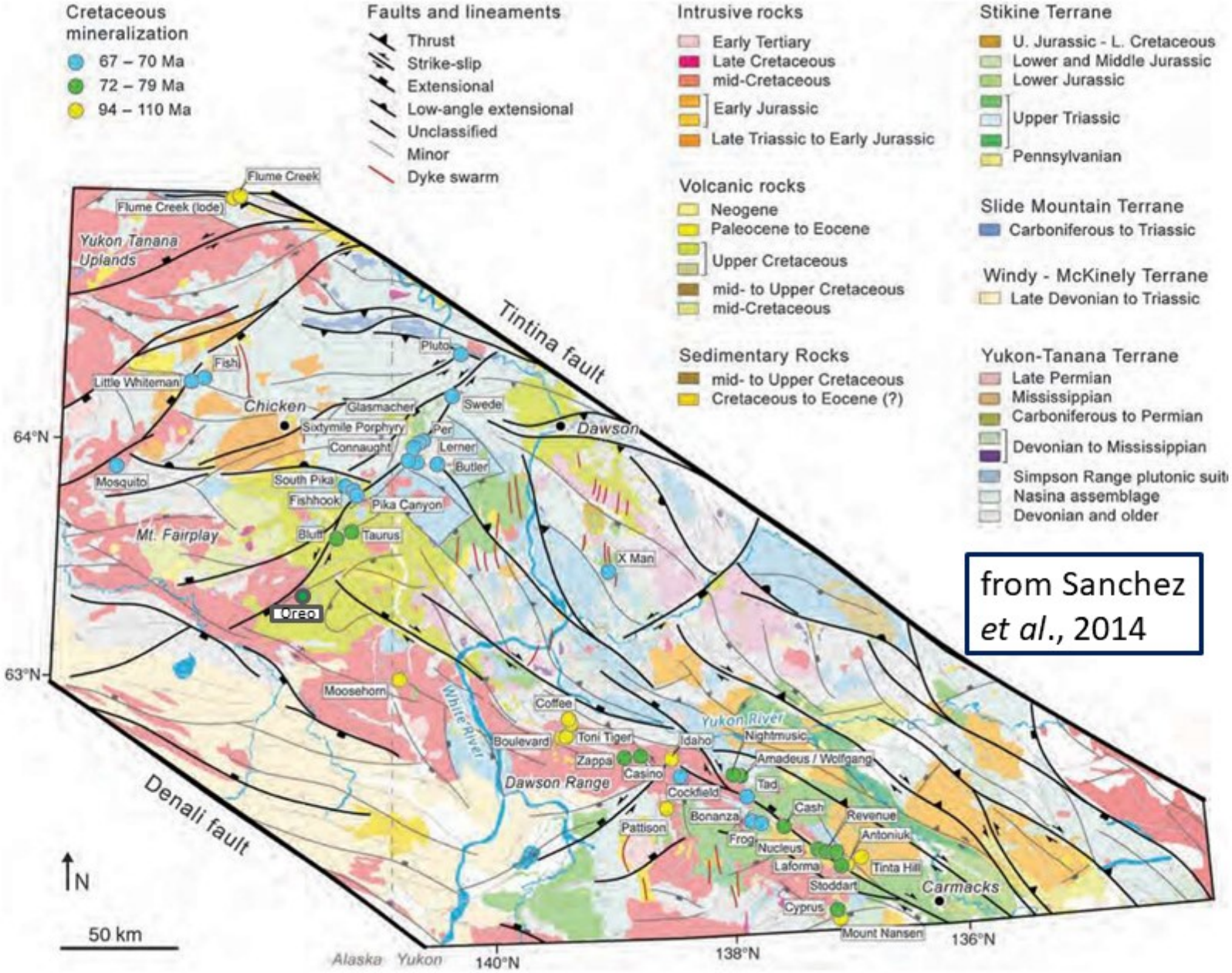


Figure 15. Simplified structural and geologic map showing regional fault systems (modified from Gordey and Ryan, 2005; Ryan et al., 2010; Beikman et al., 1980; Gordey and Makepeace, 2001; Sánchez, 2013), and the spatial distribution of significant mineral deposits and prospects of Cretaceous age (Allan et al., 2013).

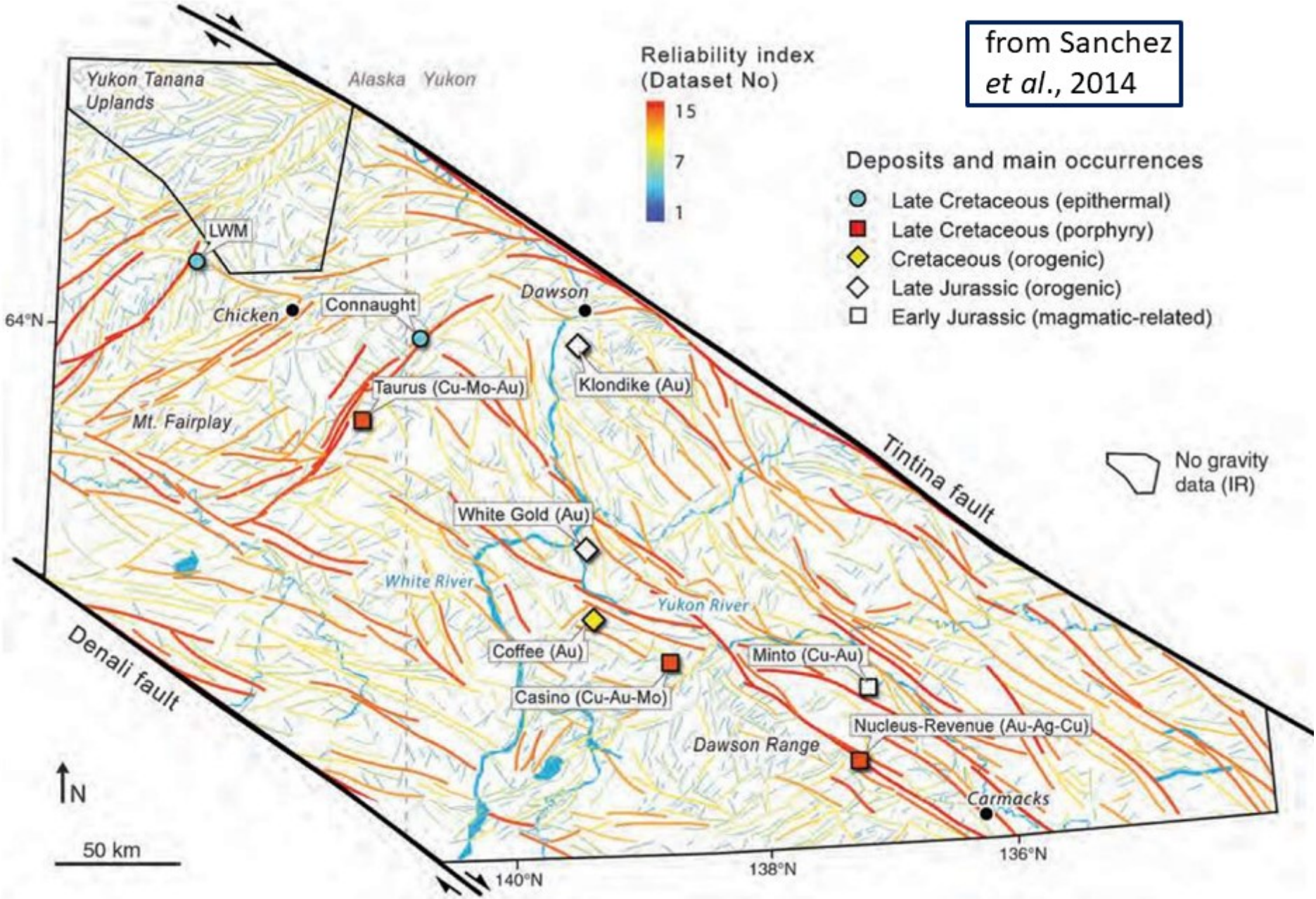


Figure 7. Reliability index map based on multidata set-stacking methodology.

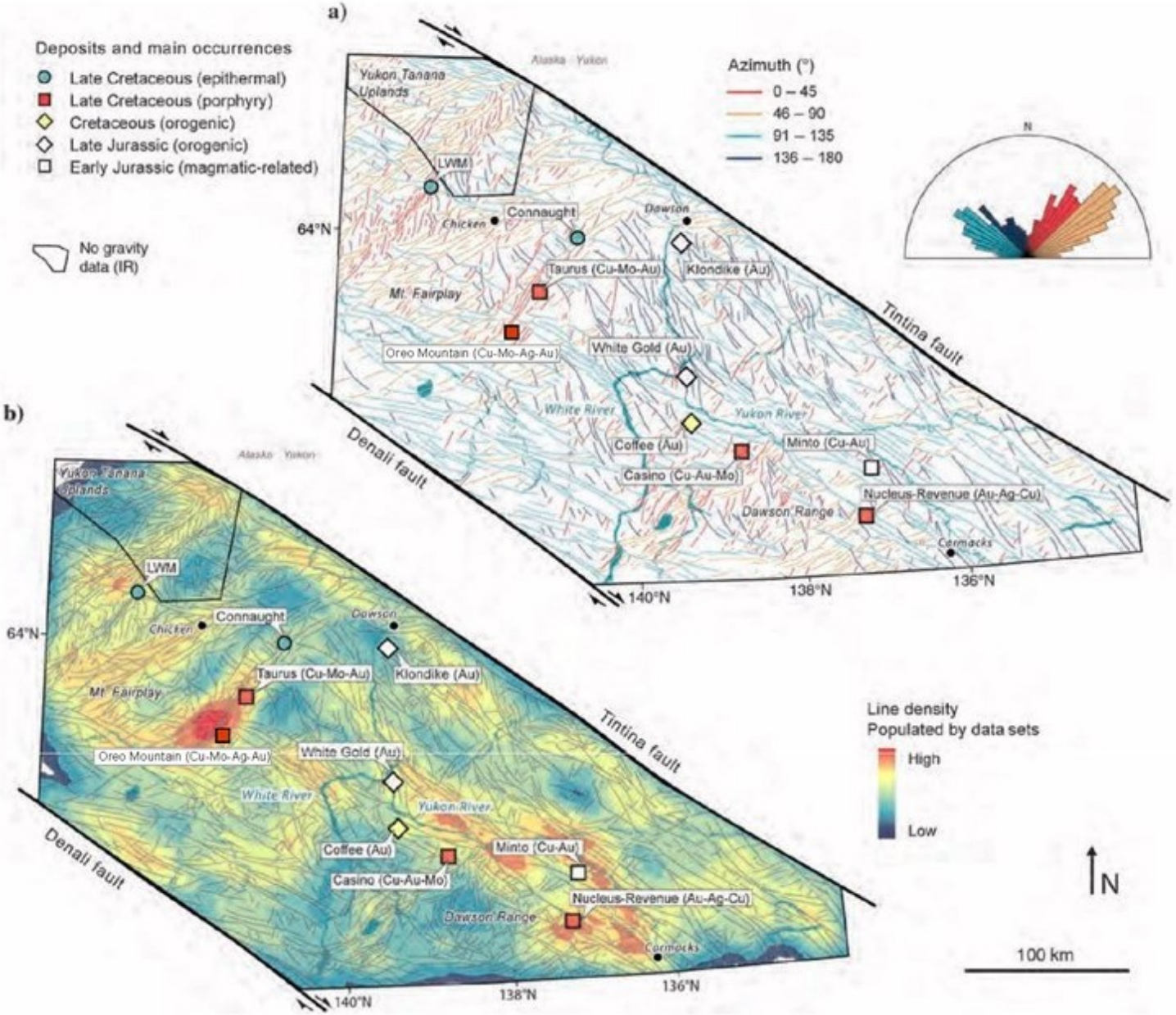


Figure 9. Aeromagnetic lineament length and density maps. (a) Line azimuthal map showing color codes every 45°, (b) line spatial density grid populated by summation of all values of the stacking methodology for multidata set lineament confidence classification. First to fourth data-stack groups of aeromagnetic lineaments overlain on density grid.

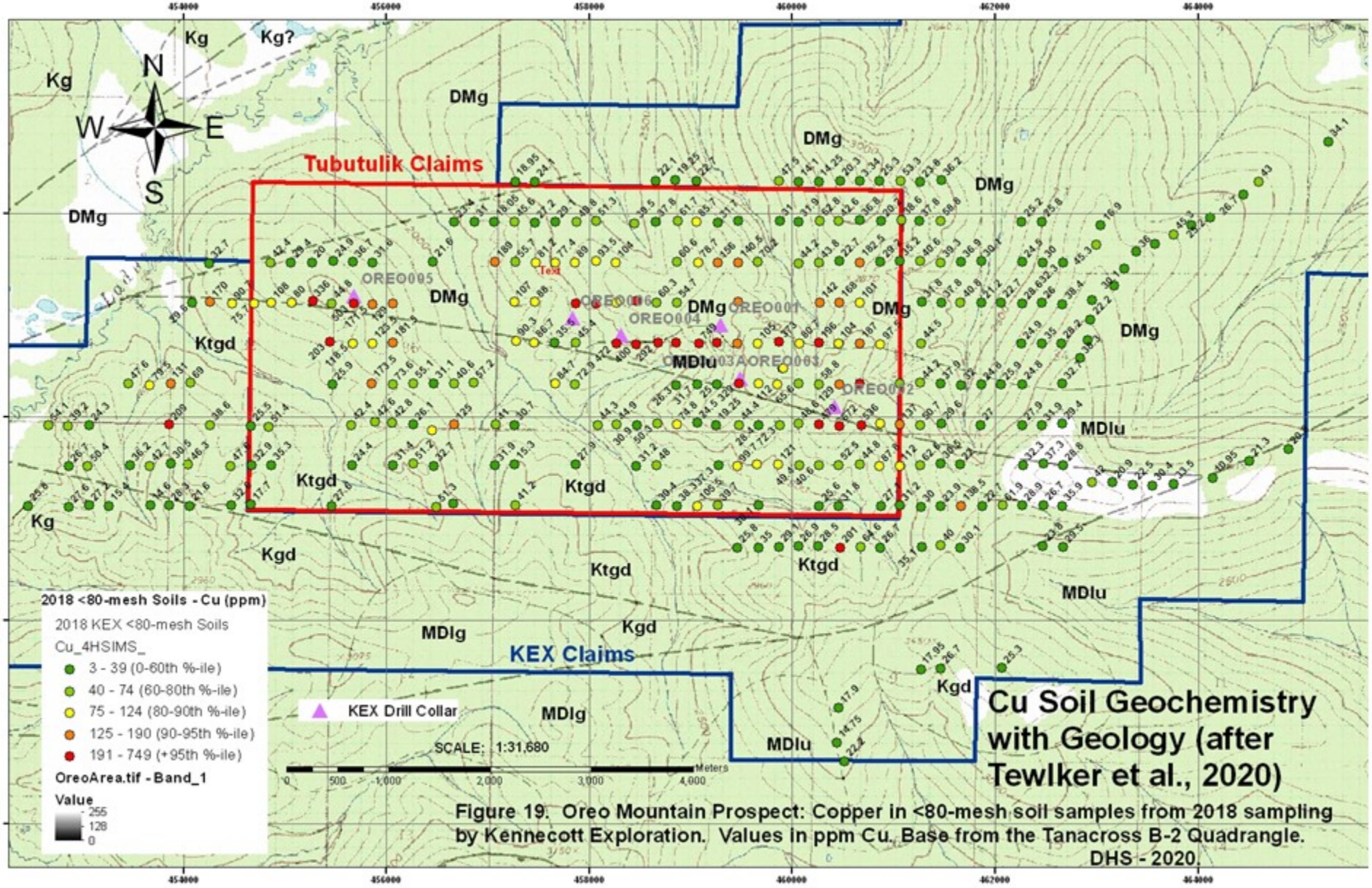
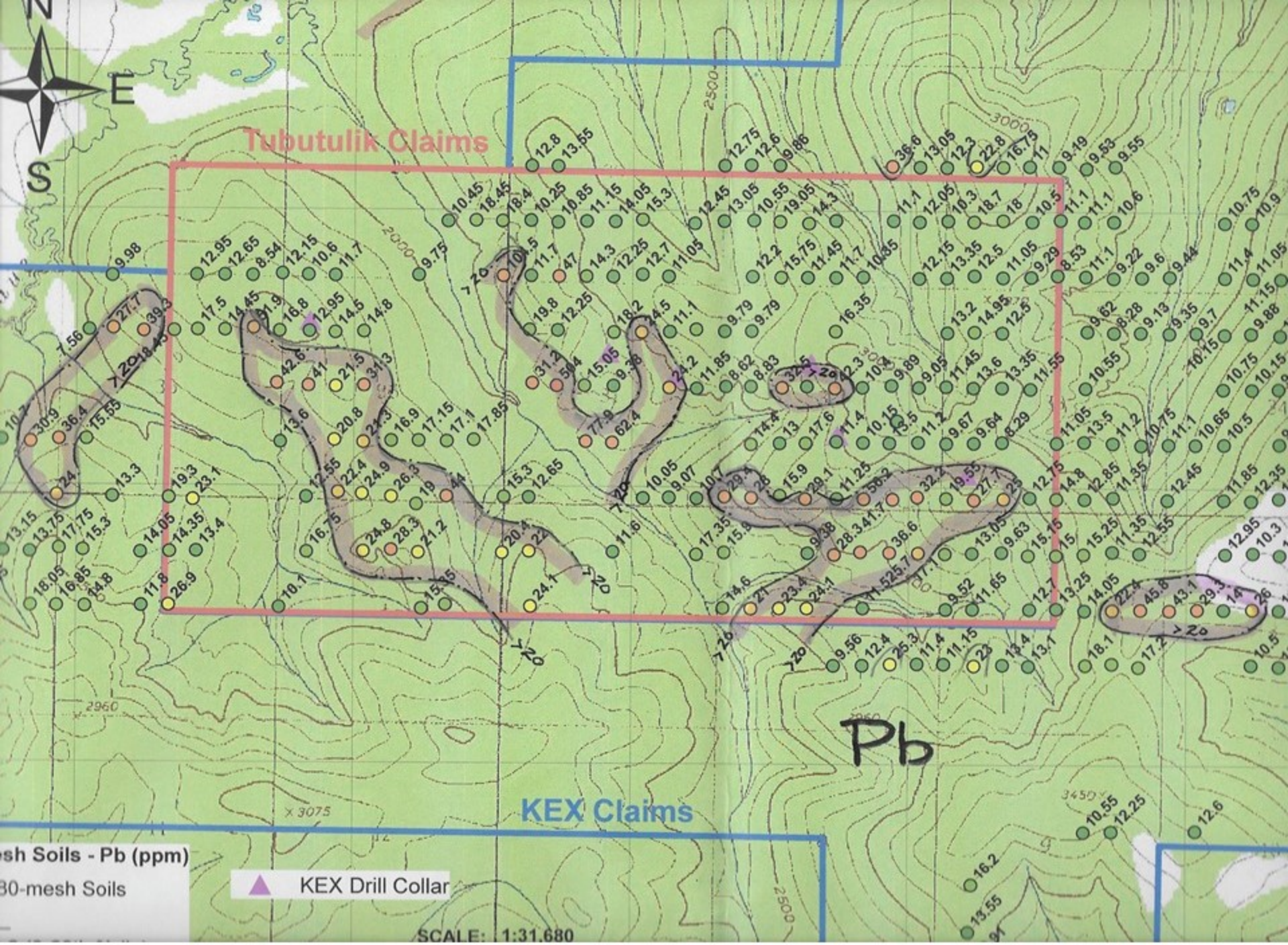


Figure 19. Oreo Mountain Prospect: Copper in <80-mesh soil samples from 2018 sampling by Kennecott Exploration. Values in ppm Cu. Base from the Tanacross B-2 Quadrangle. DHS - 2020.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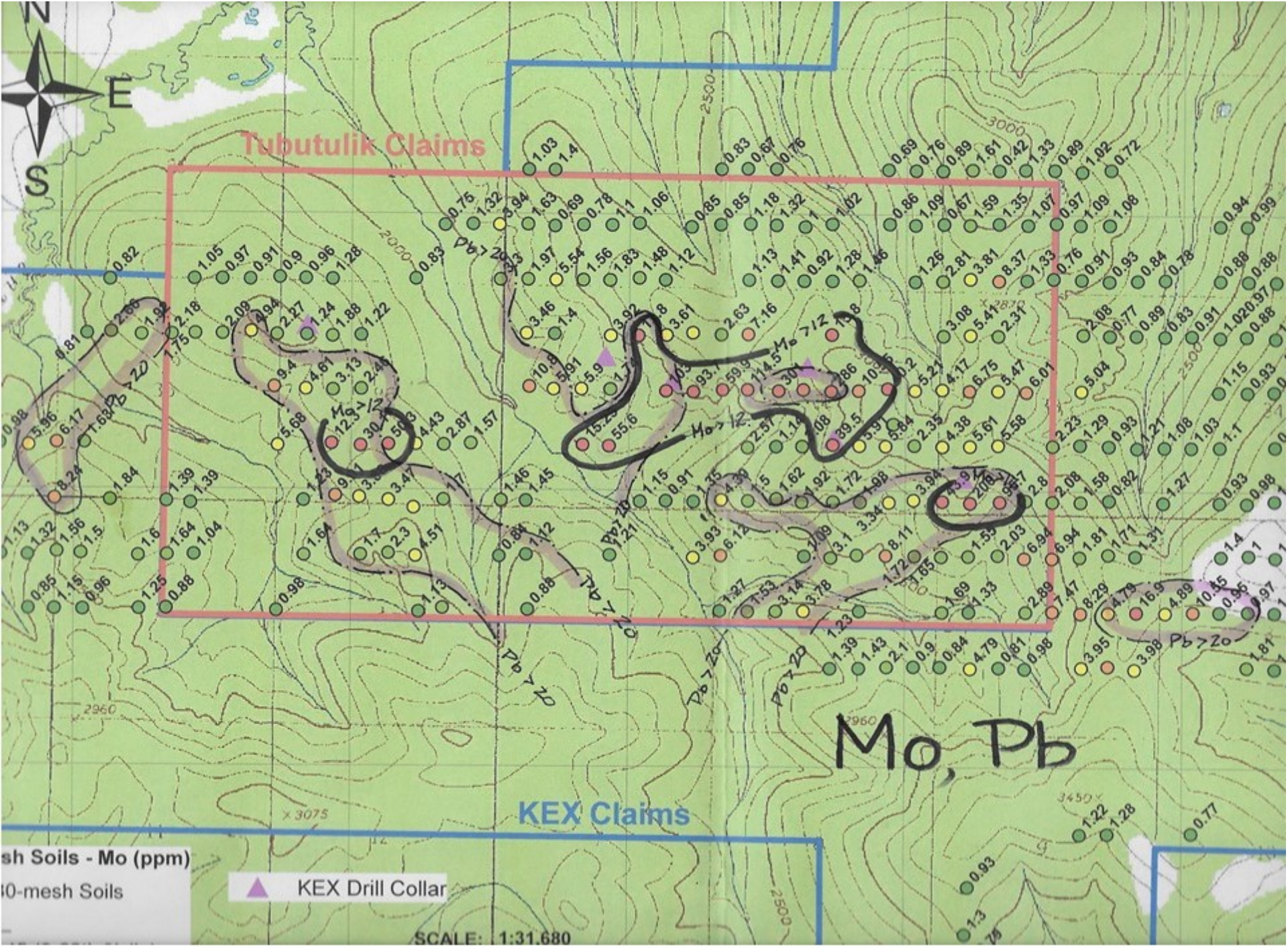
Tubutulik Claims
KEX Claims
Pb
KEX Drill Collar
SCALE: 1:31,680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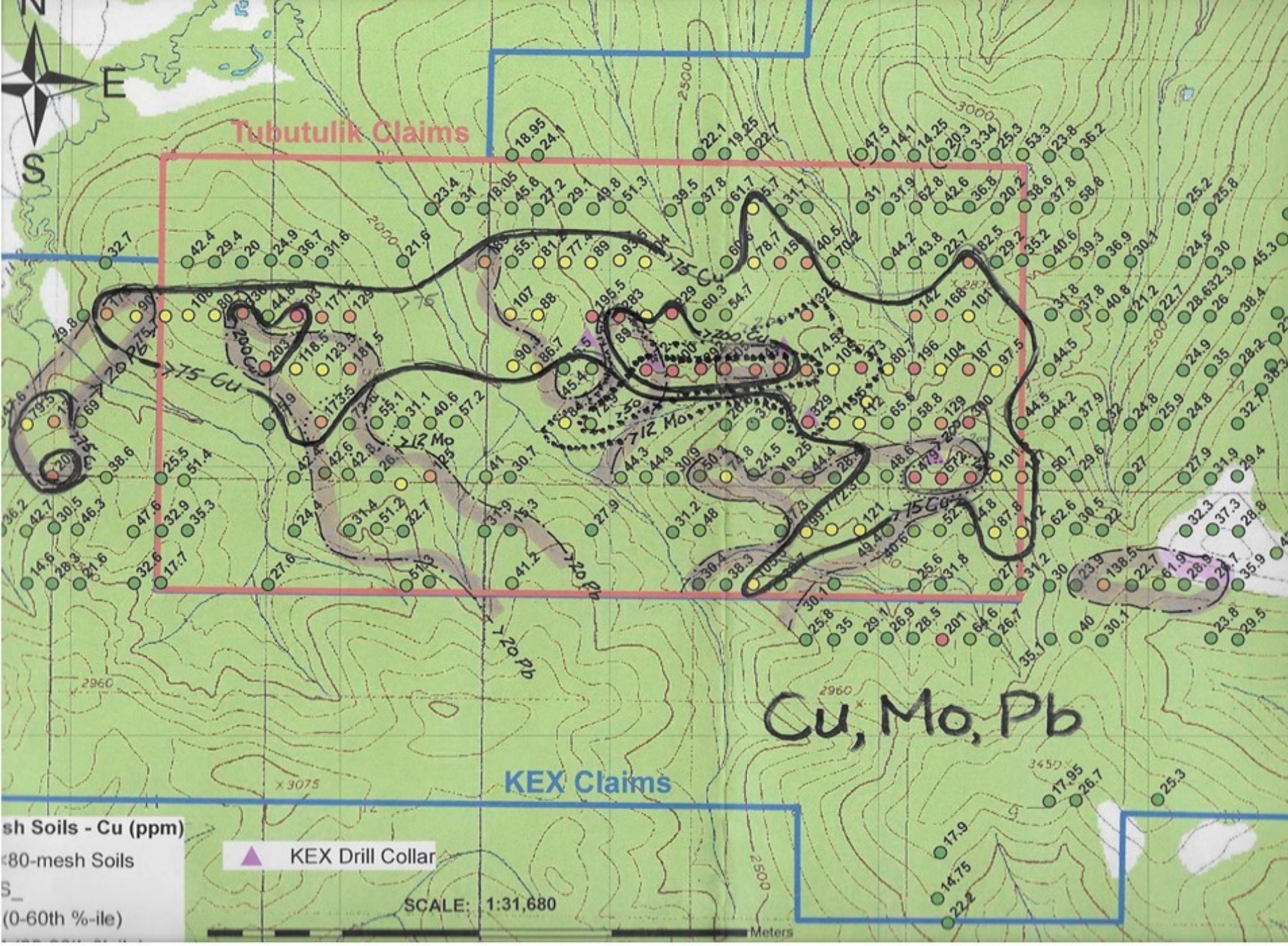
Tubutulik Claims
KEX Claims
Mo, Pb
Mo > 12
Pb > 20
KEX Drill Collar
SCALE: 1:31,680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Tubutulik Claims
KEX Claims
Cu, Mo, Pb
>75 Cu
>75 Cu
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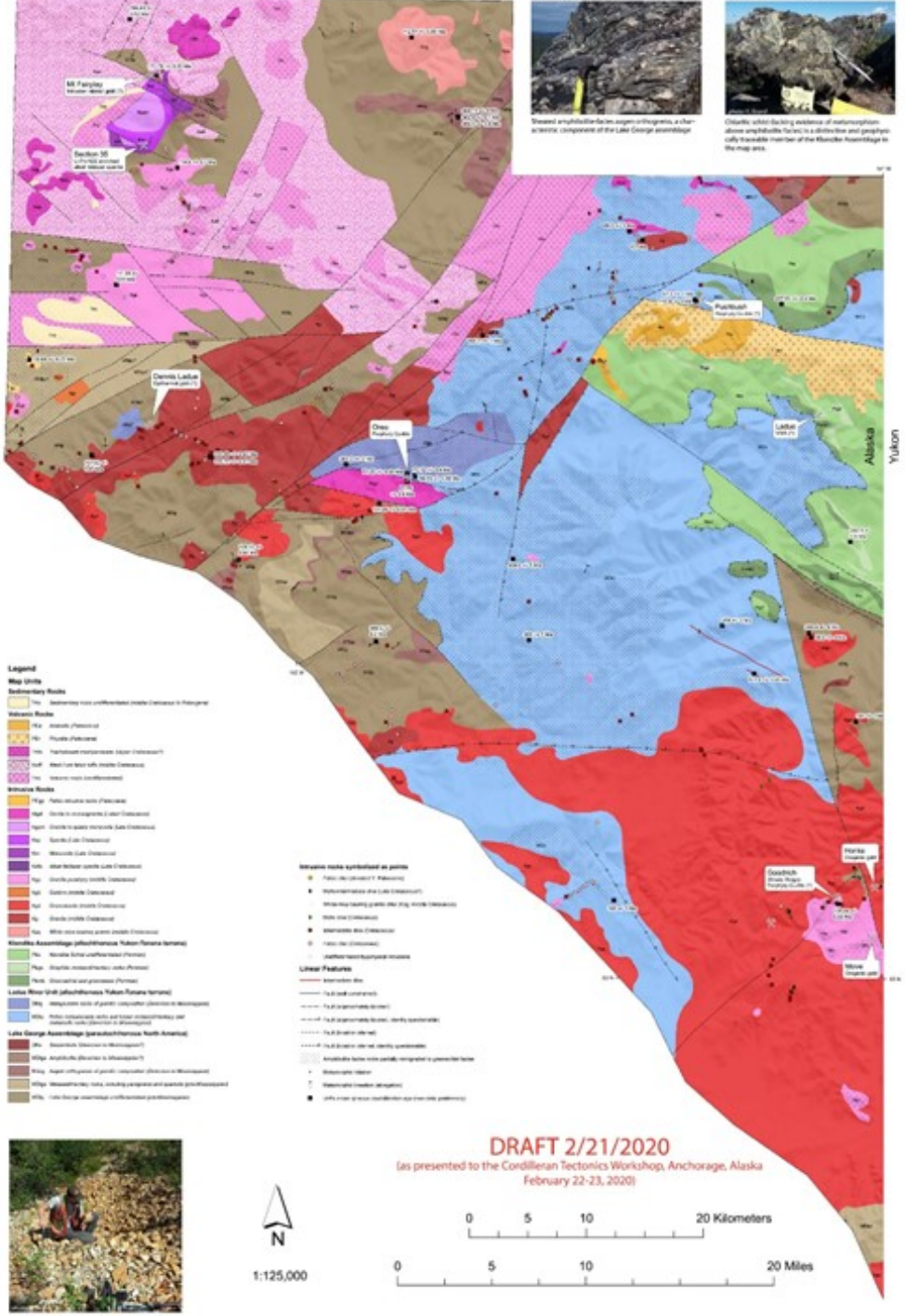
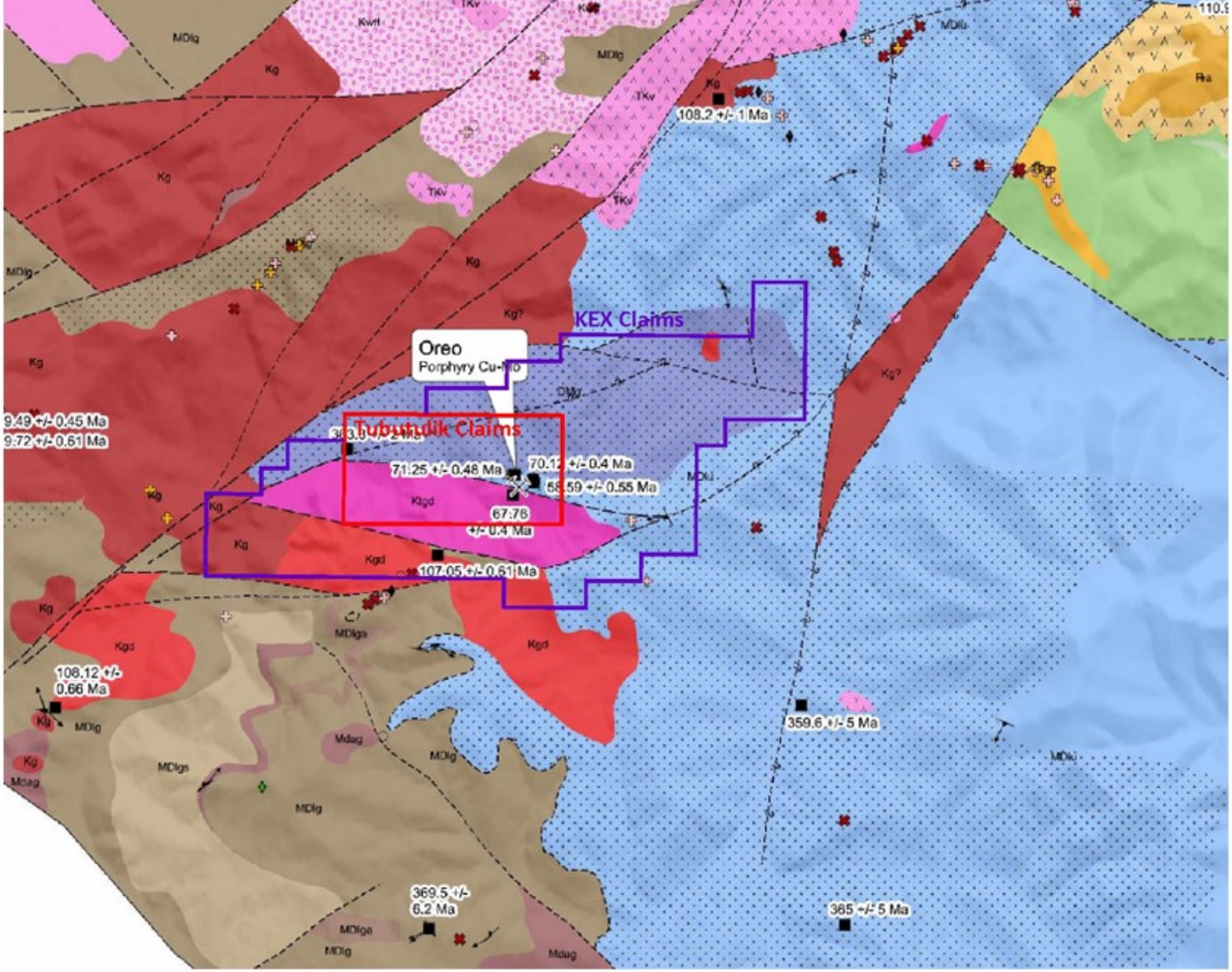
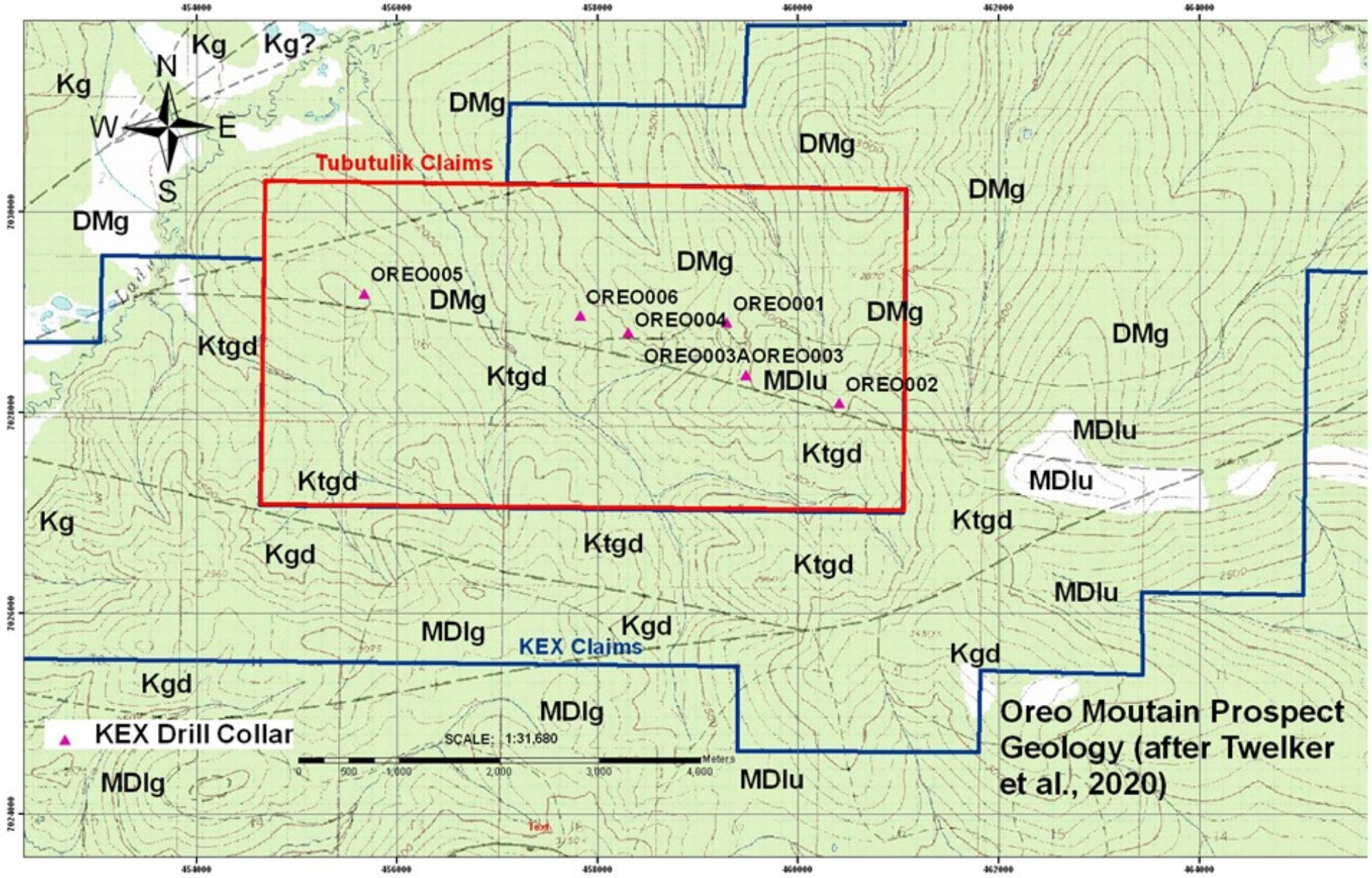


from Twelker *et al.*, 2020



Oreo Mountain Claims with Twelker *et al*. (2020) Geology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KEX Claims
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KEX Drill Collar
SCALE: 1:31,680
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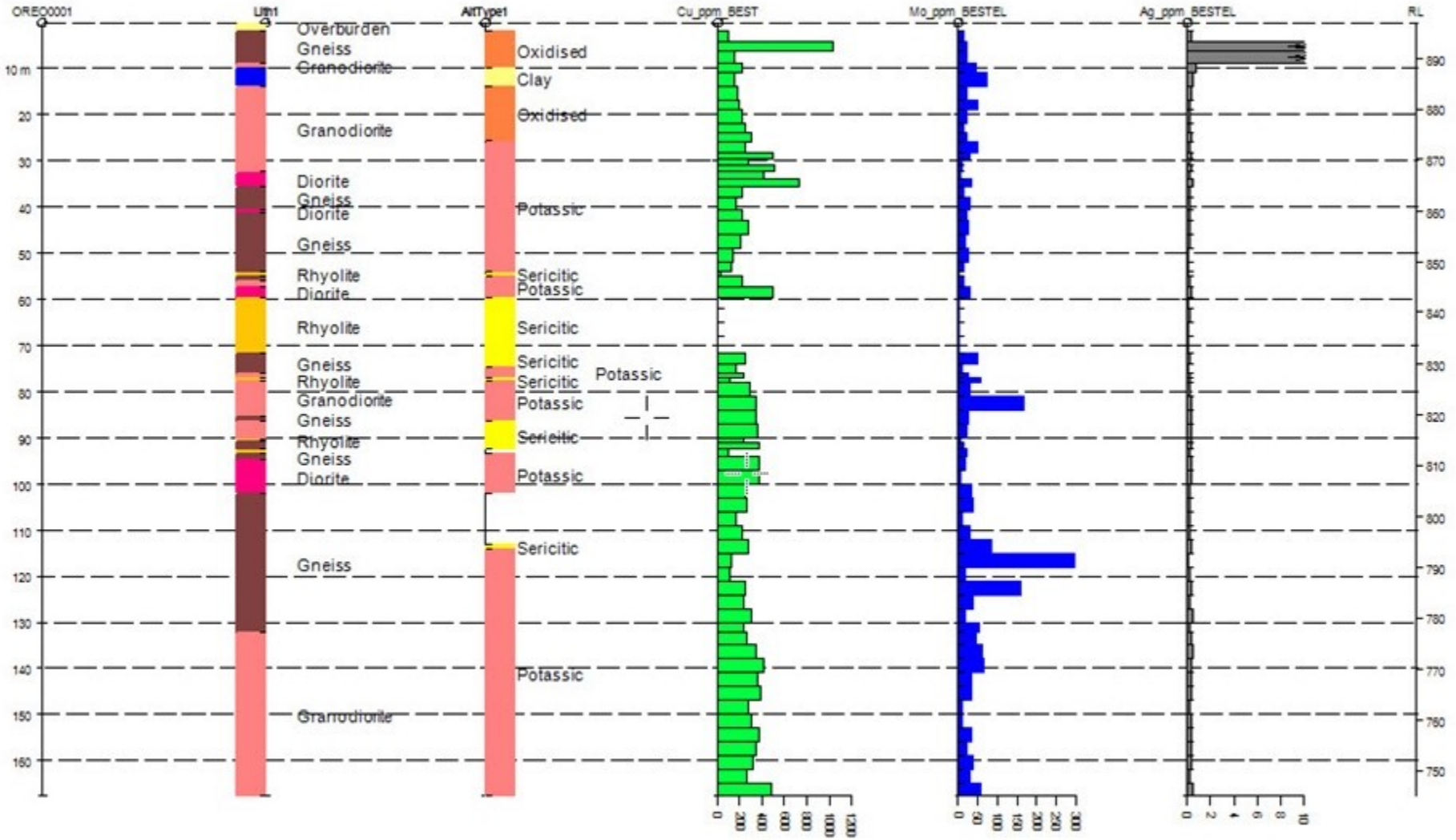
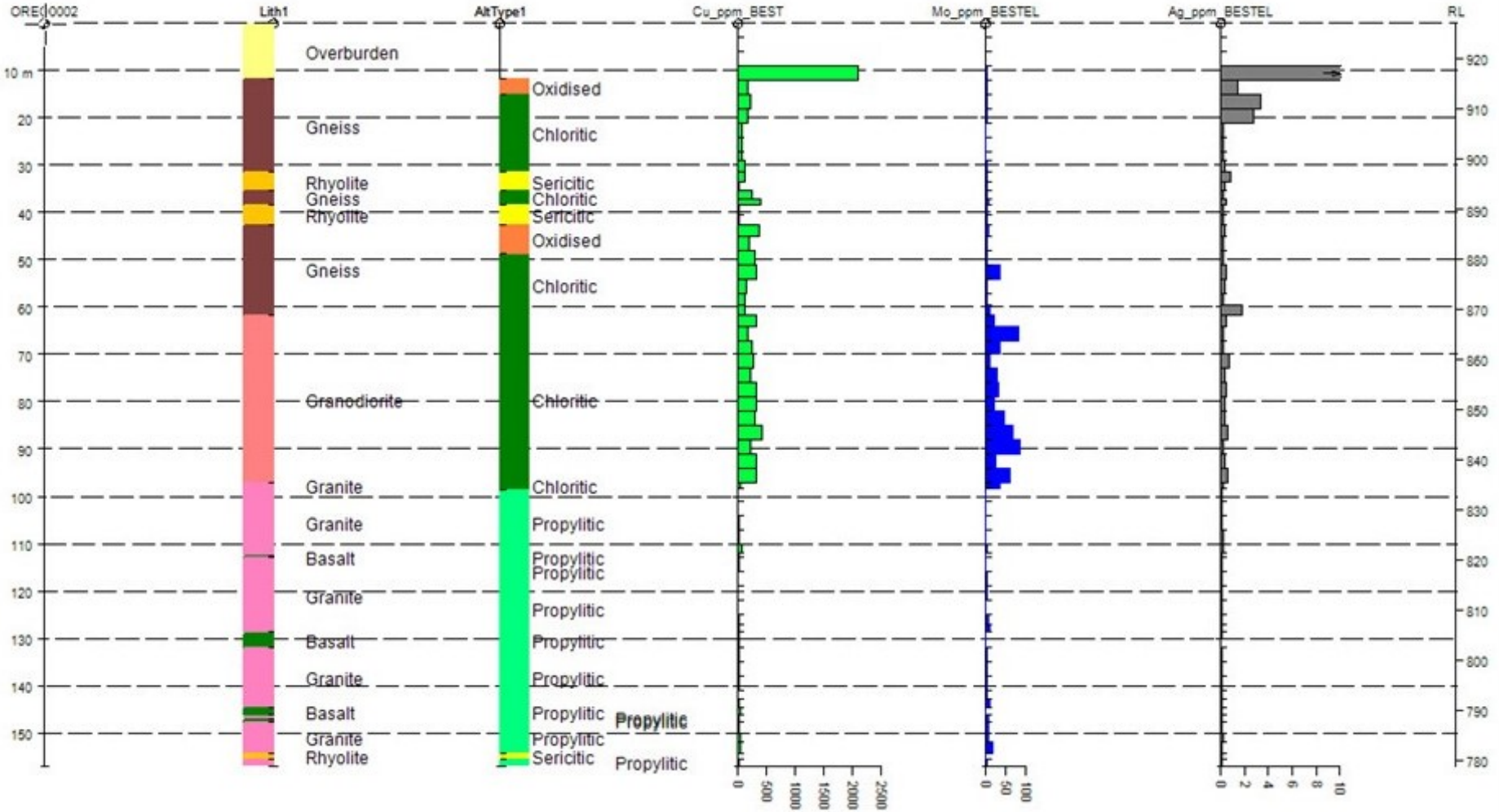
4,000
Meters
MDlg
MDlu
Oreo Moutain Prospect Geology (after Twelker et al., 2020)

Oreo KEX19-001



Oreo KEX19-002



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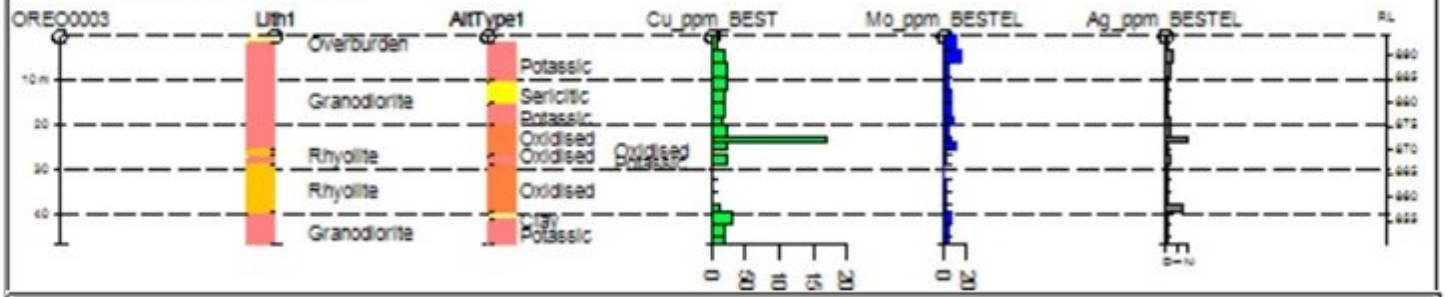
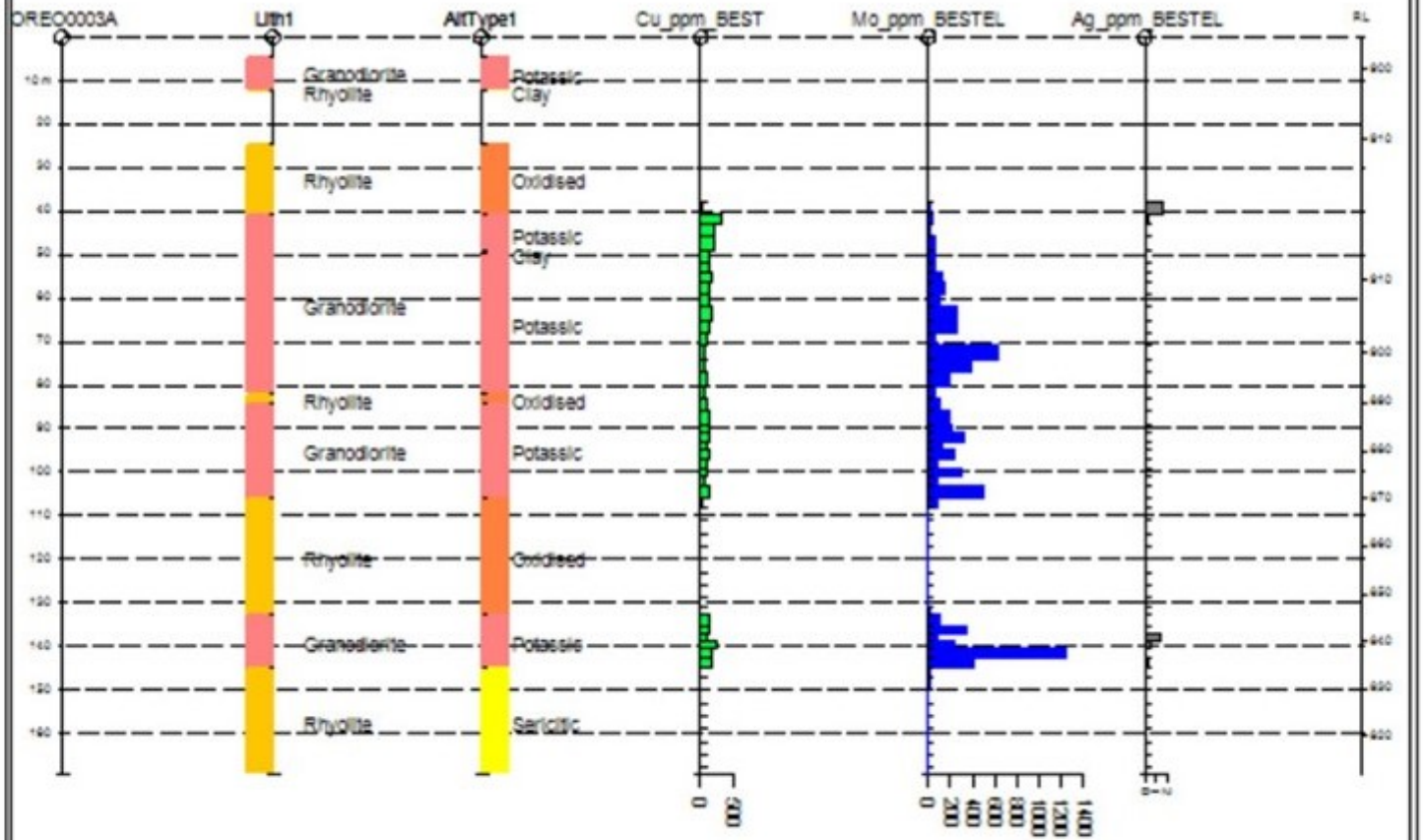
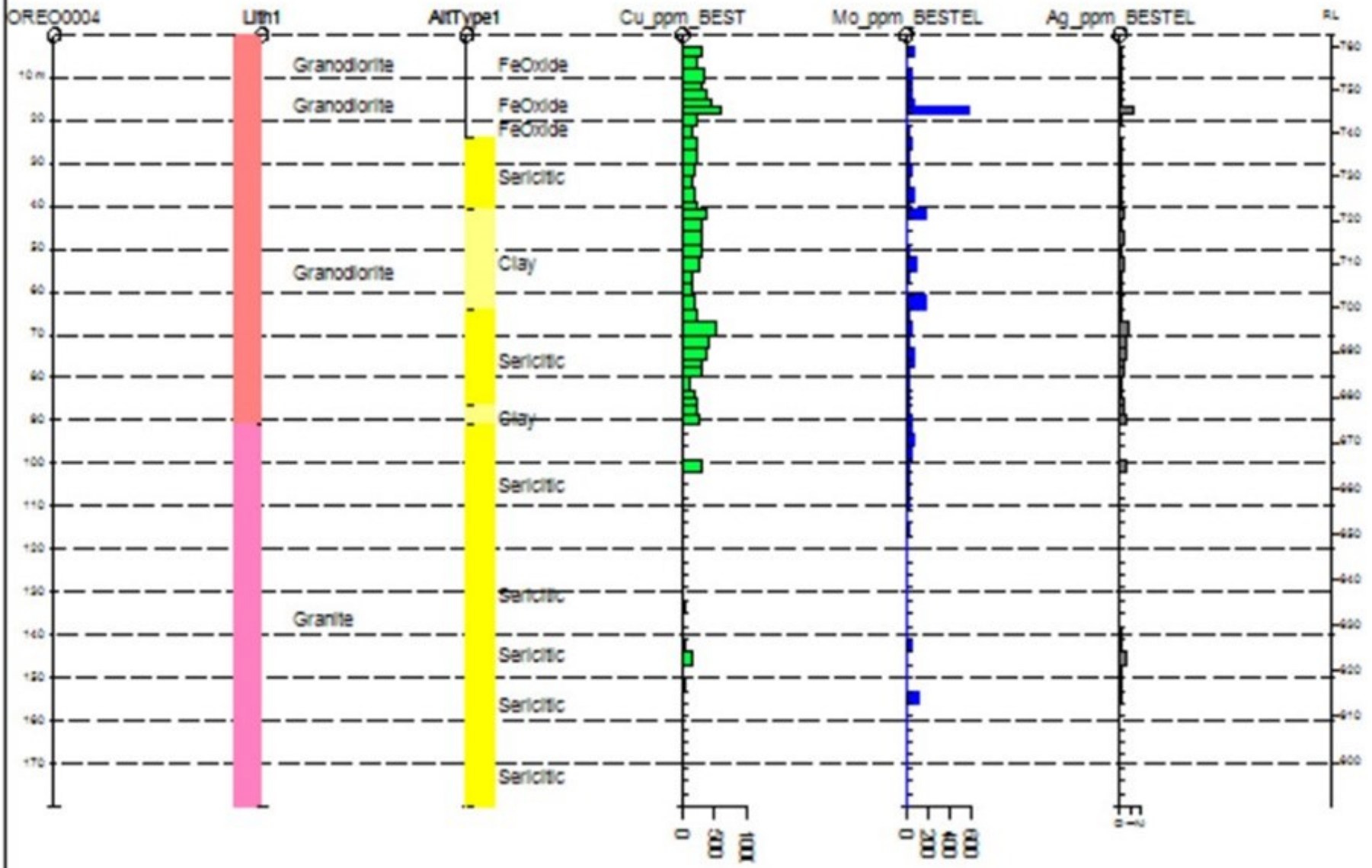


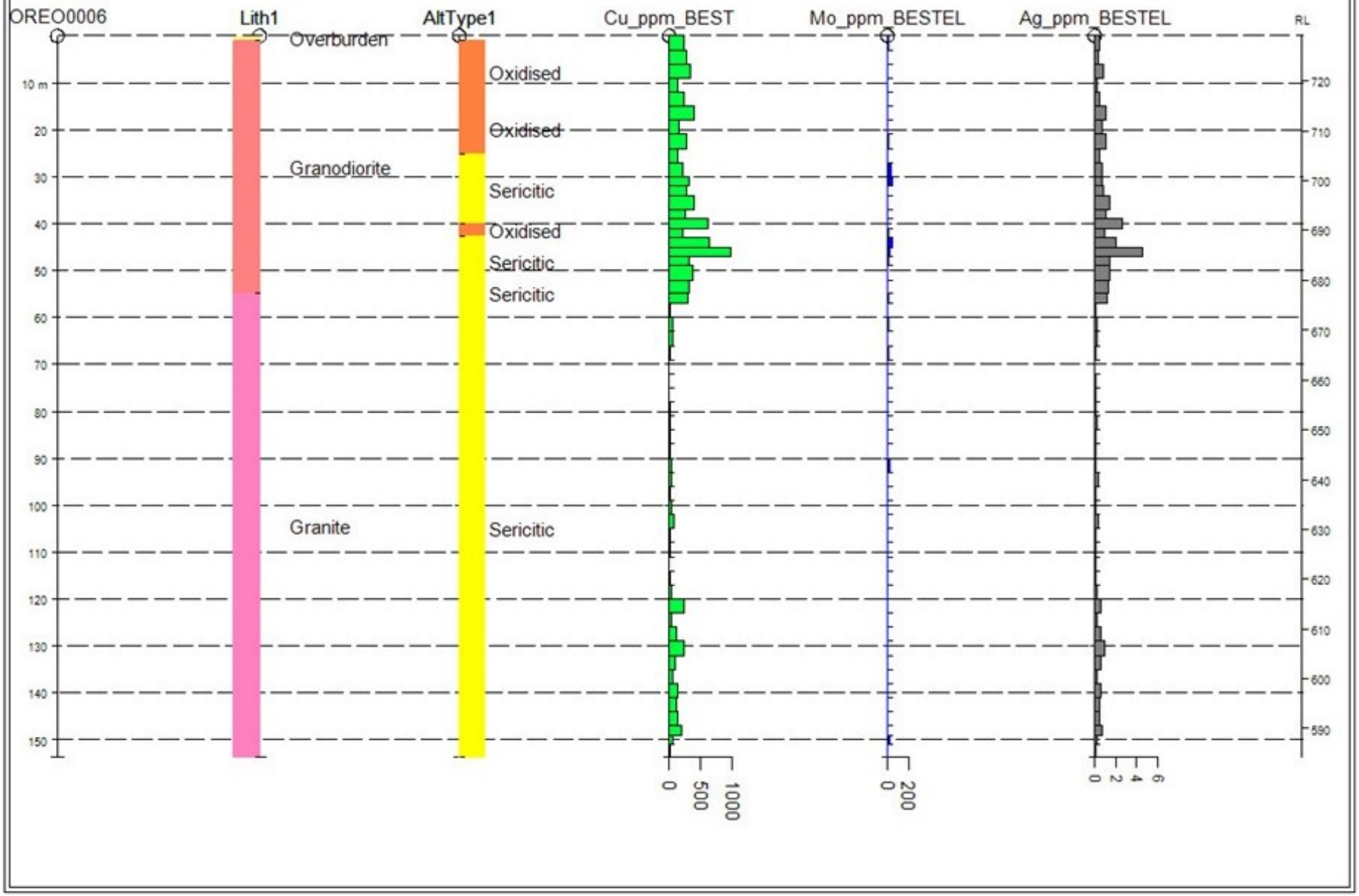
Oreo KEX19-003A



Oreo KEX19-004



Oreo KEX19-006



Quartz-pyrite-molybdenite-chalcopyrite +/ magnetite veins with K-feldspar halo @ 143.4 m. in KEX 19-001

Quartz-kspar vein with molybdenite, pyrite, magnetite and chalcopyrite. Shreddy biotite halo surrounding the vein. KEX 19-003A @ 92.1 m.

Quartz-molybdenum mineralization in lower half of KEX 19-003A. Note cross-cutting quartz & k-spar veinlets and k-spar alteration(?).

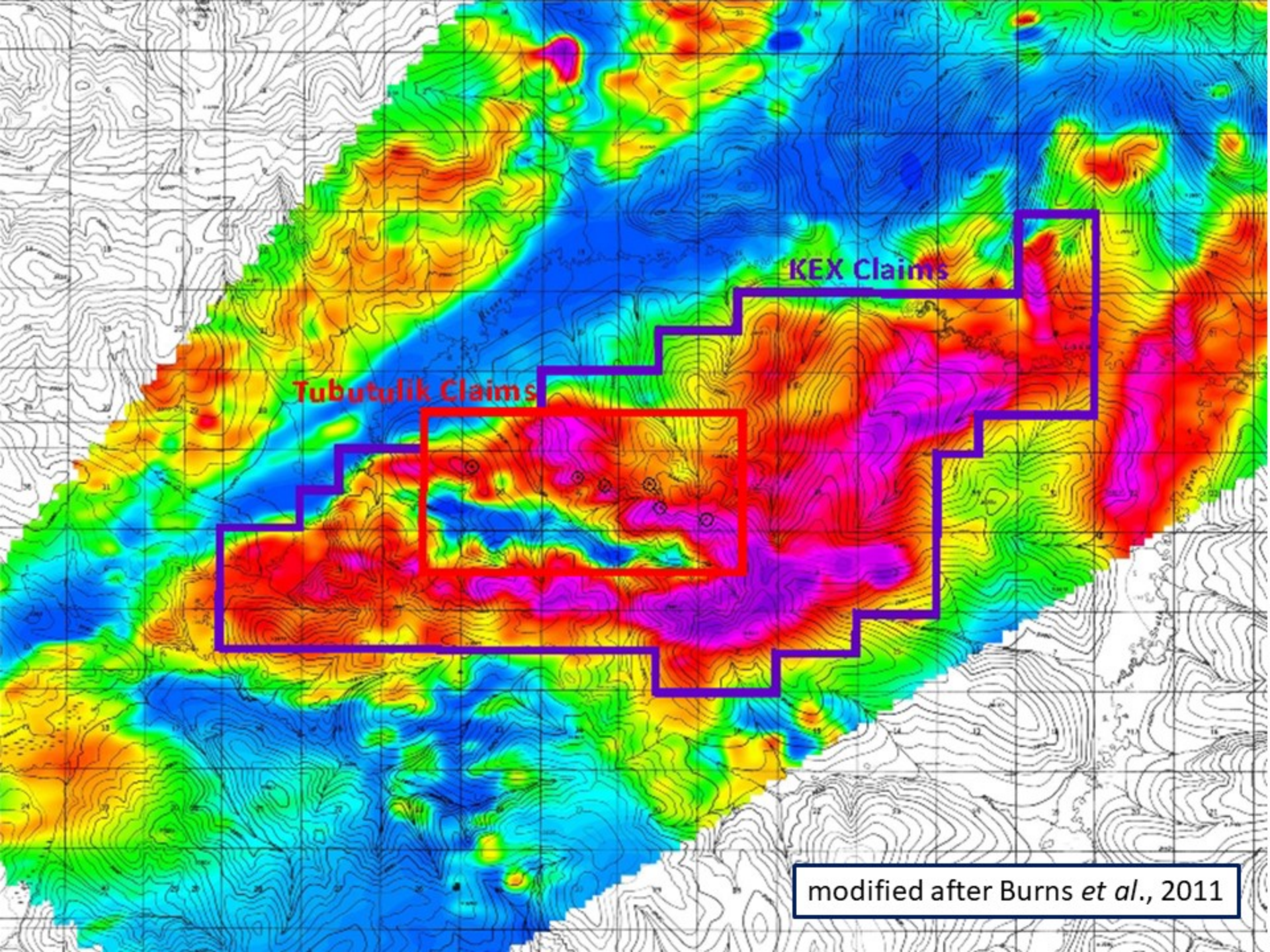
Quartz-pyrite-molybdenite-FeOx vein with probable bornite in the halo. KEX 19-004 @ 9.45 m. Note cross-cutting veinlets.

KEX 19-001 71.15-72.94. Rhyolite & gneiss, logged as sericitic alteration.

KEX 19-003A 141.57-144.04. Granodiorite, logged as potassic alteration. Note k-spar banding/veins.

KEX 19-004 89.86-92.33. Fault zone above and megacrystic monzo-granite. Logged as clay alteration and sericitic alteration.

KEX 19-006 119.30-122.10. Megacrystic monzo-granite, logged as sericitic alteration.


KEX Claims
Tubutulik Claims
modified after Burns *et al*., 2011

Oreo Mountain Summary Points

- It's big! It has a very strong geochemical and aeromagnetic anomaly.
- It's on the bullseye of the UBC MDRU structural/ lineament interpretation.
- Six shallow holes across 4.5 km (3 mi.) all show porphyry alteration, structures, mineralization.
- All six holes are adjacent to the north of major fault (and spotted without geology!).
- No KEX geologic mapping; no KEX geophysics.
- Geochemical vectoring says "Go North!"
- Good-looking aeromagnetic target areas to the north.
- It could be a very big prize!

Recommendations

Year One:

- Re-log existing core.
- Project-scale geologic mapping.
- Regional prospecting.
- IP/Resistivity surveying (N-S & E-W lines).
- High intensity aeromagnetic survey (drone?).

Year Two:

- Three or more 600-meter (2000-foot) drill holes.

Dave Hedderly-Smith
Tubutulik Mining Company LLC
P.O. Box 701
27732 Woodpecker Hill Road NE
Poulsbo, WA
hedderly@msn.com
435-901-1486