
Tennant Consolidated Mining Group Geophysics and Drilling Collaboration Round 15 Final Report Nobles Nob Deeps Project

MLC512, MLC525, MLC688

Drilling completed October 2022

**250K Map: Tennant Creek SE53-14
100K Map: Tennant Creek 5758**

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Title Page

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Abstract

Nobles Nob is a Tennant Creek style Iron Oxide Copper Gold (IOCG) deposit. To date 1.12 Moz of gold have been won from the deposit. The mined area to date has been associated with the oxide hematite zone of the deposit, which is effectively the near surface supergene part of the deposit. Similar deposits in the area such as Juno (4km to the west) have extensive primary mineralisation at depth. The Nobles Deeps 2022 diamond program is designed to test for the roots of the system and follow up on promising hits from the few previous deep drillholes.

Drilling on the Nobles Deeps Project (the project) was conducted between July and October 2022. Downhole geophysics, logging and assays occurred in the following months. Four



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collaboration holes were part of an eight hole diamond drilling program to test deeper geophysical targets associated with the Nobles Nob system. Encouraging zones of elevated base metals were encountered, associated with sulphide mineralisation. No intercepts of ore grade mineralisation were intercepted during the drilling campaign.

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1. INTRODUCTION

Nobles Nob is located in central Northern Territory, some 13km east-southeast of Tennant Creek. The area is accessed via the sealed Peko Road from Tennant Creek (Figure 2). The Nobles Nob Mining tenements sits across land held by the Warrumunga Aboriginal Land Trust, administered by the Central Land Council.



Figure 1 Nobles Nob location

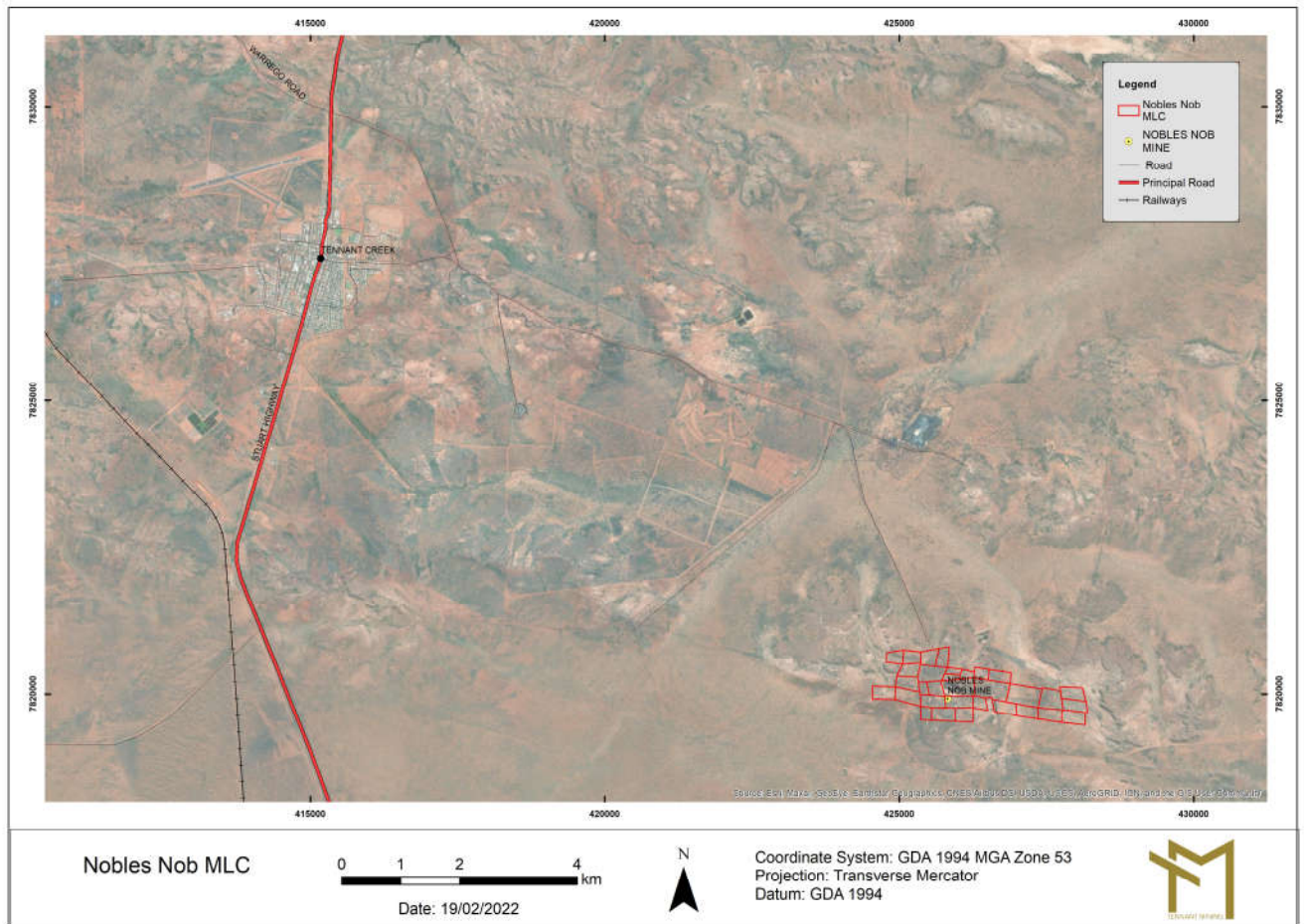


Figure 2 Nobles Nob tenement package proximity to Tennant Creek

The three tenements that were drilled as part of the drilling collaboration were on MLC512, MLC525 and MLC688. The drill collars were located as shown in Figure 3

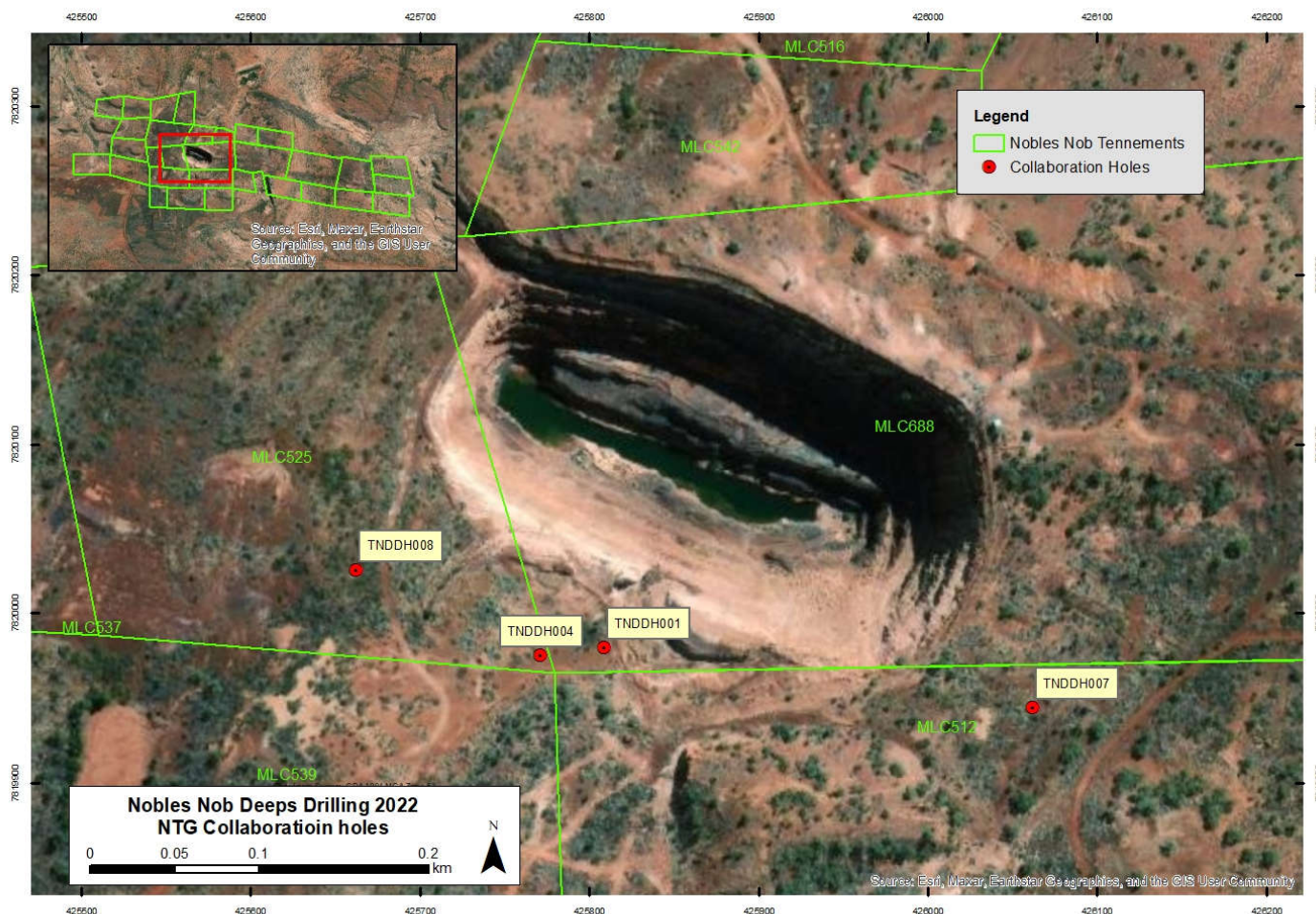


Figure 3 Collaboration Holes 2022

2. REGIONAL CONTEXT

The project area is located within the Proterozoic Tennant Creek Inlier which is comprised of a turbiditic flysch sedimentary sequence abutting various volcanic rocks. In the Tennant Creek region, these rocks are typified by the Warramunga Group, which commonly strikes east-west with variable dip. They have been intruded by various granites and deformed by the Tennant Event of 1850 Ma.

Gold-copper-bismuth mineralisation has been found to be hosted by fine grained haematitic mudstones and shaley siltstones. The mineralisation is poddy in nature and is typically located within steep dipping hinge zones of regionally minor folds with localised shearing and accompanying chlorite and silica +/- dolomite alteration. These dilation zones of rich gold mineralisation are also typified by strong magnetite alteration below the base of oxidation. Above the base of oxidation the magnetite is weathered to haematite.

The distribution of the metals is variable, with no direct correlation between bismuth, gold and copper, though some of the better known deposits display zonation. For example, it is

common to find an outer magnetite/dolomite altered copper zone, a mixed magnetite-silica bismuth zone and magnetite + gold zone in the core.

Known deposits of gold are concentrated in several dominantly east-west regional lines or structural trends. The ironstones, which range from a few tonnes to tens of millions of tonnes, are generally discordant to bedding and occur within F1 fold closures, shear and fault zones, and at lithologic contacts such as adjacent to felsic porphyry intrusions. Some ironstones are spatially associated with hematitic siltstone and shale. A foliation that parallels the regional S1 foliation is well developed in the chloritic alteration zones enveloping the ironstones. The structural controls suggest that ironstones formed broadly synchronous with D1.

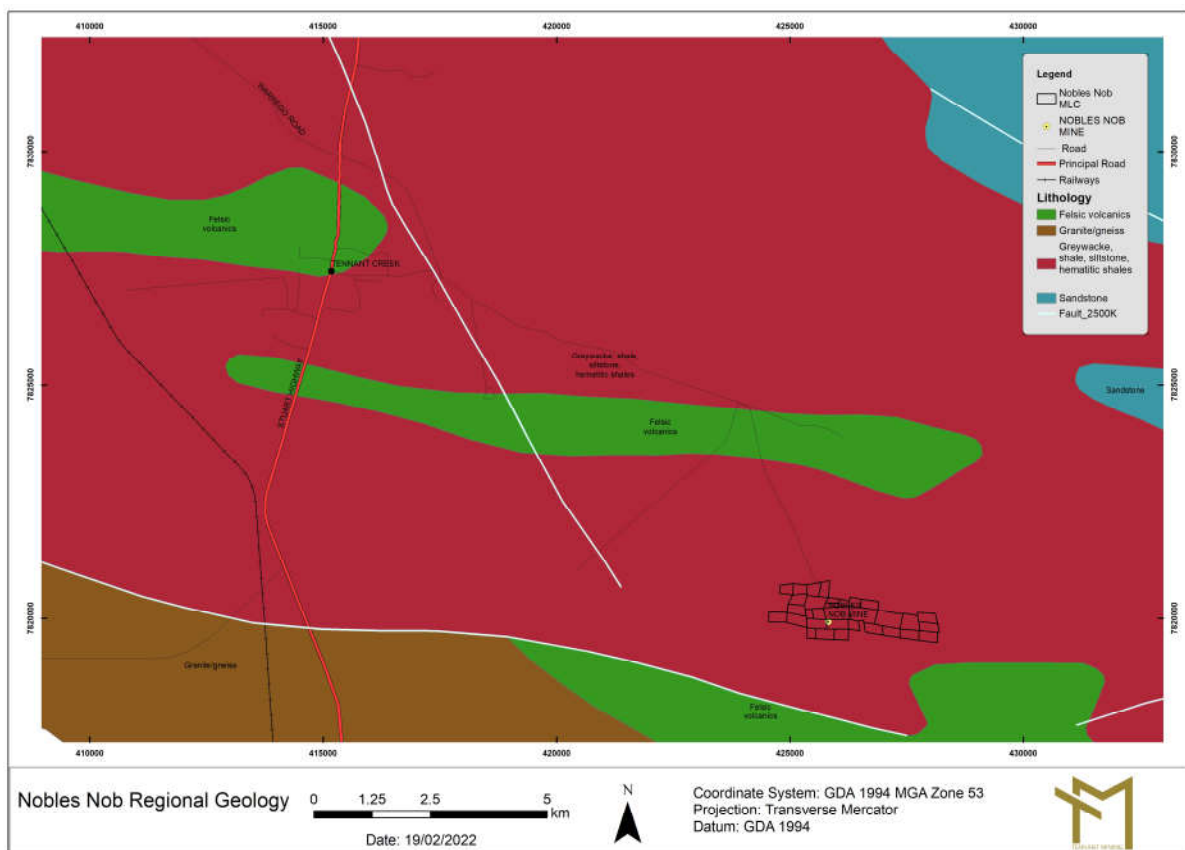


Figure 4 Regional Geology

3. HISTORICAL EXPLORATION

The Nobles Nob deposit was previously exploited as an underground mine between 1947 and 1965 and subsequently as an open pit from 1967 to 1984. In total, the Nobles Nob and surrounding deposits produced 1.17 million ounces of gold at 17.0 g/t Au.



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Extensive drilling has occurred in the Nobles Nob vicinity with over 2500 validated drill holes in the TCMG database. Of these 2500 holes less than 5% extend beyond 150m. Extensive drilling has occurred dating back to the 1930's and extensive review of existing data was undertaken during 2021 reviewing records and validating data.

Of the deep holes drilled under the Nobles Nob pit several had promising intersections including 1.2m at 38.8g/t Au, 6m at 4% Cu and 19.9m at 7.3 g/t Au.

Extensive geophysics have been completed, including magnetics both airborne and ground including the most recent drone high resolution magnetics flown in 2021. There are also detailed gravity surveys as well as EM surveys.

4. EXPLORATION CONCEPT

Nobles Nob is a Tennant Creek style Iron Oxide Copper Gold (IOCG) deposit. To date the 1.12 Moz of gold that have been won from the deposit have been associated with the oxide hematite zone of the deposit. Similar deposits in the area such as Juno 4km to the west have extensive primary mineralisation at depth. The program is designed to test for the roots of the system and follow up on promising hits from the few previous deep drillholes. Promising hits have not been followed up previously due to timing in the commodity cycle, various companies focus and the gold price. Further definition of the Nobles Deeps will increase geological understanding of Nobles Deeps and establish if there is potential for economic mineralisation at depth with reasonable prospects for extraction.

The targets lie beneath the existing Nobles Nob resource (T1 through to T4). T1 is 50m below the pit floor, T2 is 100m below the pit floor, T3 is 150m down plunge from the easterly extent of the pit floor. T4 is 150 from surface to the west of the existing pit floor. T1, T2 and T4 follow up previous drilling. Further drilling is required to establish the extent of these encouraging results.

A previous operator of the Nobles Nob project engaged SRK Consulting to conduct an exploration targeting review of the Nobles Nob and Juno tenements. Targets were identified using supporting data such as geophysics (magnetics and EM), structural data (faults and folds), and drilling data (lithology and assays). Each parameter was ranked according to its correlation with gold mineralisation. T3, the target to the east of the Nobles pit was the number one ranked target that was identified through this process. Only one hole has tested this target, and TCMG understand that the hole did not deviate as planned, and so just missed the intended zone. Although no significant mineralisation was encountered, promising alteration and significant magnetic readings at depth suggests it was close to mineralisation.



5. PROGRAM DETAILS

Four holes were selected for the NTG collaboration round 15 funding. One hole each targeting T1, T2, T3 and T4. These holes were drilled as part of a larger 8 hole program conducted by TCMG between July and October 2022.

Hole ID	Drill type	EOH Depth	MGA94_z53 East	MGA94_z53 North	Pre-collar Depth	Azimuth	Dip	Target
TNDDH001	DDH	315.8	425809	7819979	72.4	001.1	-72.4	T1 & T2
TNDDH004	DDH	309.5	425771.6	7819975	66.1	007.5	-66.1	T2
TNDDH007	DDH	270.7	426062.1	7819944	62.8	317.9	-67.8	T3
TNDDH008	DDH	258.7	425662.8	7820025	62.7	345.7	-54.7	T4

The diamond program consisted of 8 holes to test the Nobles Deeps geophysical targets. 4 holes were included in the collaboration program. The hole depths ranged from 256m to 315.8m for a total of 1154.7m. The holes were pre collared with rotary mud drilling before switching to HQ diamond core. Core orientation and downhole surveys were performed during drilling. All core was subject to lithological logging, photography, magnetic susceptibility measurements, rock quality designation, specific gravity, handheld XRF analysis and laboratory analysis. Magnetic susceptibility was measured using a KT-10 meter units are reported in SI x 10⁻³. Readings were taken as close to the meter mark as possible. SG was measured using the 'wet method' and the basic formula $SG = \frac{Weight (dry)}{Weight (dry) - weight (wet)}$. An Olympus Vanta delta series hand held XRF was used to provide indicative elemental analysis of the core. A two beam 20 second per beam reading was taken as close to the hole meter mark as possible. Sampling for assay was guided by lithology, magnetic susceptibility and handheld XRF data. Half core was cut using an Almonte saw and sent for sample preparation and analysis at Intertek Alice Springs and Intertek Darwin respectively. Samples were prepared by crushing the core then pulverising a 3kg split. A 10g split is then subjected to an Aqua-Regia digest before being analysed by Inductively Coupled Plasma Mass Spectrometry for gold, copper, bismuth, iron, sulphur and antimony. Any gold above 2000 ppb is sent for Fire Assay. A QAQC program was used introducing certified reference materials, blanks and field duplicates. 112 assays were done on TNDDH001, 140 assays on TNDDH007 and 143 assays on TNDDH008. Based assay results being received from the 3 previous holes and reviewing the Lithology, XRF and magnetic susceptibility data. It was decided not to sample any intervals from TNDDH004.

Downhole geophysics was conducted on two holes. TNDDH004 and TNDDH007. Gamma density, vector magnetics and structural imaging. Holes TNDDH001 and TNDDH008 could not be surveyed as the probe could not reach full depth. The decision was made in the field not to survey these holes.

6. RESULTS AND INTERPRETATION

The four holes drilled as part of the collaboration drilling program intersected no significant zones of mineralisation. The dominant lithology encountered in the drill holes was the Warramanga sequence. Zones of alteration were encountered in the form of hematite altered sediments as well as zones of brecciated Jasper. Weak to moderate chlorite alteration was encountered deeper in the holes. Minor sulphides in the form of pyrite and chalcocopyrite were observed in multiple intervals.

Sampling was guided by lithology, magnetic susceptibility and handheld XRF data. Assays returned include the anomalous values shown in Table 1 and Table 2 below.

Table 1 Anomalous gold values

Hole ID	Depth From	Depth To	Interval	Grade ppm
TNDDH001	277	281	4	0.2705

Table 2 Anomalous copper values

Hole ID	Depth From	Depth To	Interval	ppm
TNDDH001	276	279	3	5788.57
TNDDH007	212	213	1	1508.1
TNDDH007	216	217	1	1042.6

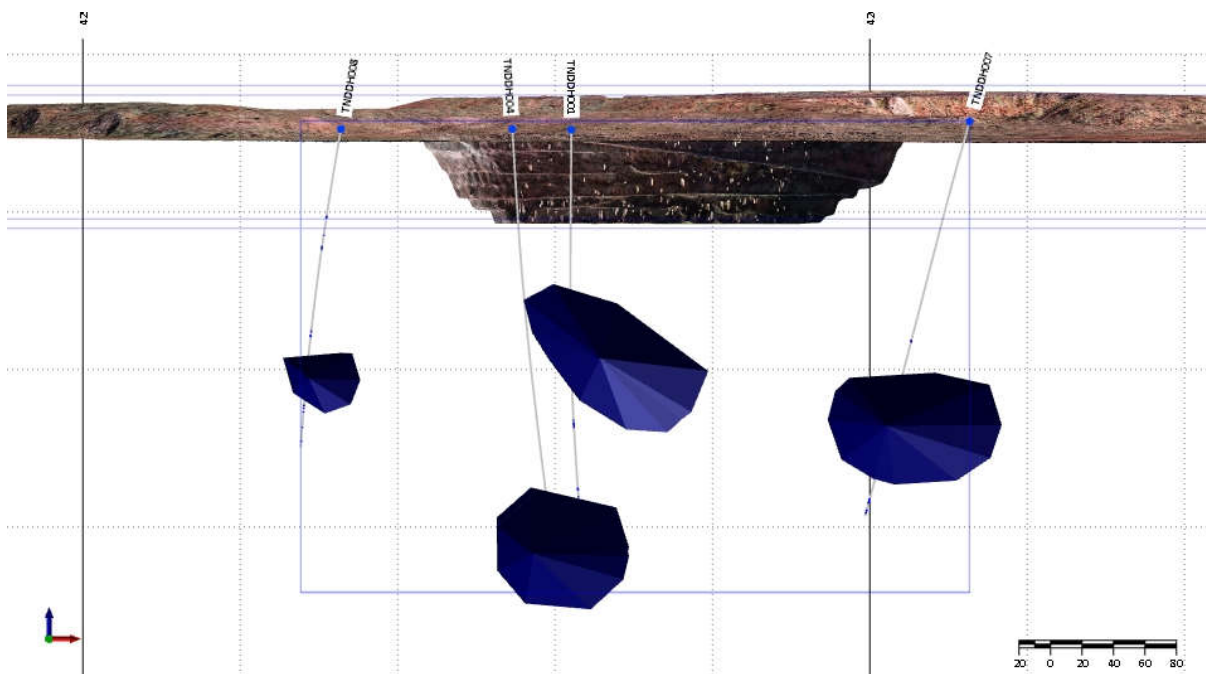


Figure 5 Section showing collaboration holes intersecting targets T1, T2, T3 and T4 relative to the Nobles Nob pit.

7. CONCLUSIONS

The results showed no significant gold values, but did have several intercepts of economic copper Table 2 and the long section shows that the copper values can be used as vectors towards a deeper orebody.

When compared to the Juno orebody which is about 100m below surface, and has been preserved in its reduced state due to being below the TOFR surface. If we consider Nobles Nob as originally having similar original characteristics, then it outcropping and mostly lying above the TOFR surface means that it can be considered as the oxidised and supergene equivalent of Juno. Nobles Nob had very little copper in the orebody. The presence of several economic copper intercepts indicates presence of copper in the system. The results of the 2022 collaboration drilling allows for the vectoring in towards a potential copper orebody in the roots of the Nobles Nob system. The limited deeper drilling below Nobles Nob is the restriction on discovery.

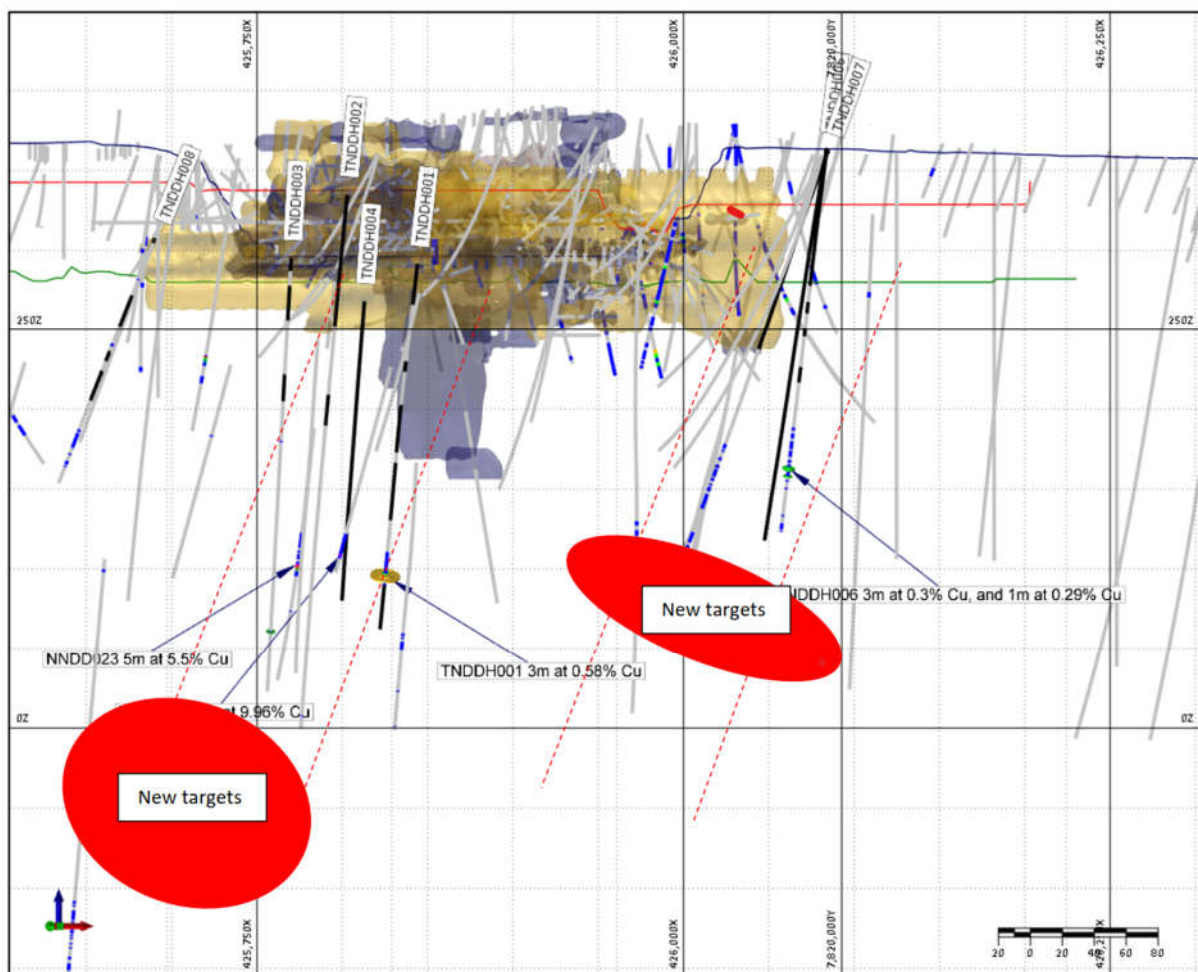


Figure 6 Long section through Nobles Nob showing mineralisation wireframes, topo (blue line), BOCO (redline), TOFR (green line), all drilling coloured by copper grade, 2022 DDH drilling with copper grades as discs



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