

# Yukon Mineral Exploration Program Report

## Shanghai Quartz Property

### Mayo Mining District

NTS: 105M/13

Latitude: 63° 57.07' N    Longitude: -135° 37.71' W

### Work Completed:

Soil Sampling: October 4th – 8th, 2021

Staking: October 6<sup>th</sup> – 8<sup>th</sup>, 2021

### Claims List:

CA 1 – 8	YC11620 - YC11627
LS 1 – 8	YC11612 - YC11619
RA 1 – 8	YC11628 - YC11635
SF 1 – 6	YC11636 - YC11641
SR 1 – 8	YC11604 – YC11611
Shanghai 1 – 60	YC11642 - YC11701
Shanghai 61 – 65	YC57330 – YC57344
Shanghai 66 – 86	YC57561 – YC57581
Shanghai 87 – 112	YF75675 – YF75700

Written by: Matthew Hanewich

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## Introduction

Shawn Ryan contracted GroundTruth Exploration of Dawson City, Yukon to undertake a helicopter supported soil sampling program on the Shanghai property. The project is 40km northeast of Mayo and it's 124 claims are contained within map sheets (1:50,000 scale) 105M/13 (Figure 1 and 2).

A total of 792 soil samples were collected between October 4<sup>th</sup> and 8<sup>th</sup>, 2021. A crew of samplers spent 5 days collecting on the south-central and eastern parts of the property. There were also 26 newly staked claims on the east side of the property. Helicopter work is rebilled through GroundTruth with a handling fee, and the soil sampling is charged out at an all-in cost of \$66/sample (includes labour, assays, accommodations, and food), 771 samples were charged.

## Location and Access

The Shanghai property is located approximately 40 km north northeast of Mayo and 186 km east of Dawson City, Yukon, Canada (Figure 1). The property is contained within map sheets (1:50,000 scale) 105M/13 and the center of the proposed work program is 63.95° N and - 135.63° W. The property is located entirely in the McQuesten Watershed. Shanghai Creek and tributaries of the South McQuesten River mostly flow south into the South McQuesten River.

Drilling equipment, supplies and personnel will be transported to the property from Dawson City via the Klondike Highway, Silver Trail, and Shanghai Roads/Trails. Fixed-wing flights from Dawson City are expected to occur weekly to deliver supplies to the Mayo Airstrip followed by helicopter and/or pick-up truck delivery to the placer property (Figure 2).

Helicopters will be used to transport drills, survey equipment, supplies, fuel, and crews from camps and worksites as needed. The helicopter may be based in either Dawson City or Mayo.

## Claims

The Shanghai property claims are summarized below in Table 1. There are 150 contiguous claims that comprise the project. Shanghai 87 to 112 are newly staked in October 2021 (Figure 3).

*Table 1: Claims Summary*

Claim Label	Grant Number	Owner	District
CA 1 - 8	YC11620 to YC11627	Shawn Ryan 100%	Mayo
LS 1 - 8	YC11612 to YC11619	Shawn Ryan 100%	Mayo
RA 1 - 8	YC11628 to YC11635	Shawn Ryan 100%	Mayo
SF 1 - 6	YC11636 to YC11641	Shawn Ryan 100%	Mayo
SR 1 - 8	YC11604 to YC11611	Shawn Ryan 100%	Mayo
Shanghai 1 - 60	YC11642 to YC11701	Shawn Ryan 100%	Mayo
Shanghai 61 - 65	YC57330 to YC57344	Shawn Ryan 100%	Mayo
Shanghai 66 - 86	YC57561 to YC57581	Shawn Ryan 100%	Mayo
Shanghai 87 - 112	YF75675 to YF75700	Shawn Ryan 100%	Mayo

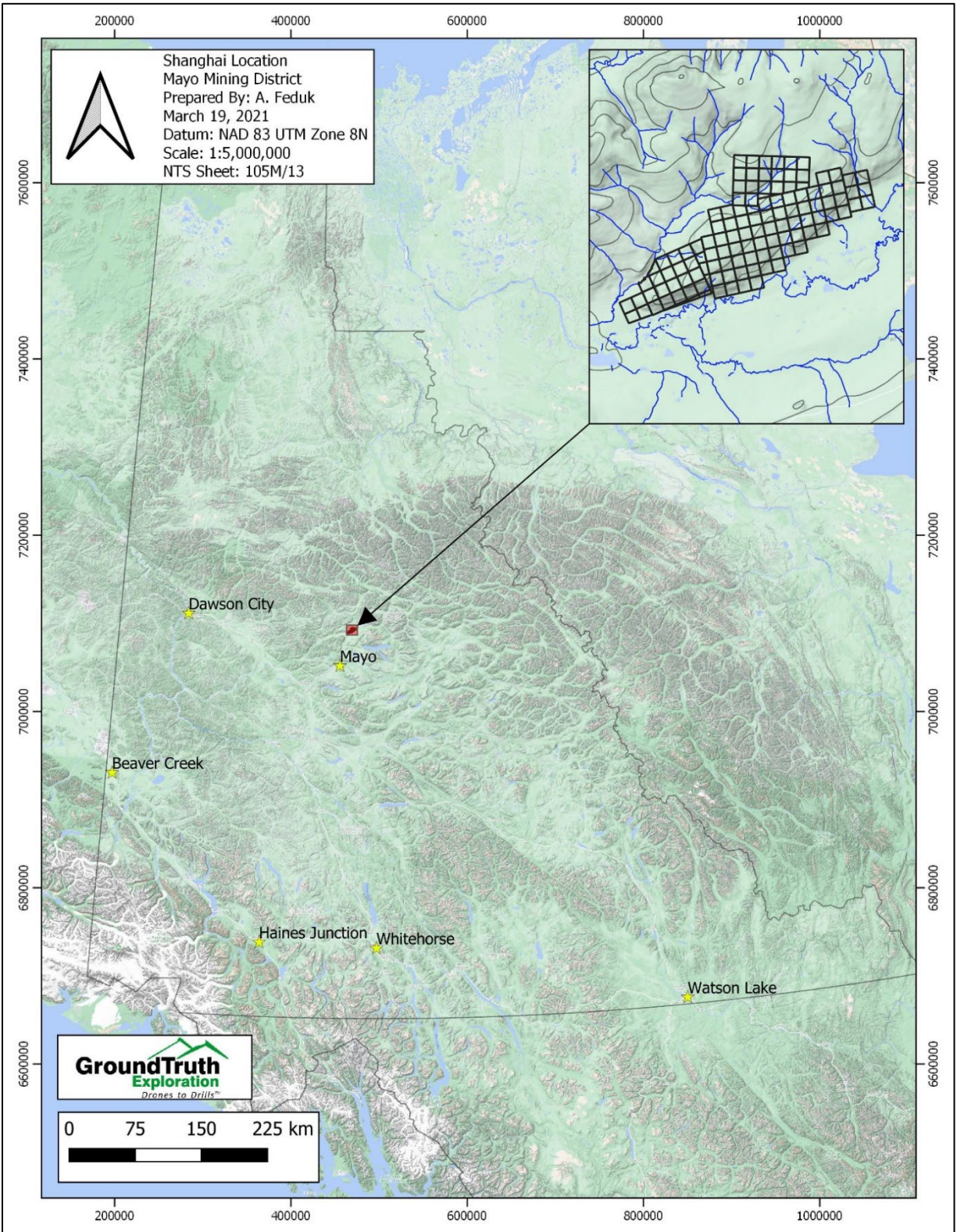


Figure 1: Shanghai Location Map



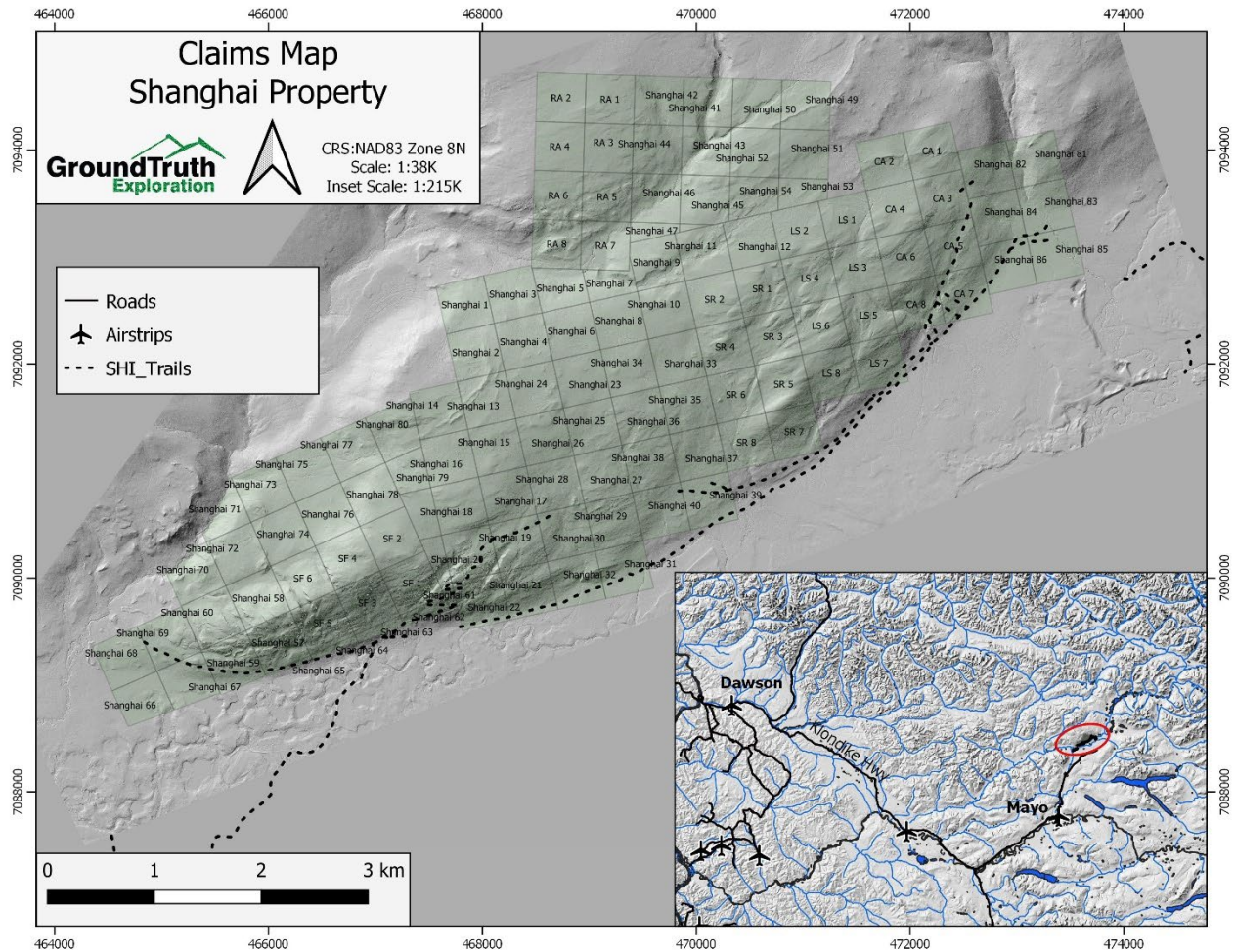


Figure 2: Shanghai Claims Map

## Geology

### Regional Geology

The Shanghai Creek property is in the western part of the Selwyn Basin, in the Stewart Plateau physiographic region. The Shanghai property is located on the northern portion of map area 105 M-13. Rocks underlying this region are part of the more extensive North American shelf platform sediments of Selwyn Basin. (Figure 4).

Stratigraphy in the area consists of Mississippian Keno Hill Quartzites, with foliated concordant podiform to lenticular bodies of fine to medium grained green amphibolite-chlorite-plagioclase meta diorite or metagabbro. The Keno Hill Quartzites form the core of the McQuesten Anticline which is structurally overlain by older Upper Proterozoic Yusezyu Formation foliated and lineated muscovite chlorite phyllite, quartzofeldspathic and micaceous psammite, gritty psammite and rare calc-silicate rock and marble. The Upper Proterozoic sedimentary package is on the upper plate of the Robert Service thrust which is exposed on the Shanghai Creek property. Cretaceous Tombstone suite intrusions are localized along the trace of the Robert Service Thrust fault as small discreet stocks.

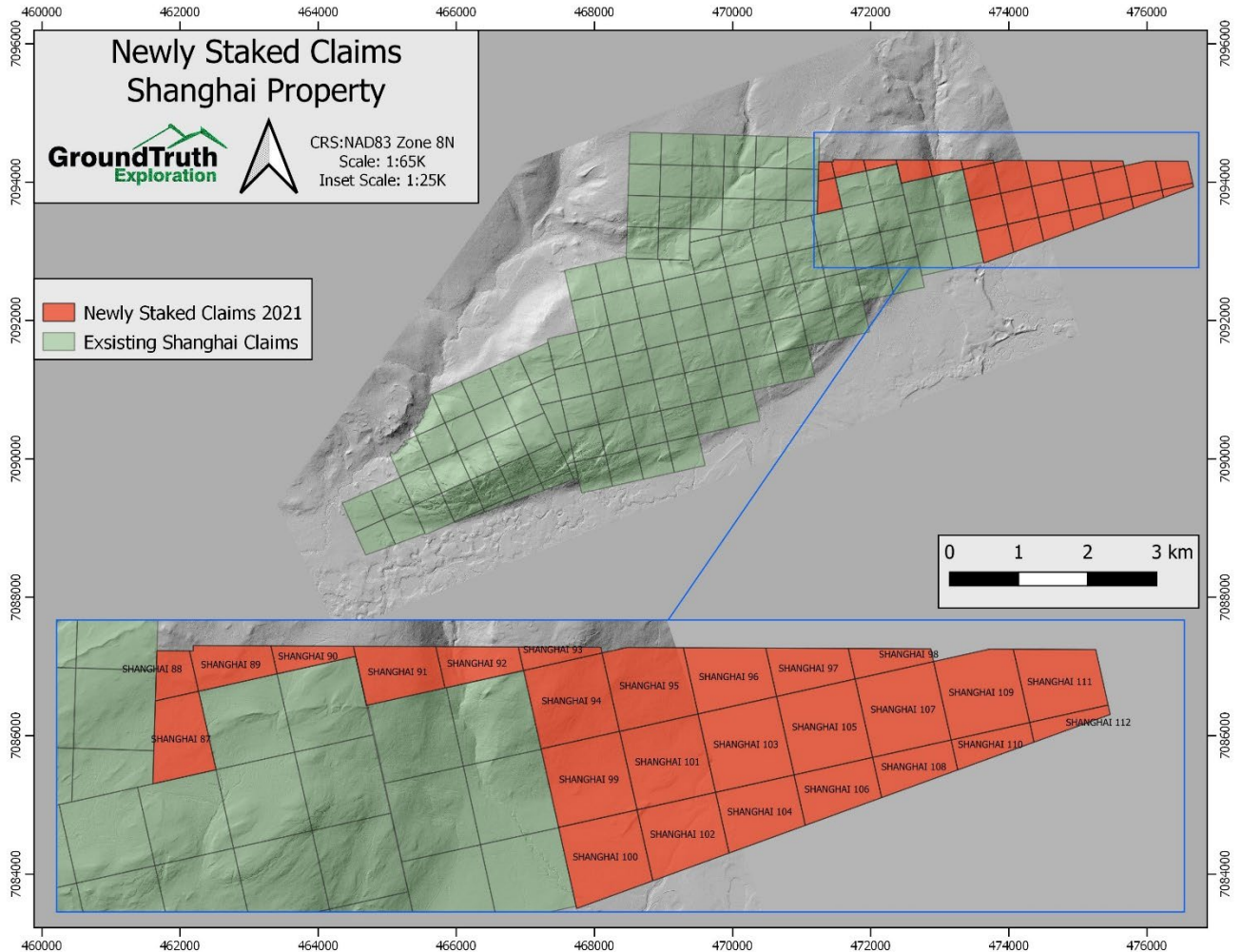


Figure 3: Newly Staked Shanghai Claims

The polymetallic silver veins of the Keno Hill deposits are localized within the Keno Hill Quartzite on the southern limb of the McQuesten Anticline. Shanghai Creek property hosts similar polymetallic veins on the western portion of the claims.

The Aurex and McQuesten properties are targets that have seen extensive exploration and drilling for Tombstone Suite intrusion related gold mineralization. Both Aurex and McQuesten properties are located on the southern limb of the McQuesten Anticline west of the Keno Hill deposits.

## Property Geology

The geology of the Shanghai Creek property comprises Mississippian Keno Hill quartzites (MkT) and Triassic meta-diorite and meta-gabbro overlain (TdT) by Upper Proterozoic Hyland Group Yusezyu Formation phyllite and rare calc silicate rocks (Py). The base of the slope on the north side of the South McQuesten River is a prominent regional thrust fault known as the Robert Service Thrust. The Yusezyu Formation is intruded by a minimum of seven small Cretaceous Tombstone Suite plugs (Ktg), mostly located within a few meters of the trace of the Robert Service Thrust. These are the primary exploration target on the property (Figure 5).

## Previous Exploration

The Shanghai Creek property area has seen intermittent exploration activity since the 1920's. The first claims recorded were staked in July 1926 by A. Chambers who drove a 24.4 m drift on apolymetallic Ag-Pb-Zn ±Au vein. The ground was re-staked by several individuals and companies who continued working on the Keno Hill style polymetallic veins on the west side of the current property.

In 1961, a report by Aro Aho outlined the potential of the Shanghai property with an excellent summary of the property geology. He compared the similarities between the south limb of the anticline, where there were active silver mines, and the north limb exhibiting similar mineralization and structure.

In 1964-65, the claims were worked by Silver Titan Mines Ltd, financed by Peso Silver Mining Ltd. Work consisted of 115.8 m of crosscuts, 670.6 m of drifting, 48 m of raise development and 14 diamond drill holes (600.5 m). The best assays reported from more than 305 m of drifted vein are 51.8 m grading 37.0 gm/t Ag 0.4% Pb, 13.6% Zn and 0.5% Cu over an average width of 2.5 m. Silver Titan Mines Ltd reported in their 1966 Annual Report: *“On the Shanghai claims bulldozer trenching in quartzites has just revealed completely oxidized vein material up to several inches wide from which a grab sample assayed 790.5 oz/ton of silver, 1.1 ounces per ton of gold and 10.4% copper”* (Figure 6).

Since then, the Keno Hill Quartzite has been extensively studied due to the potential for high grade lead-zinc-silver veins and potential intrusion related gold mineralization along Robert Service Thrust Fault. From 1974 until 2003 the property changed hands several times and a considerable amount of work was performed on the claim group including geological mapping, soil sampling, diamond drilling, trenching and, geophysical surveys including both airborne and ground.

Shawn Ryan, a prospector from Dawson City, recognized that the Shanghai Creek area was on the northern limb of the McQuesten Anticline; the southern limb hosts the Keno Hill polymetallic veins, as well as the Aurex and McQuesten properties which are Tombstone suite intrusive related gold targets. Additionally, an old report by Boyle 1971 showed several very high gold values from stream silt pan concentrate in creeks surrounding the claims. In early 2004, the Shanghai Claims were optioned from Shawn Ryan by Yankee Hat Minerals Ltd. There were 2139 soil samples taken on the property that outlined three silver anomalies and five gold anomalies. The area of focus will be in the southwest corner of the property where historical underground exploration work has outlined 5-6 mineralized silver zones. The best assays reported from more than 305 m of drifted vein is 51.8 m grading 37.0 g/t Ag, 0.4% Pb, 13.6% Zn and 0.5% Cu over an average width of 2.5 m, and 9.1 m grading 1182.8 g/t Ag, 8.2%Pb and 7.2% Zn across an average width of 1.5 m.

There were other strong historical drill intersections from Doherty exploratory drilling off the 2250 drift, such as drill hole SU-15 intersected 4.5 feet of 99 oz Ag, 22.7% Pb, and 2% Zn, drill hole SU-5 intersected 3.5 feet of 90 oz Ag, 46% Pb, and 5.7% Zn.

The option with Yankee Hat was terminated in 2006 and Shawn continued to conduct small, detailed soil programs, geophysical surveys (2012 MAG, 2013 IP-RES), trenching in 2012, and recent LiDAR (Figures 6 and 7).



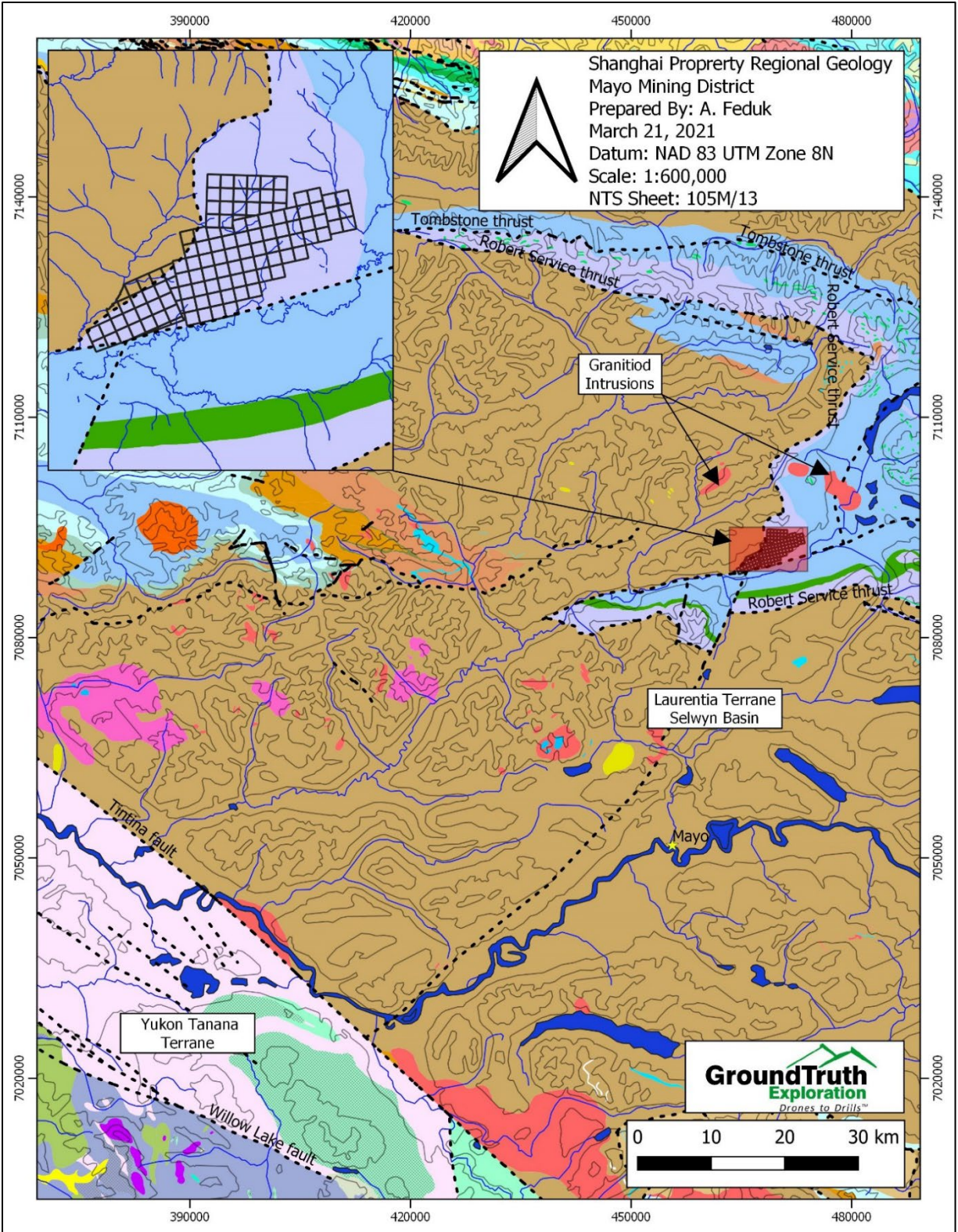


Figure 4: Simplified Regional Geology Map



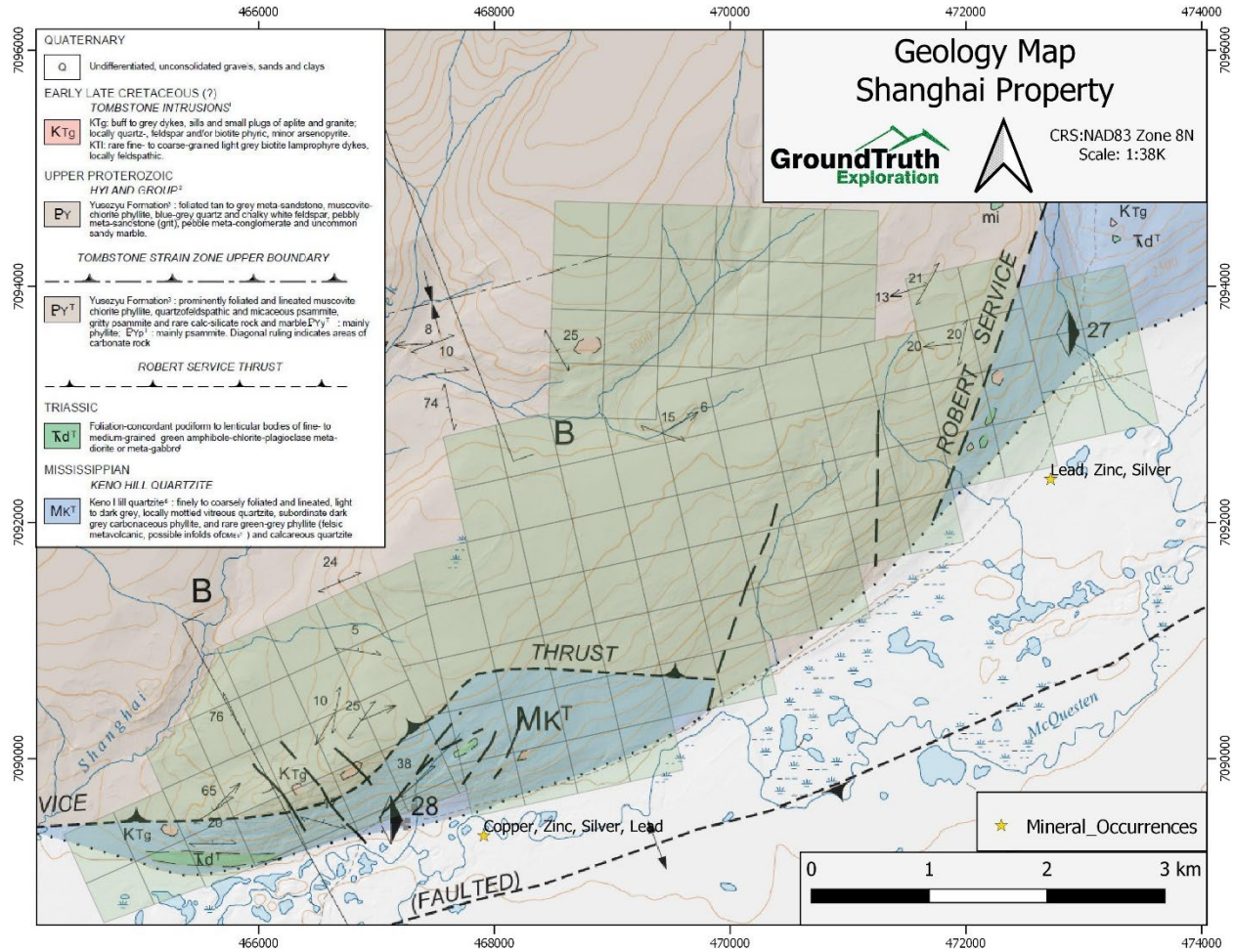


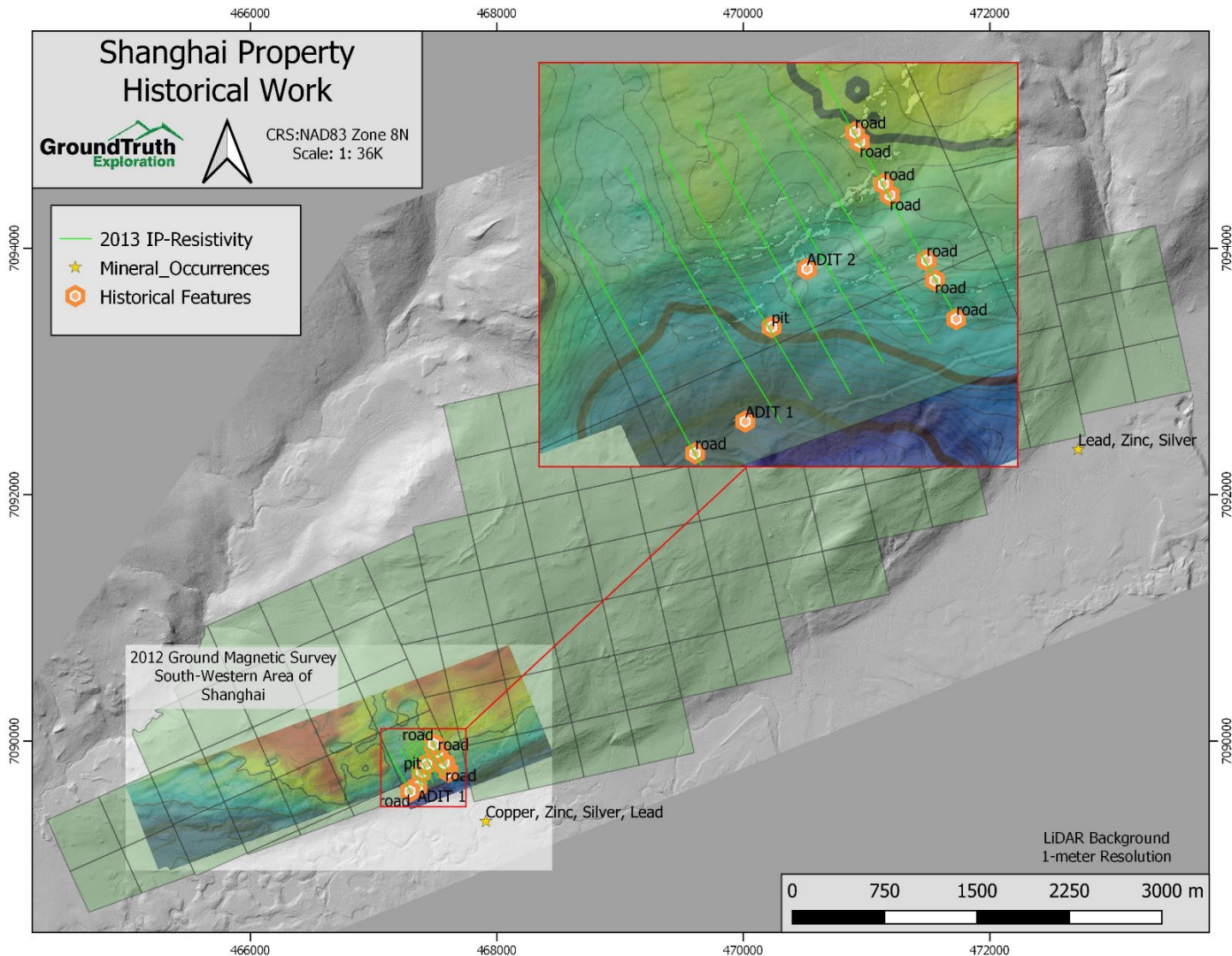
Figure 5: Property Geology (Hunt et al. 1996)

There have been several regional geophysical surveys by government agencies in the area, which can be found in the YGS online database. Most recently, a MAG survey was flown over the Nash Creek area in 2020 for the YGS, funded by Natural Resources Canada.

## Exploration Target

The Shanghai exploration target is lead, copper, zinc, silver and gold. Narrow high-grade lead-zinc-silver veins occur on the property and there is a possibility for intrusion related gold mineralization along the Robert Service Thrust Fault.

The two major gold occurrences are located within proximity to the property including Dublin Gulch and McConnell's Jest. Both gold occurrences are intrusions of the Tombstone Plutonic Suite with high tonnage low grade gold mineralization in sheeted veins that protrude into surrounding Hyland Group. The Dublin Gulch project hosts an open pit resource containing 6.4 million ounces of gold. There are also several active silver mines in the area including Birmingham, Keno Lighting, Keno Hill and Mt. Haldane.





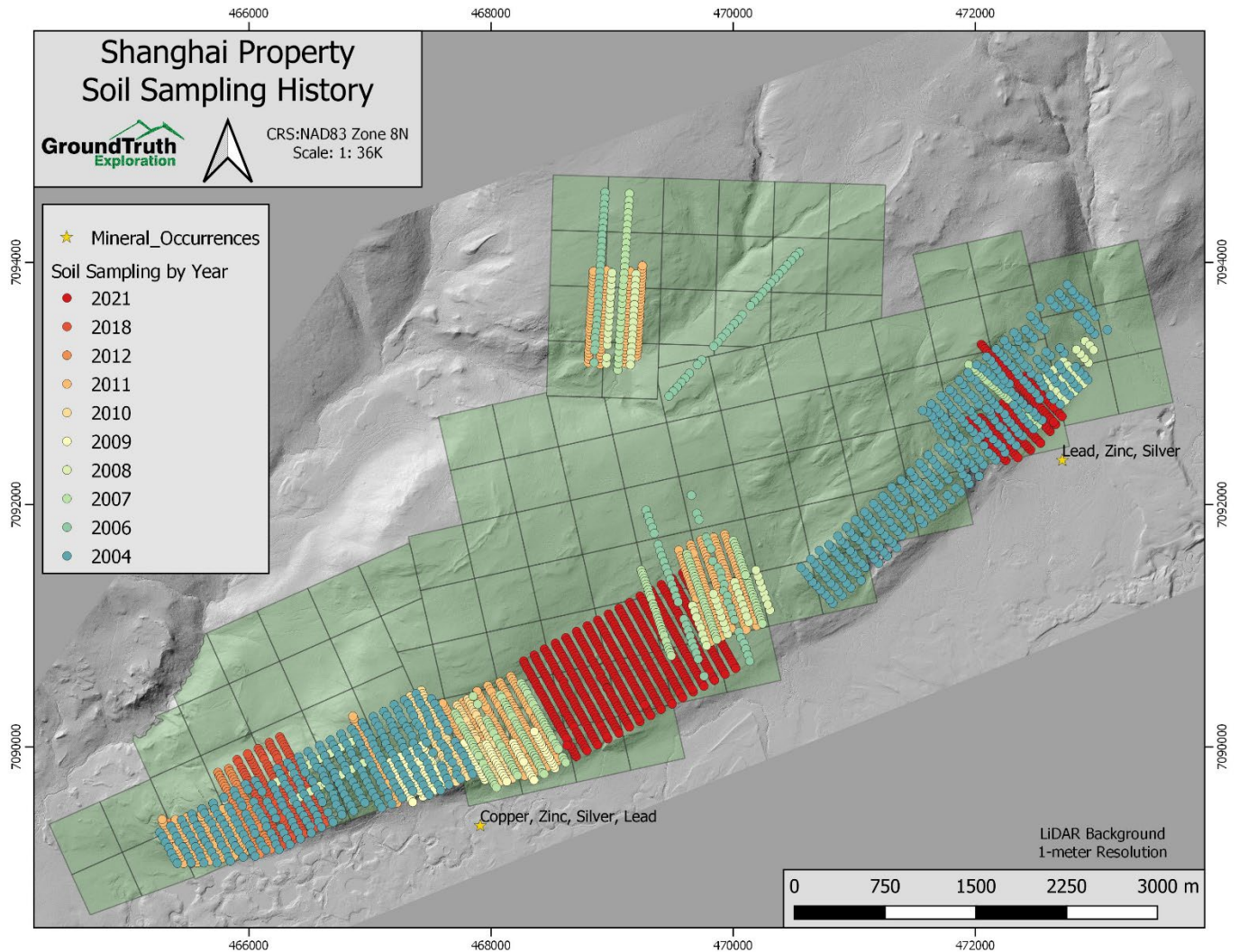


Figure 7: Recent Soil Sample History on Shanghai

## 2021 Soil Sampling

RAB Drilling and GT probe sampling was proposed for this year’s work schedule but timing and staffing unfortunately did not allow for the work to be completed.

The soil sampling program consisted of 792 samples on the south-central and eastern parts of the property (Figure 7). The larger central grid extended east from the soil trend near the historic adits and extended into a few historic soil lines central to the property. The eastern grid was purposed as an infill grid with more tightly spaced sampling in attempt to further define the anomalous zone.

A crew of 4 soil samplers were dropped off at the top of the line and worked their way downslope to be picked up at the end of the day by helicopter. There were 20 man-days spent sampling with an average sample depth of 54.4 cm.



## Methods and Procedures

Field technicians navigated to sample sites using handheld GPS units. A C-Horizon sample is collected using an Eijlcamp brand hand auger at the maximum depth possible, between 40cm and 110cm. Where necessary, in rocky ground the mattock is used to obtain the sample. Photos are taken of the sample collected and sample site 5m from sample hole with auger inserted. 500 g of soil is placed in a kraft bag. A three-part barcode sample ID tag is attached to a rock or branch in a visible area at the sample site along with a length of pink flagging tape. A barcode sample ID Tag is tied to the kraft sample bag as well as a backup tag placed inside the kraft bag. The GPS location of the sample site is recorded with a Garmin 60cx, 64s, or 76cx GPS device in UTM NAD 83 format, and the waypoint is labeled with the project name and the sample identification number. A weather-proof handheld device equipped with a barcode scanner is used in the field to record the descriptive attributes of the sample collected, including sample identification number, soil colour, soil horizon, slope, sample depth, ground and tree vegetation and sample quality and any other relevant information.

## Analysis

The soils samples for the program are prepared at Eastern Analytical Laboratories. Samples are dried at 60 degrees Celsius and sieved to -80 mesh. The pulps are air couriered shipped to Bureau Veritas Labs in Vancouver, British Columbia. The pulps are analyzed with the AQ201+U method, dissolving 15 grams in Aqua Regia and analyzed for 37 elements by ICP-MS technique.

## Results

The geochemical anomalies from the compiled soils on the property above 95<sup>th</sup> percentile seem to be dispersed between 5 main areas. Four along the southern part of the property and one north, in the RA claims (Figures 8 – 12).

*Table 2: Shanghai Compiled Soil Percentiles*

Percentile	Au ppb	Ag ppm	As ppm	Pb ppm	Zn ppm	Sb ppm	Bi ppm
0.85	15.1	0.5	67.83	27.6	105	2.2	0.3
0.9	20.91	0.6	84.01	31.31	116.1	2.7	0.4
0.95	38.225	0.9	129.75	40.615	154.05	3.8	0.5
0.97	67.266	1.3	207.636	55.615	206.03	4.8	0.5
0.98	116.178	1.7	283.124	72.708	284.1	5.5	0.6
0.99	236.394	2.7	518.527	128.948	515.06	7	0.801

Soil geochemistry does identify a weak trend through the 2021 central sampling grid. The eastern grid shows a defined Ag anomaly near the southern border of the property in which Au, and As are weakly correlated. There appears to be another system with Au, Sb and weaker As association in the eastern grid, but a trend is difficult to define. This may be a closer association to the northern geochemical anomaly where Sb and Au seem to be most prevalent. Anomalous Au (over 95<sup>th</sup> percentile) seems to be the most dispersed across the historical sampling area.

## Discussion

LiDAR has been used to interpret structures on the property which may help to understand geochemical trends (Figure 13). It appears Ag and Zn are most prevalent near the Tombstone

Thrust and Robert Service Thrust at the south of the property, especially in the Keno Hill quartzite. Gold, Sb and As are also associated with Ag and Zn anomalies but likely associated with a different geological event or time, possibly the re-activation during Triassic and Cretaceous intrusions along deep fault lines. This may have allowed gold to mineralize 2<sup>nd</sup> and 3<sup>rd</sup> order structures on the property, this could be the reason why the anomalous gold samples are more dispersed.

Figure 14 shows 2<sup>nd</sup> vertical derivative mag with LiDAR picked structures and gold in soil. In most cases the Au anomalies are in or bordering mag lows (central anomaly is the exception) and are in areas that appear to have intersecting structures / larger dilation zones providing pathways for later intrusives.

Drilling and GT Probe work that was proposed earlier in 2021 is still recommended to narrow targets and determine the association of precious metals to later intrusive bodies. The association of gold to smaller resultant structures should be investigated during the drilling program, small veins or dykes may be a cause for the wider dispersion of gold. That along with Au in soil transport mechanics, the probe could be a useful tool to narrow the distance to bedrock source.

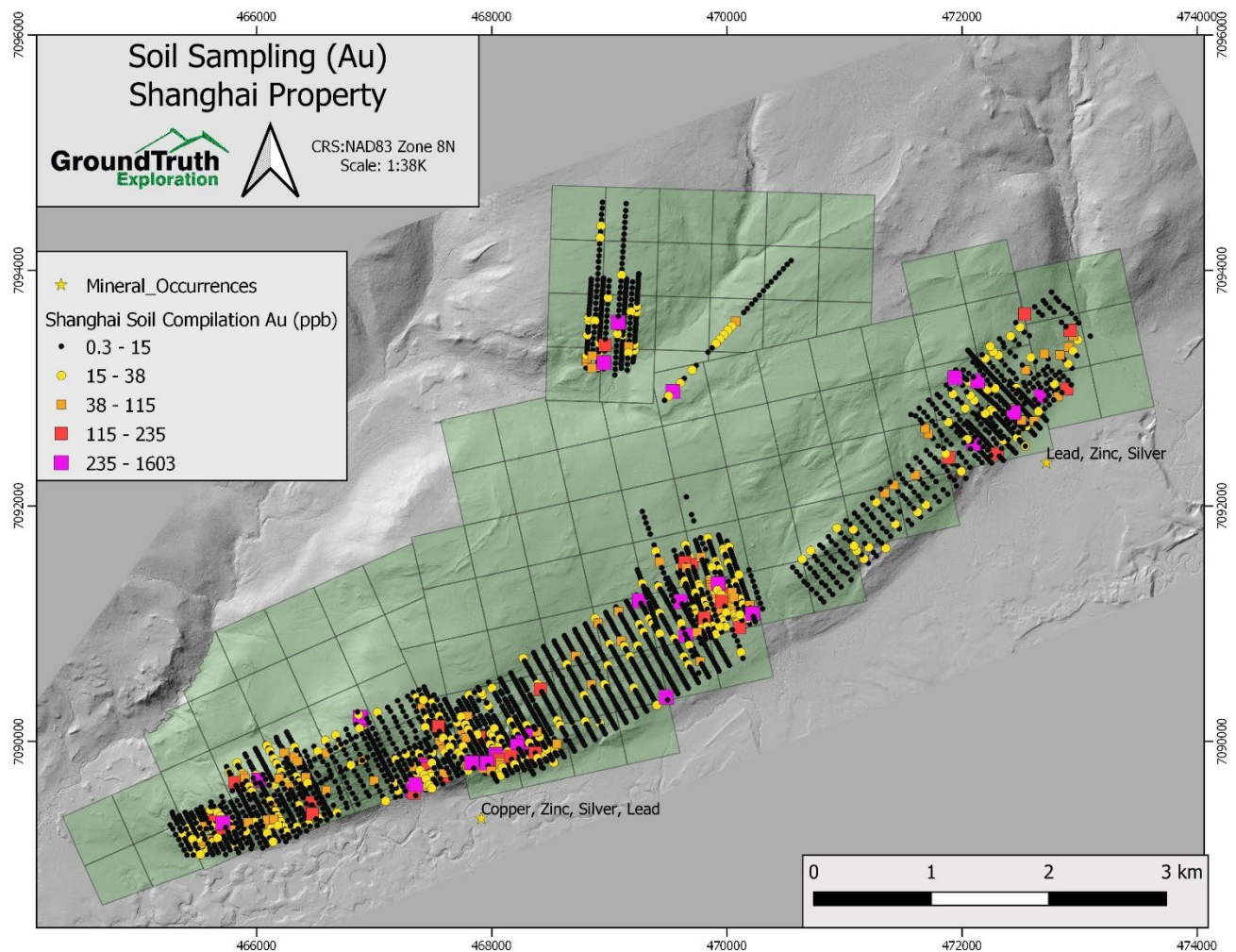


Figure 8: Au in Soil Compilation

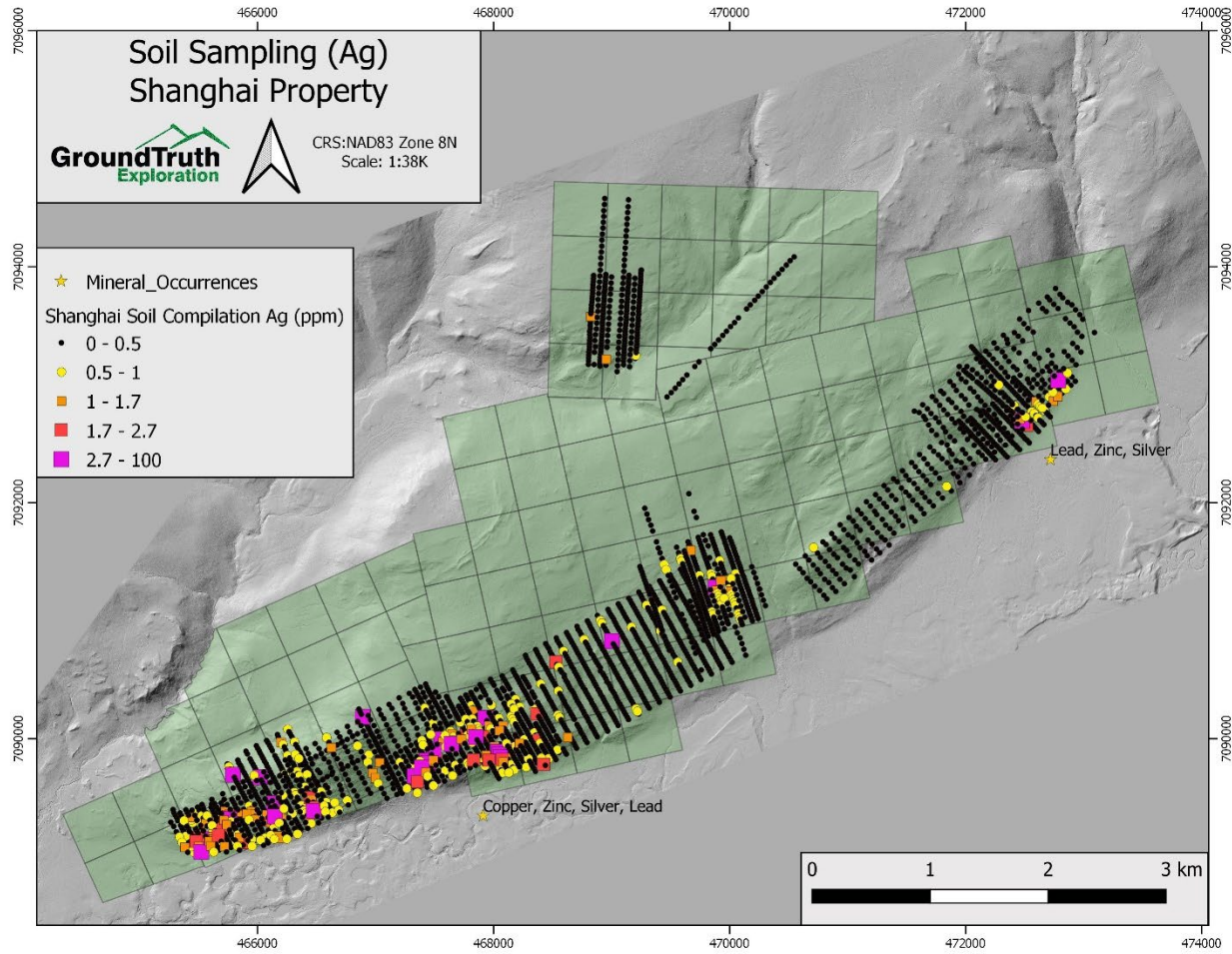


Figure 9:Ag in Soil Compilation



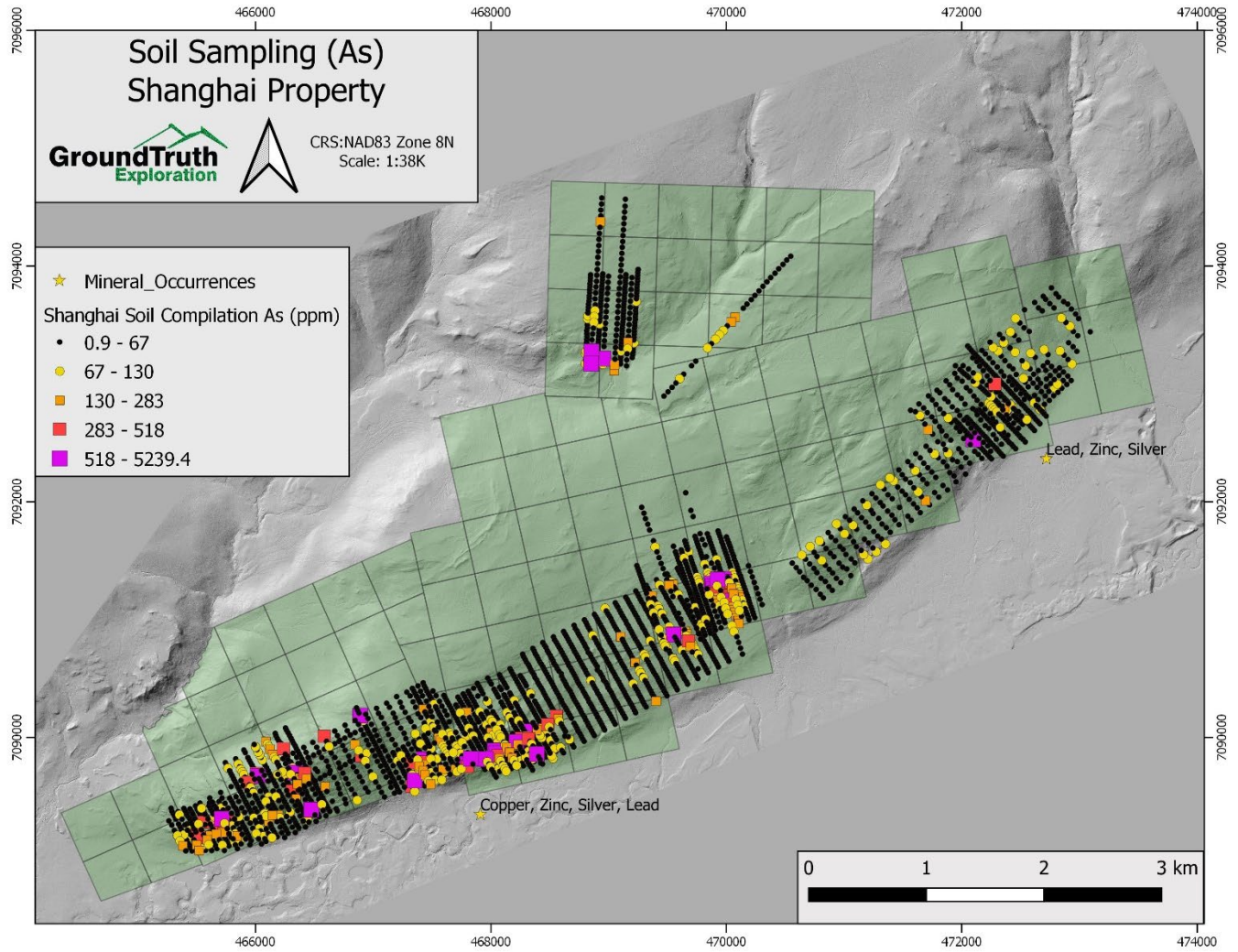


Figure 10: As in Soil Compilation

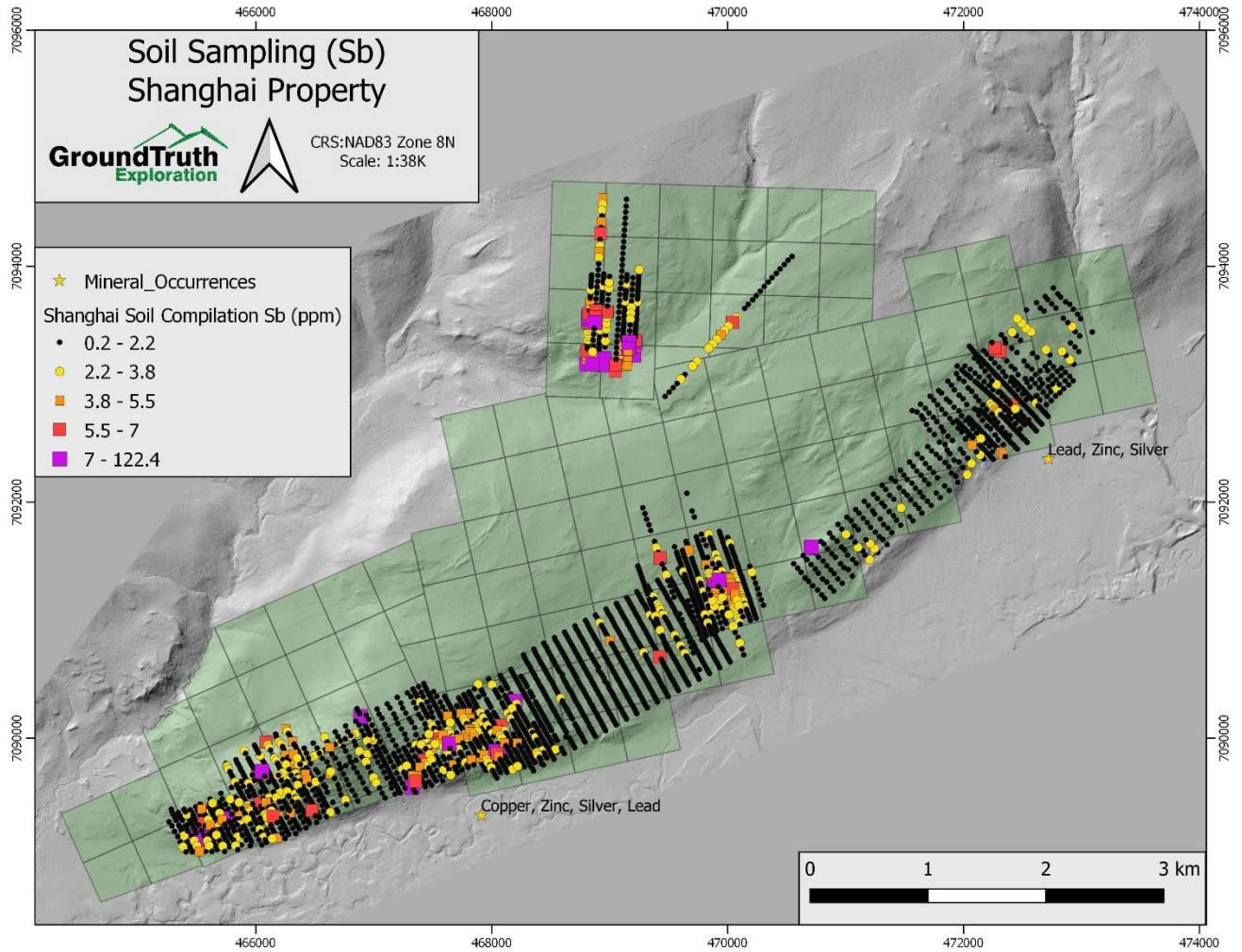


Figure 11: Sb in Soil Compilation

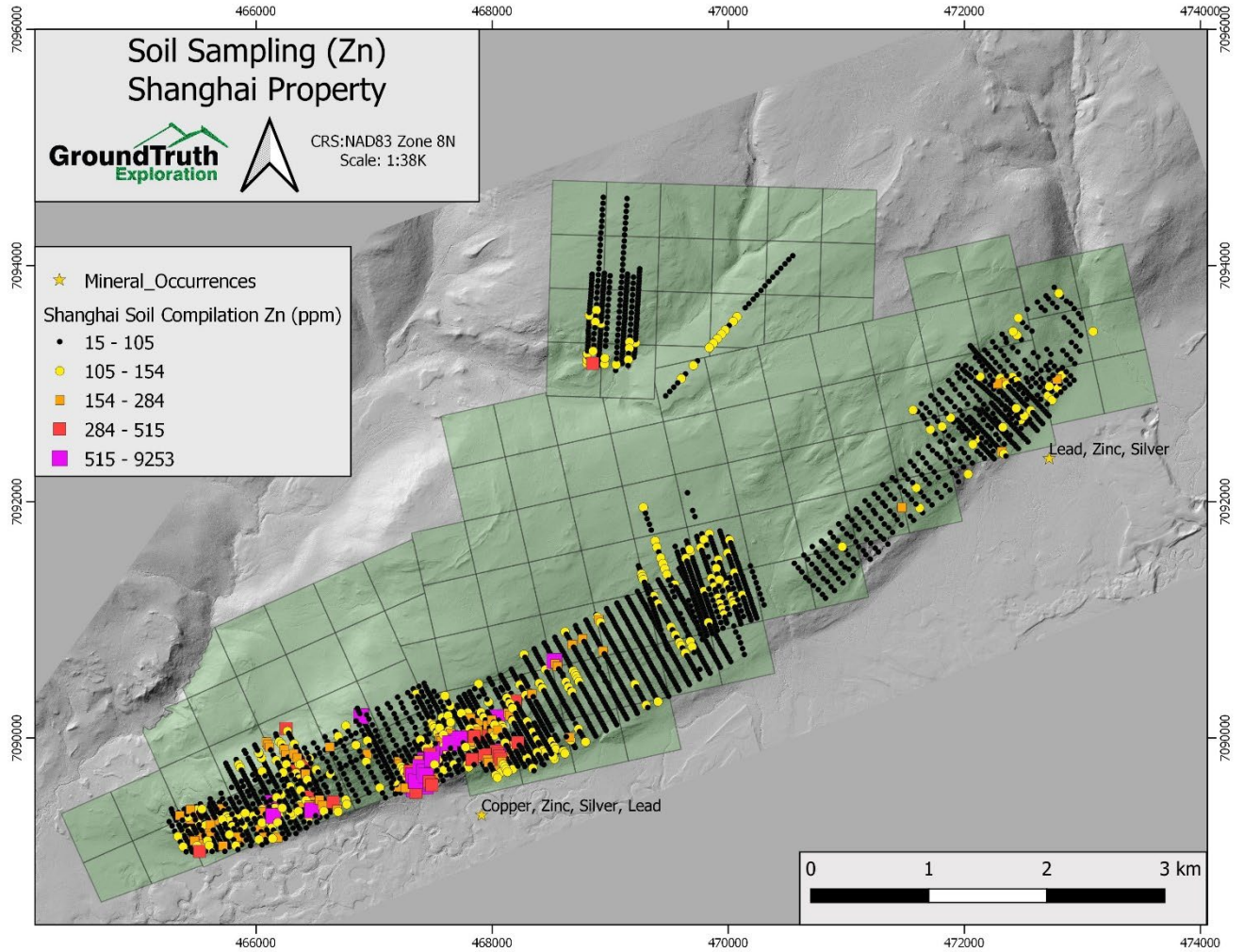


Figure 12: Zn in Soil Compilation



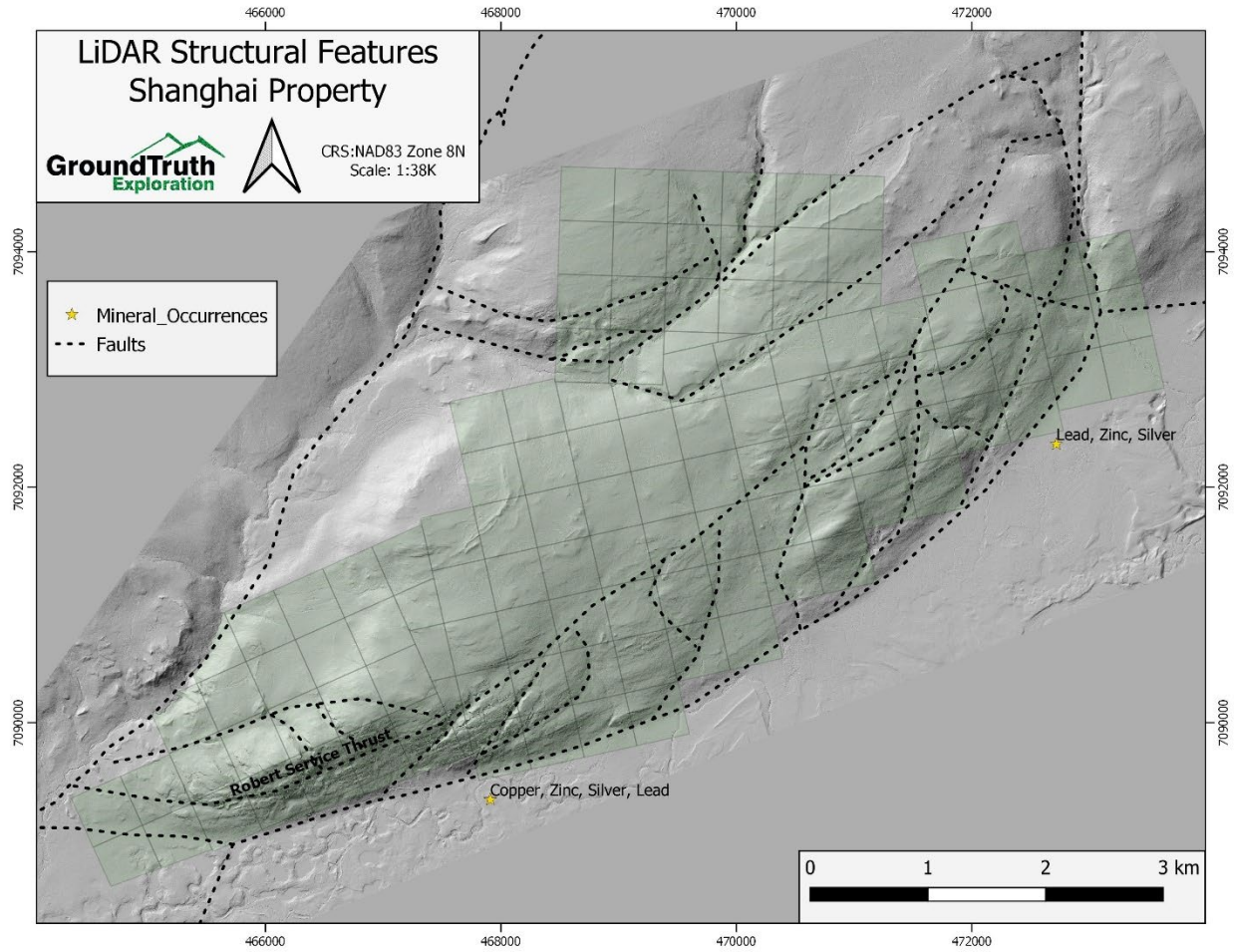


Figure 13: LiDAR Structural Features

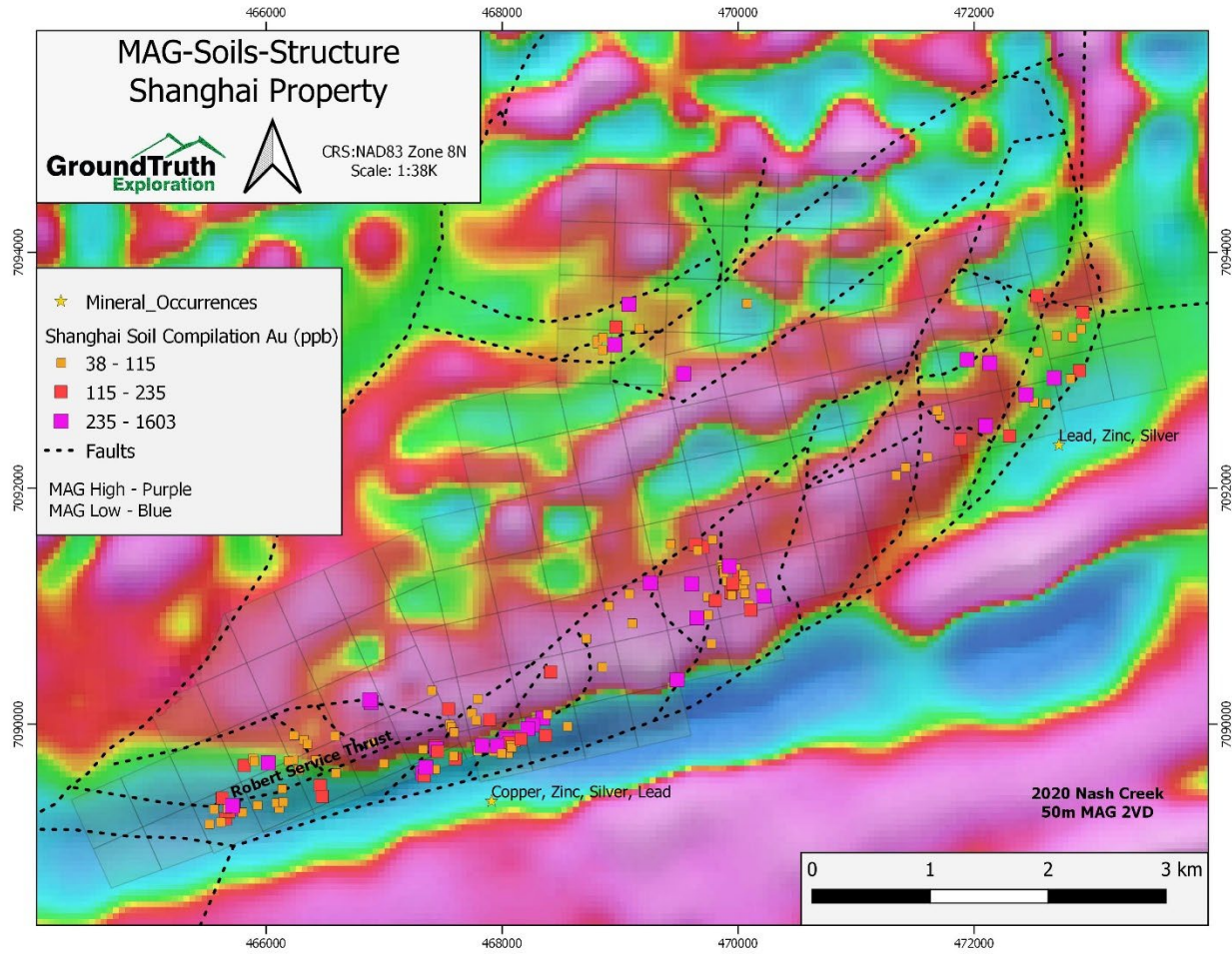


Figure 14: 95th percentile Au with Mag background

## Statement of Expenditures

<b>Soil Sampling</b>	<b>Cost</b>	<b>Description</b>
Sample Charge-out	\$50,886.00	771 samples @ \$66/sample
Helicopter	\$14,260.00	9.2 hrs @ \$1550/hr
Fuel	\$1,955.00	direct bill ~ 1300L of fuel @ \$1.50/L
Total	\$67,101.00	
Mgmt Fee on heli	\$1,621.50	10% of heli and fuel cost - handling fee
<b>Total</b>	<b>\$68,722.50</b>	
<b>Staking</b>	<b>Cost</b>	<b>Description</b>
Staking Charge-out	\$2,600.00	26 claims staked @ \$100/claim
Helicopter	\$2,945.00	1.9 hrs @ \$1550/hr
Fuel	\$691.25	direct bill ~460L of fuel @ \$1.50/L
Total	\$6,236.25	
Mgmt Fee on heli	\$363.63	10% of heli and fuel cost - handling fee
<b>Total</b>	<b>\$6,599.88</b>	
<b>Report Writing</b>	<b>Cost</b>	<b>Description</b>
Report Charge-out	\$2,500.00	33.5 hrs at \$75/hr, compilation and writing
<b>Total</b>	<b>\$2,500.00</b>	
<b>Total Shanghai Cost:</b>	<b>\$77,822.38</b>	



## References

**Regional Geology:** Colpron, M., Israel, S., Murphy, D.C., Pigage, L.C., and Moynihan, D., 2016. Yukon Bedrock Geology Map. Yukon Geological Survey, Open File 2016-1.

**Regional Geology:** Yukon Mining Map Viewer, Mining Claims Database – <http://mapservices.gov.yk.ca/Mining/Load.htm>

**Mineral Titles:** Yukon Mining Recorder, Mining Claims Database – [www.yukonminingrecorder.ca](http://www.yukonminingrecorder.ca)

**Topographic data:** Natural Resources Canada, The Atlas of Canada - Toporama- <http://atlas.gc.ca/toporama/en/index.html>

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Kiss, F., 2020. Aeromagnetic survey of the Nash Creek area, Yukon, parts of NTS 105M,N, 106C,D, 115P and 116A. Geological Survey of Canada, Open File 8728; Yukon Geological Survey, Open File 2020-7, scale 1:100000.

## Statement of Qualifications

I, Matthew Hanewich, do hereby declare that:

1. I am currently employed as a Geologist by GroundTruth Exploration Inc. of Dawson City, Yukon.
2. I graduated from Carleton University in 2015 with a B.Sc. Honours degree in Geology.
3. I have worked as a geologist or geological assistant since 2014.
4. I am not aware of any material, fact or material change with respect to the subject matter of this report, the omission to disclose which makes this report misleading.

Dated: January 31, 2022