

Hess Property Airborne Imagery Assessment Report

Drone
on the
Hess Property
Mayo, Yukon

GRANT_NUM	CLAIM_NAM
YE75349-376	HESS 49-76
YE75381-394	HESS 81-94
YE75397-110	HESS 97-110
YE75413-426	HESS 113-126
YE75429-442	HESS 129-142
YE75445-456	HESS 145-156
YE75461-472	HESS 161-172
YE75477-486	HESS 177-186
YE75493-496	HESS 193-196
YE75499-506	HESS 199-206

NTS: 1:50,000 Mapsheet 105N/05

UTM: 566446 E 7025998 N
NAD83 Zone 8

Mayo Mining District

Work Performed:
UAV Drone: August 28, 2019

Prepared for Shawn Ryan
By GroundTruth Exploration

Written By: Kaitlyn Crawford
Compilation Date: March 31, 2020

Summary

This report summarizes the UAV drone imagery and topographic survey that was conducted during the summer of 2019. On August 28, 2019, a two-man drone crew was set out to the Hess property where they conducted a UAV drone and topographic survey over 24 km² on the western portion of the Hess claims. The data was processed on a later date.

The property is located 110 km southeast of the town of Mayo and on the south side of the Hess River. The property falls in the Mayo mining district and on the National Topographic System (NTS) map sheet 105N/05 (Figure 1). The approximate center of the property is located at 566446 E 7025998 N. Helicopter staging took place from the community of Mayo.

Over the past 9 years more than 20 gold vein occurrences have been discovered in the area. The Hess property is relatively underexplored compared to other properties in the vicinity. The Robert Service Thrust panel underlies the area and the Hess property is in the Yusezyu Formation of the Selwyn Basin. Mineralized veins are most commonly found within the psammite unit with minor mineralization located in the quartz metaconglomerate. Due to a lack of property scale mapping, the extent of the psammite unit is not known.

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Introduction

Shawn Ryan commissioned GroundTruth Exploration Inc. to conduct a UAV drone survey over the Hess property. On August 28, 2019, a two-person drone crew was set out to the Hess property where they conducted a drone survey over a 24 km² area. The data was processed on a later date.

Location and Access

The property is located 110 km southeast of the town of Mayo and on the south side of the Hess River. The property falls in the Mayo mining district and on the National Topographic System (NTS) map sheet 105N/05 (Figure 1). The approximate center of the property is located at 566446 E 7025998 N. Helicopter staging took place from the community of Mayo.

Elevation on the property ranges from 700 m to 900 m with the steepest area at the very edge of the southeast portion of the property. Average temperatures in the winter are around -18 degrees Celsius, while in the summer the temperatures reach an average of 22 degrees Celsius. Low lying swampy areas are common around lakes and rivers. The rest of the property is in a well forested area. Colluvium and glacial till cover much of the claim group with outcrops observed in elevated areas.

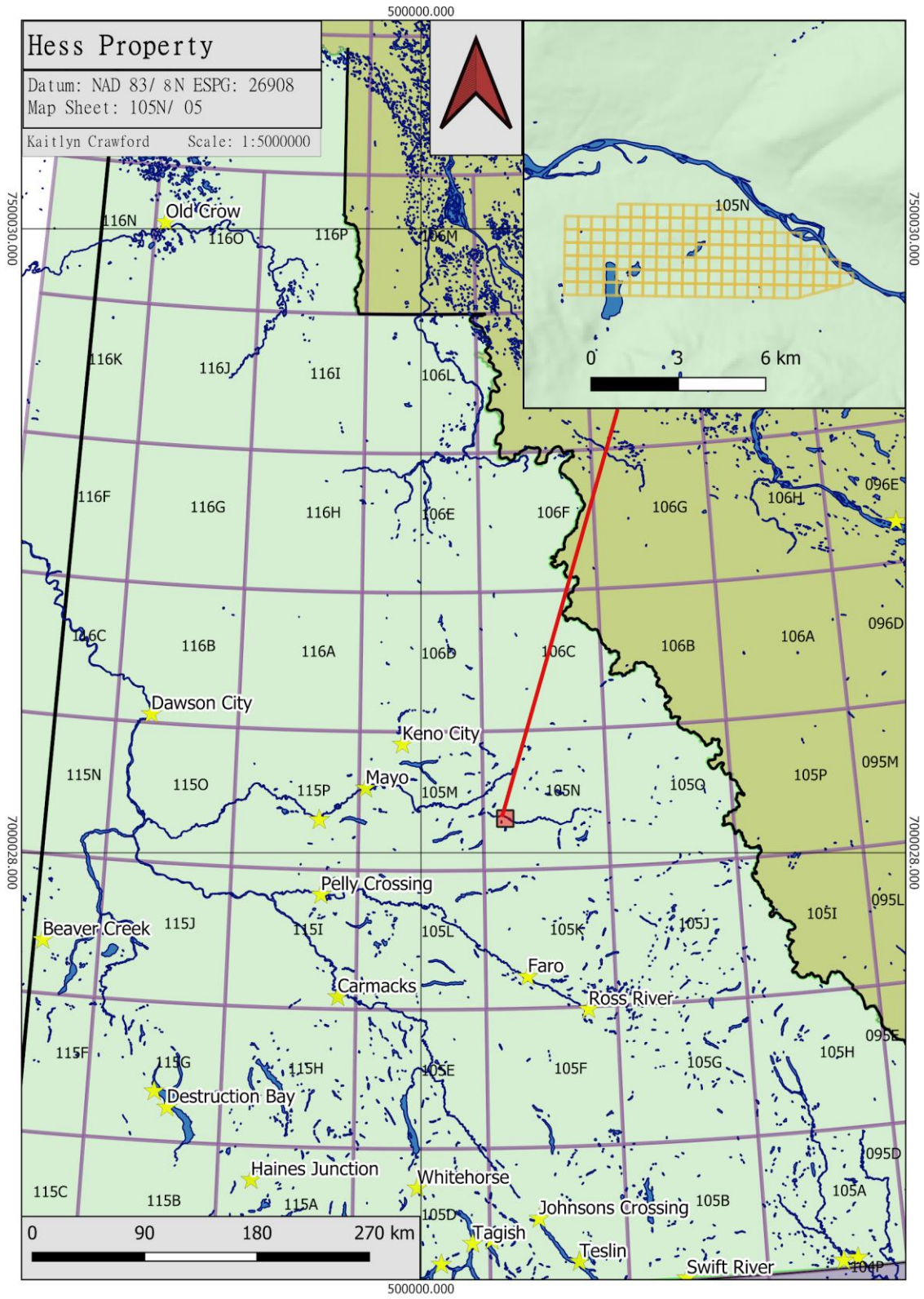


Figure 1: Location of the Hess claims on NTS Mapsheets

Claims

The Hess property consists of 126 active claims, 100% owned by Shawn Ryan. A full claim summary can be seen in the table below (Table 1) as well as a map of the claim locations (Figure 2). The drone work was performed on the western half of the claim blocks.

GRANT_NUM	STATUS	CLAIM_NAM	OWNER	STAKE_DATE	EXPIRY_DATE	DISTRICT
YE75349-376	Active	HESS 49-76	Shawn	2/20/2013	8/28/2020	Mayo
YE75381-394	Active	HESS 81-94	Shawn	2/20/2013	8/28/2020	Mayo
YE75397-110	Active	HESS 97-110	Shawn	2/20/2013	8/28/2020	Mayo
YE75413-426	Active	HESS 113-126	Shawn	2/20/2013	8/28/2021	Mayo
YE75429-442	Active	HESS 129-142	Shawn	2/19/2013	8/28/2021	Mayo
YE75445-456	Active	HESS 145-156	Shawn	2/19/2013	8/28/2021	Mayo
YE75461-472	Active	HESS 161-172	Shawn	2/19/2013	8/28/2021	Mayo
YE75477-486	Active	HESS 177-186	Shawn	2/19/2013	8/28/2021	Mayo
YE75493-496	Active	HESS 193-196	Shawn	2/19/2013	8/28/2021	Mayo
YE75499-506	Active	HESS 199-206	Shawn	2/19/2013	8/28/2021	Mayo

Table 1: Full summary of the Hess property claims

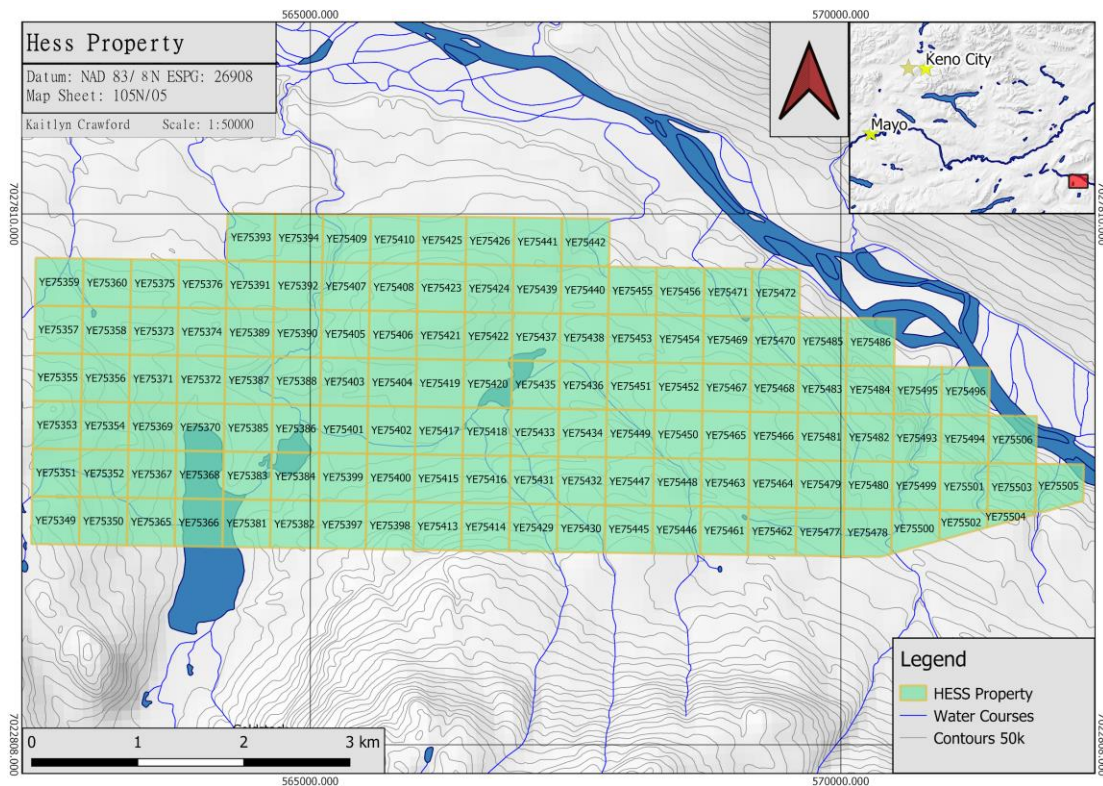


Figure 2: Location of the Hess claims with grant numbers

History and Previous Work

The Hess claims were staked by Shawn Ryan in 2013 after Goldstrike Resources staked the area in 2012 around the Gold Dome, Gold Bank and Gold Stack occurrences. The closest occurrence to the Hess

property is the Gold Stake showing. This showing has had extensive work done on it and in the surrounding area. In addition, the Yukon Geological Survey has also completed work in the Lansing Map area, map sheet 105N.

The Gold Stake occurrence was first discovered in 2012 by Goldstrike Resources who had staked it as the Plateau South project area. That summer, Goldstrike completed preliminary prospecting, geological mapping, trenching, rock, soil and silt sampling programs on the project. Two exploration holes totaling 165.2m were drilled on the occurrence and 1,156 line-km of helicopter-borne magnetics and radiometric geophysical survey was flown. In 2013, 17 additional diamond drill holes were completed, as well as follow up geochemical surveys and bedrock mapping (Figure 3). In 2014 and 2015, resistivity and induced polarization surveys were conducted and another 11 drill holes were completed.

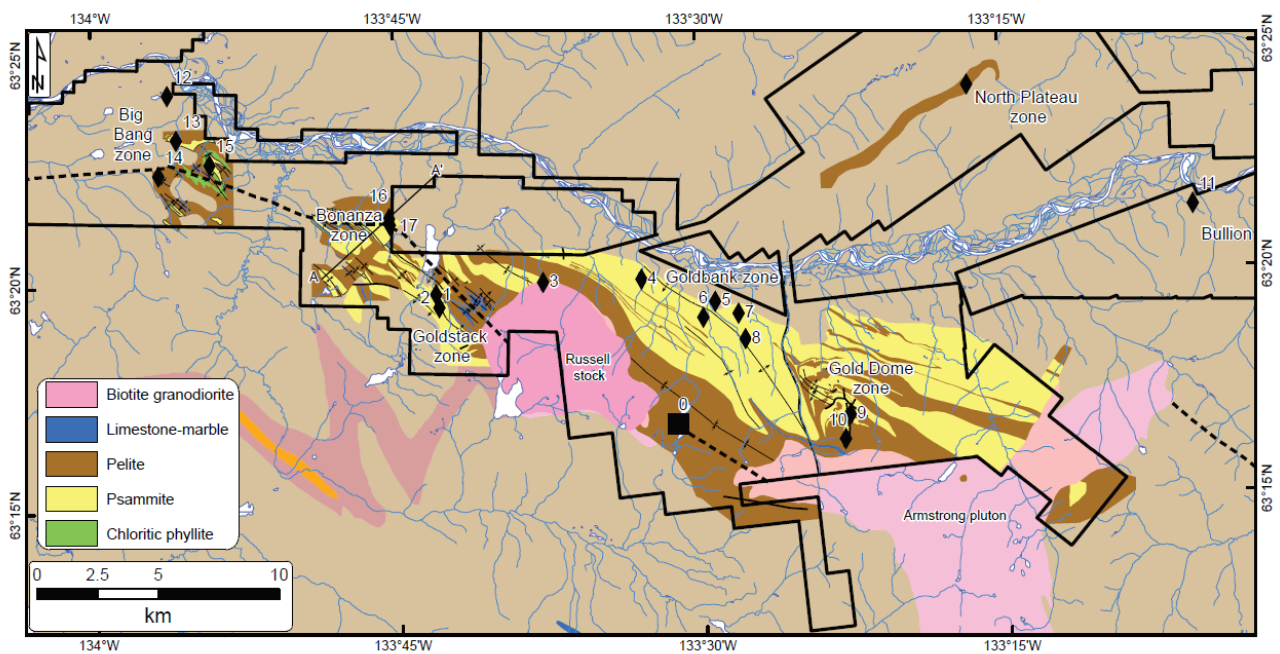


Figure 3: Figure from Sack et. al. 2018. Simplified Plateau property geology (mapped at 1:20 000) from Roach (2013) with detailed mapping (1:2500) in the Goldstack and Bonanza areas from Vanwermeskerken (2017) and Big Bang from Stublely (2017). Heavy dashed line represents the southern (upper) boundary of the Tombstone strain zone (Roots, 1997, 1998). Property mapping limited to areas with bold colors, legend in bottom left; regional geology in muted colors from YGS (2016), map units same as Fig. 2. 1 = Goldstack, 2 = Goldback, 3 = Gold Standard, 4 = Goldbar, 5 = Stack W, 6 = Goldbank W, 7 = Ron Stack, 8 = Goldbank E, 9 = Gold Dome, 10 = Goldworks, 11 = Bullion, 12 = Big Bang N, 13 = Big Bang Main, 14 = Big Bang S, 15 = Big Bang SE, 16 = Bonanza main, 17 = Bonanza S.

On a more regional scale, bedrock mapping, sediment sampling and geophysics have also been conducted over the property by the Yukon Geological survey. In 2003, Roots produced a map of the bedrock geology in the Lansing area. In 2008, Exploration Syndicate Inc. contracted Geotech Inc. to fly a regional-scale ZTEM survey (Figure 4). This was later bought by the Yukon government in 2013 and re-analyzed by Condor Consulting Inc. The survey covered a 25,000 km² area (1 km-line spacing) in the Selwyn Basin. In 2015, samples collected from a 1990 regional stream sediment survey over the Lansing map area were re-analyzed using weighted basin modeling and catchment basin analysis.

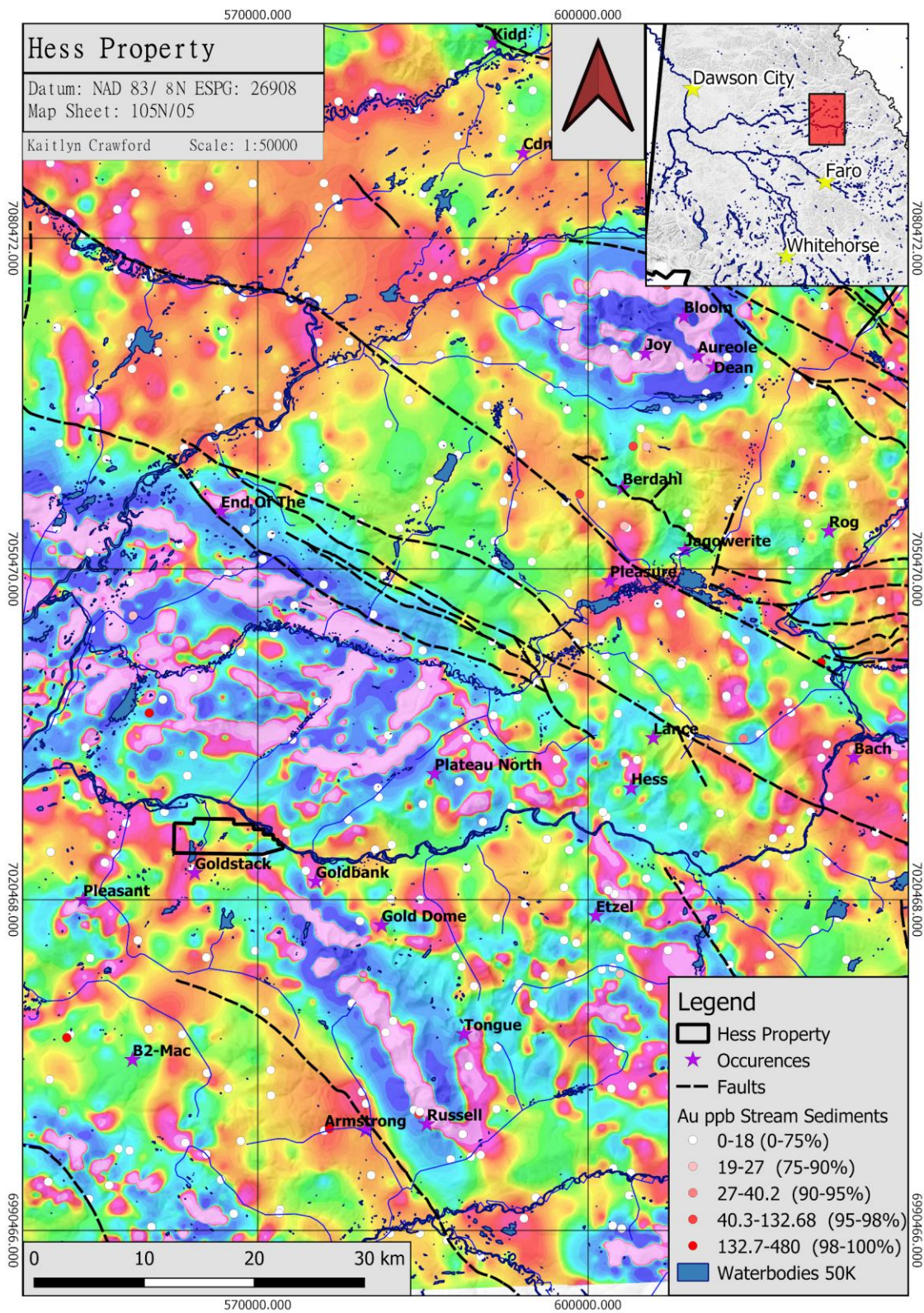


Figure 4: RTP first vertical derivative magnetic geophysics analyzed by Condor Consulting Inc. with stream sediment locations and occurrences around the Hess property

Geology

Regional Geology

Laurentia coalesced around 1.84 billion years ago and its stability has allowed preservation of one of the world's lengthiest sedimentary records, now observed in uplifted strata along the eastern side of the Cordilleran Mountain Belt from California to east-central Alaska. Layered rocks of the Ancestral North American that underlie eastern Yukon and British Columbia and western North West Territories were deposited on the flank of western Laurentia. There are five belts of the Canadian Cordillera that underlie the Yukon.

The three most western terranes are displaced ancient volcanic arcs, former oceanic crust, foredeep, shelf and slope deposits. Next is the Omineca Belt originating on the stable North American Crystalline basement. The furthest east belt is the Foreland, which is folded and thrusts Phanerozoic strata (Roots et. al., 1997). The Hess property covers a part of the Omineca Belt in the Selwyn Basin.

The majority of the rocks in the area are uplifted sedimentary rocks intruded by mid-Cretaceous granites. The sedimentary rocks are Proterozoic to mid-Devonian in age and were deposited in the Selwyn Basin, a deep-water, off-shelf environment (Figure 5). Deposition stopped and uplift and erosion occurred during which time the Keno Hill quartzites were deposited in a stable, shallow-water shelf environment.

Contraction occurred in a northward direction during the mid- Jurassic and Cretaceous due to the collision of the oceanic terrains with the ancestral North American terranes. Both the Tombstone Thrust Fault and the Robert Service Thrust Fault are within the Omineca Terranes. The Robert Service Thrust Fault moved in a northward direction and underlays the property , while the Tombstone Thrust Fault moved in a northwestern direction and again in a northeastern direction.

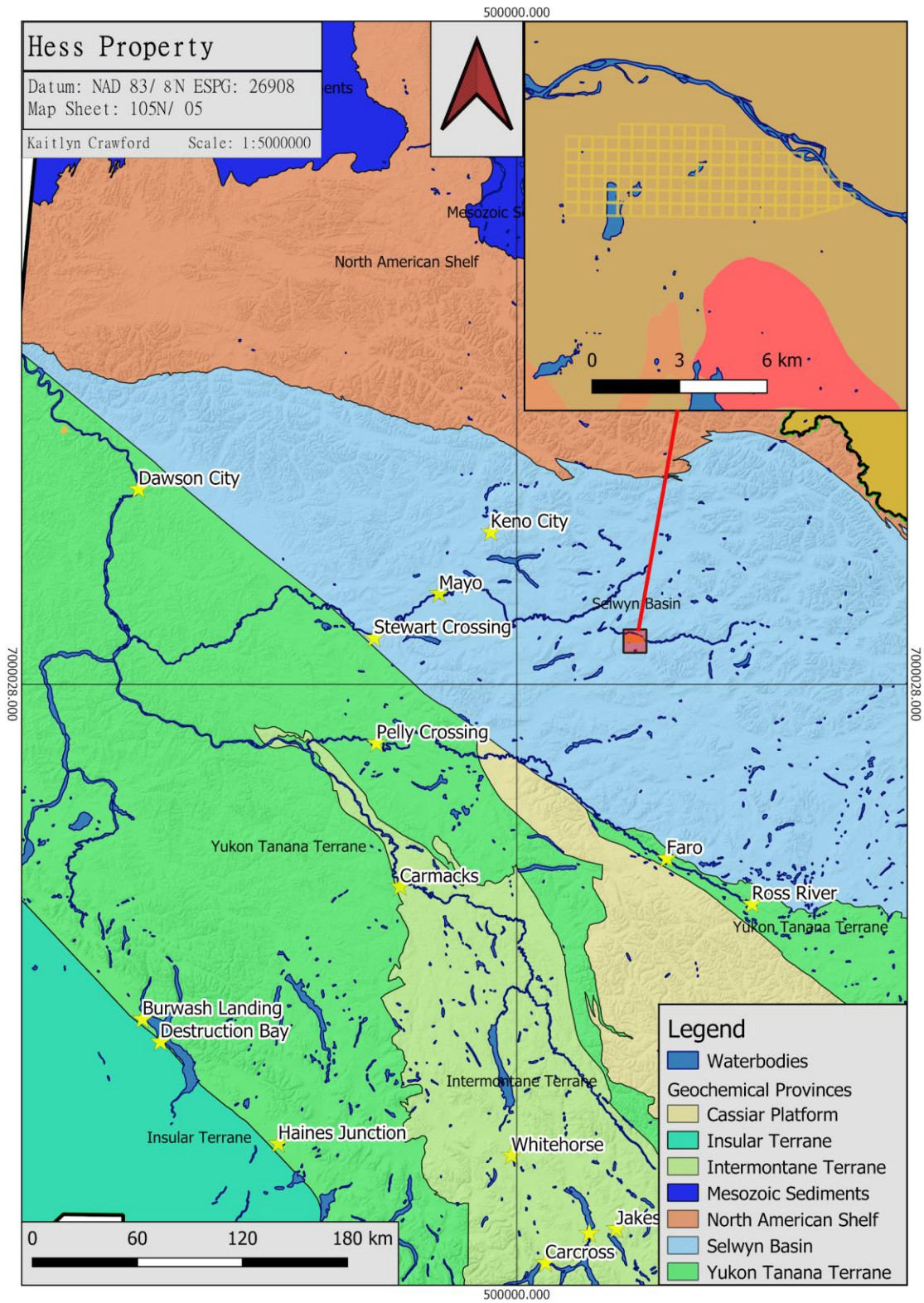


Figure 5: Regional terranes of mid-central Yukon

Property Geology

The property lies within the Yusezyu Formation of the Selwyn Basin (Figure 6). The formation is composed of mostly silicious metasediments, Ediacaran in age, and includes sandstone, grits, psammite, metaconglomerate, and chloritic metasiltstone. Locally there is phyllite with graphitic schist (Roots C.F., 2013). Within this formation the psammites and quartz metaconglomerates are the units of most importance to mineral exploration.

Mineralized veins are most commonly found within the psammite unit with minor mineralization located in the quartz metaconglomerate. The psammite is light grey to pale green and with finely interbedded coarse grained sandstone. The metaconglomerate is a quartz pebble conglomerate with green siltstone interbeds (Sack et. al., 2018). It can be inferred from Sack et al., 2018 that a large portion of the property is underlain by a well-bedded, dark grey mudstone and siltstone interbedded with lesser fine-grained sandstone. Additional bedrock mapping on the Hess property would be needed prior to further discussion on the local geology.

The Robert Service Thrust Fault underlies the Yusezyu Formation and the Hess property. Several southeast to vertically dipping thrust faults have been mapped in the area. The vertical dip was likely caused by the Tombstone Orogeny event. This event created the Tombstone Strain Zone and plays an important role in mineralization of veins in the area. Steeply dipping, northwest dextral faults mark the end of the Tombstone Strain Zone (Roots C. F., 2013).

Both contact and regional metamorphism have occurred on the property. Regional metamorphism occurred during the Tombstone Orogenic events, while contact metamorphism happened during uplift by granites in the mid-Cretaceous. Regional metamorphism occurred prior to contact and could be a constraint on mineralization in the area (Sack et. al., 2018). Regional metamorphic minerals include muscovite, chlorite and biotite that are oriented along foliation. Pyrite is also found within this assemblage and is commonly recrystallized to pyrrhotite. Contact metamorphic minerals include cordierite, andalusite and biotite, with a more random orientation.

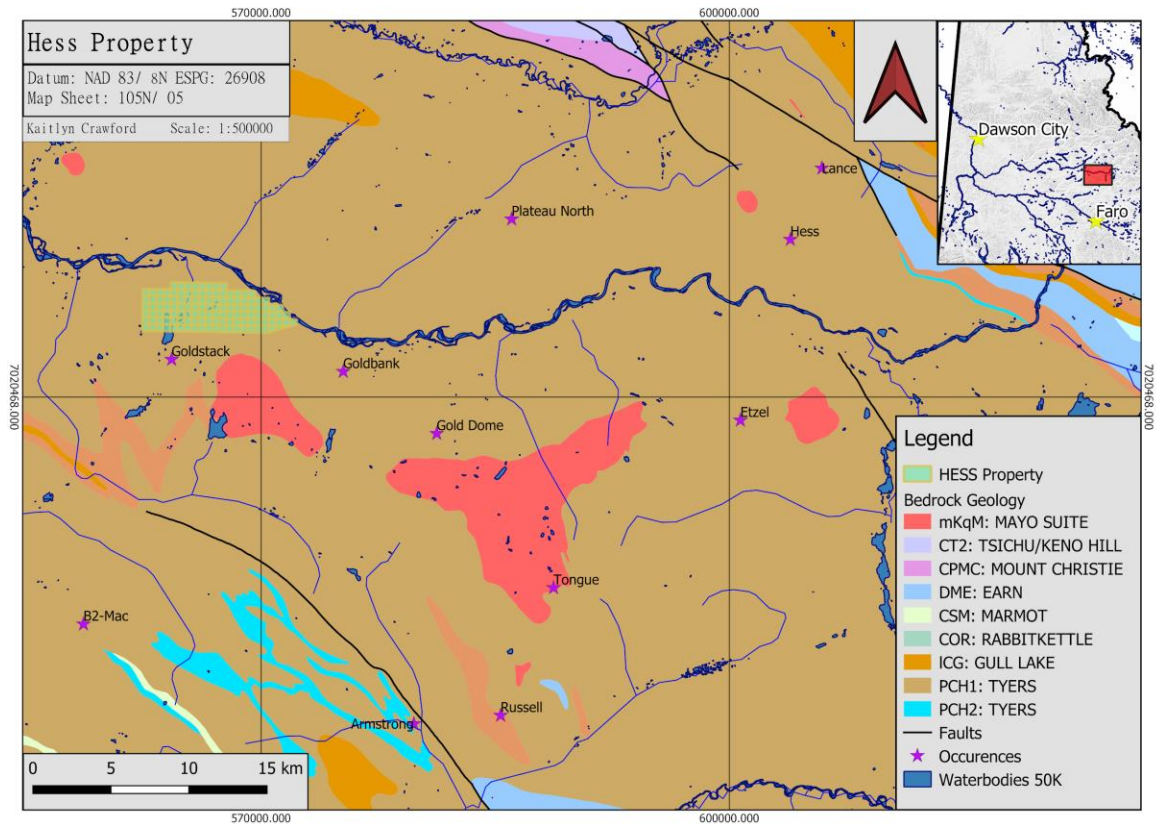


Figure 6: Bedrock geology of the Hess area

Mineralization

Gold Stack is the closest mineral occurrence to the property (Figure 6 and Figure 7). It consists of two mineralized zones 40 m apart. Goldstrike Resources has interpreted the zone as a fault bounded silicified hydrothermal breccia and quartz stockwork zone located within a quartz-porphyry subvolcanic intrusion and its extrusive felsic crystal tuff equivalents. The original drill hole at the Gold Stack showing intersected a gold mineralized silicified breccia. The zone increases from 2.5 m on surface to 9 m true width at depth and is gold mineralized throughout, averaging 0.7 g/t gold over a 9 m width from 8.65 to 17.65 m. Upon further examination the hole intersected a gold-arsenic mineralized halo that surrounds the actual high-grade mineralized zone. Structural analysis suggests the gold mineralized shoot plunges in a southeasterly direction parallel to regional fold axes (Yukon Mine Files, 2019).

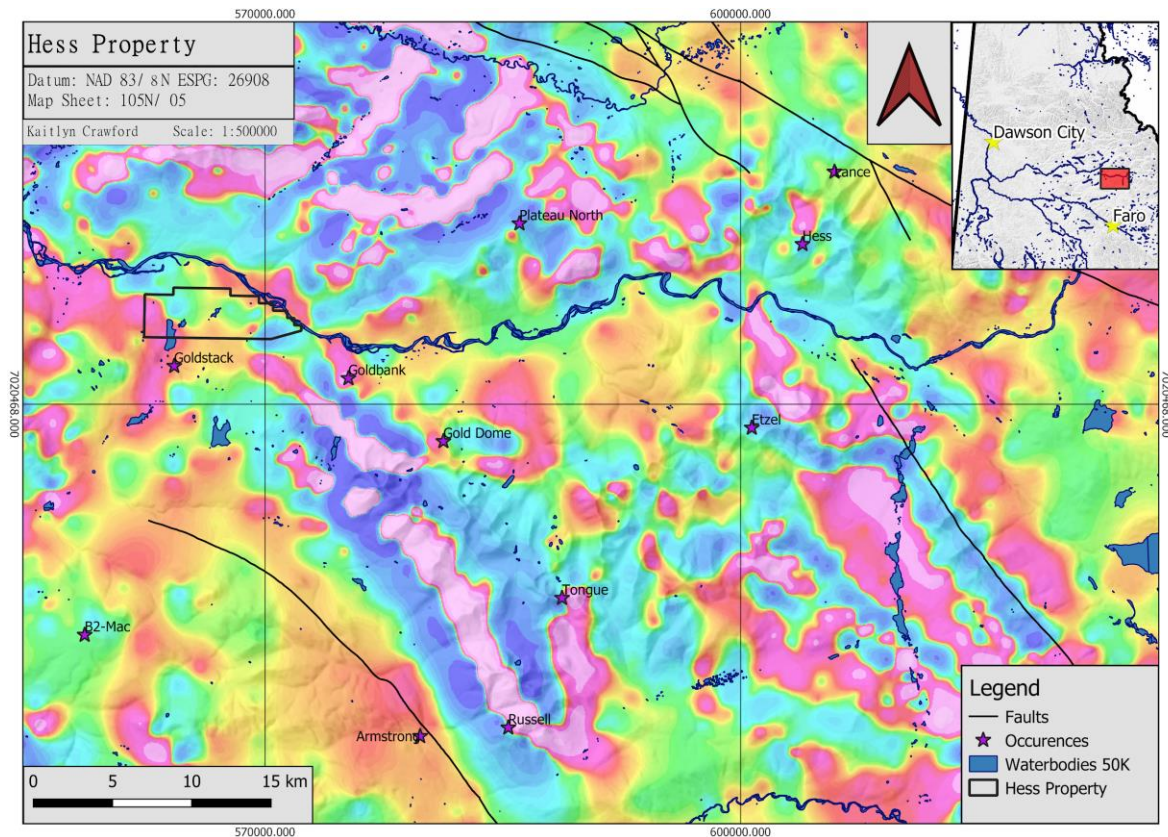


Figure 7: First vertical derivative magnetic geophysics with occurrences in the Hess property area

2019 Exploration Program and Results

UAV Drone Survey

The UAV survey consisted of a 1-day 24 km² survey completed on August 28, 2019. A lead UAV operator and assistant UAV operator (spotter) were employed to run the survey. A total of seven flights were run to cover the claim block.

The Drone survey lines and spatial resolution were approved by client prior to survey, and are designed in accordance with June 1, 2019 Transport Canada RPAS regulations. Typical flight time is approximately 30 minutes per flight, less if the operations area is experiencing high winds.

The survey is planned using Emotion software prior to departing for the field. Spatial resolution, footprint, number of planned flights and launch location is determined. The operator arrives onsite and sets up the base station, UAV unit and ensures adequate launch and landing path is available. Prior to launch and at regular intervals during the survey, the operator calls out on Aircraft frequencies to notify a drone survey in progress. Operator Hand launches aircraft and flies surveys as planned with the number of required flights and maintains visual contact with the UAV. Data is downloaded from the drone after each flight and inspected for quality. This allows any low-quality imagery to be identified and

resurveyed while onsite if necessary. After the survey is completed, all imagery and drone data files are orthorectified using the Postflight Pix4D software package.

The initial orthorectified image product is generated by an automated process. This image is then cropped in Globalmapper or other GIS software to remove bad edges and areas that lack sufficient image coverage to be useful to the client. The final cleaned image and DEM product is the result of this manual QC process. The final Image and DEM are georeferenced to NAD83 UTM projection. A final QC report is generated automatically with the final cleaned product.

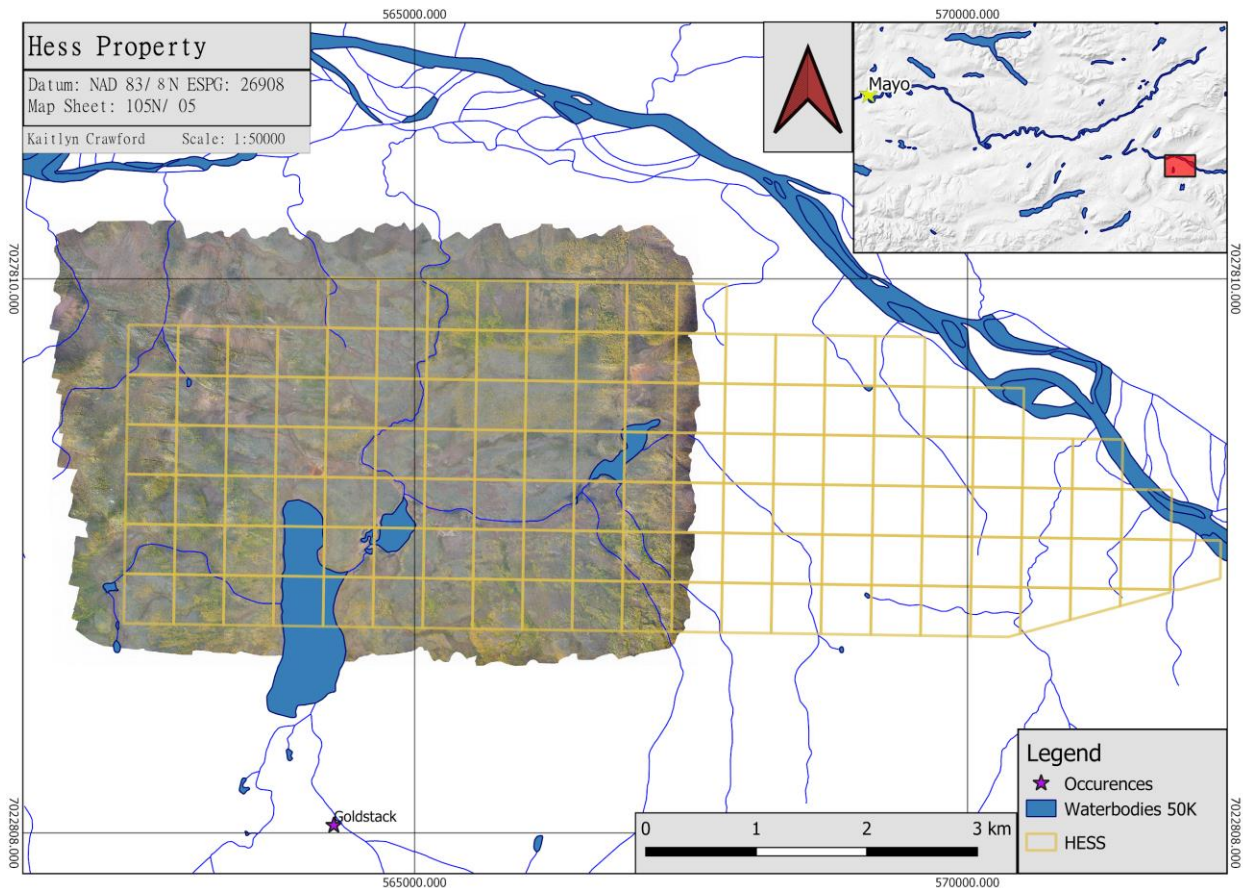


Figure 8: Portion of the Hess property that was covered by drone imagery in 2019

Interpretation and Conclusions

The detail in the drone imagery allows us to see the portion of the map areas with exposed bedrock.

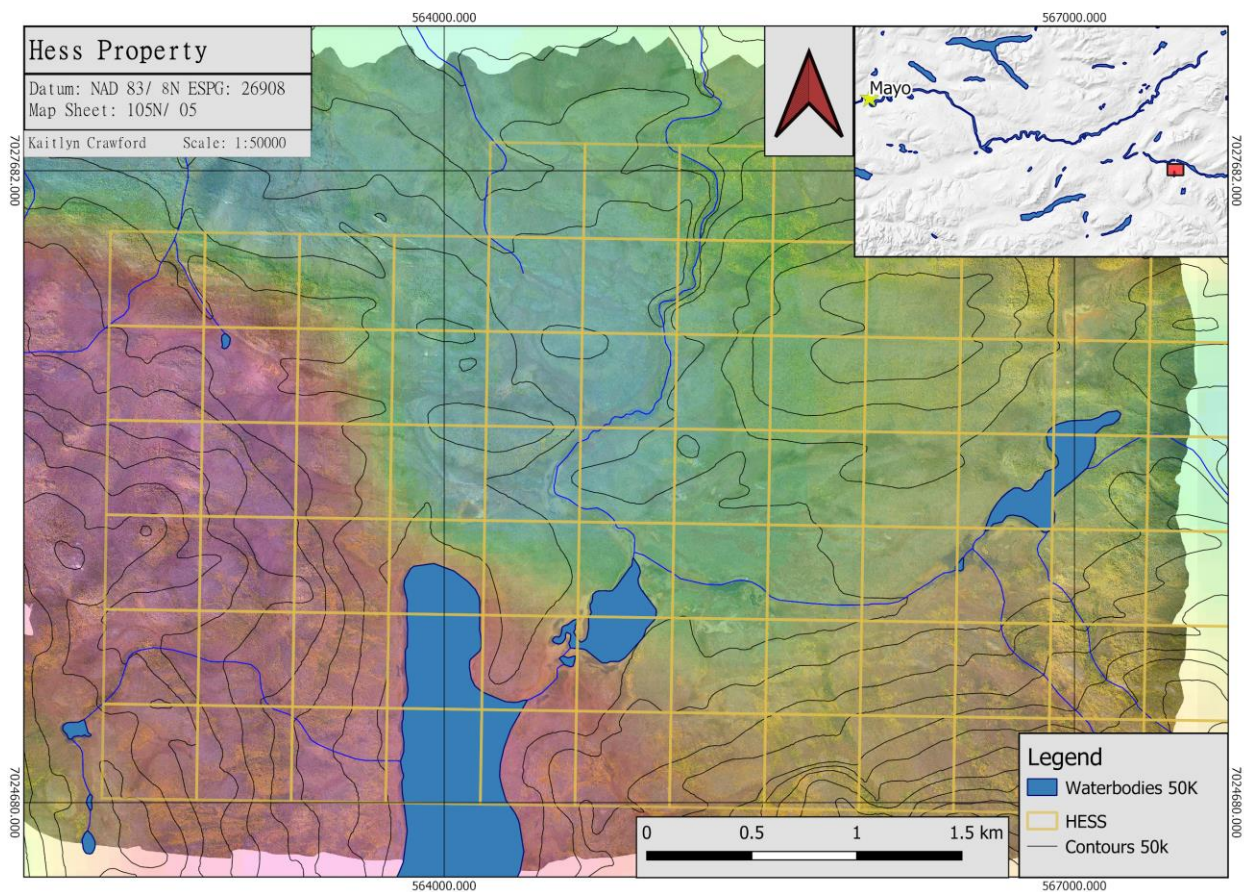


Figure 9: 2019 drone imagery with first vertical derivative magnetic geophysics overlay

Recommendations

Further exploration in the area is recommended. Over the last 9 years more than 20 gold vein occurrences have been discovered in the area. The Hess property is relatively under explored and would benefit from a property wide soil sampling program which would help to delineate targets for bedrock interface mapping. Detailed bedrock mapping should be completed to further identify discrete units and to identify structural features and metamorphic mineral assemblages within the rock units present. Bedrock interface sampling in areas of heavy overburden and prospecting in areas of exposed rock should then be done. A Very Low Frequency Electromagnetics (VLF) survey is recommended over areas of anomalous soils to locate possible small-scale fault and breccia zones.

References

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- Stublely, M. (2017). Structural Architecture of the Plateau Property: Some Preliminary Comments (NTS105N). *Goldstrike Resources Ltd., Internal Report*.
- Vanwermeskerken, M. (2017). Detailed Geologic Mapping at Goldstack, Goldstack Lake and Bonanza Zones In: 2016 Diamond Drilling, Geological Mapping and Structural Analysis on the Plateau Property, D. Ferraro. *Yukon Energy, Mines and Resources Assessment Report 097024*.

Statement of Expenditures

On August 28, 2019 a two-person drone crew drove to the Mayo staging area from Dawson City. From there they took a helicopter to the Hess property and spent the day acquiring 24km² of drone/topographic imagery.

Deployment cost of drone, base stations, operator and spotter	\$2,000.00
Per Flight Cost - \$100 x 7 Flights	\$700.00
Cost for Car, Dawson – Mayo, Return	\$275.00
Helicopter from Mayo to Hess, Return	\$2,325.00
Filing and Assessment Report Writing	\$800.00
Total Expenditures	\$6,100.00

Statement of Qualifications

I, Kaitlyn Crawford, do hereby declare that:

1. I am currently assisting with end of season report writing for GroundTruth Exploration Inc. of Dawson City, Yukon.
2. I graduated from Brandon University in 2018 with a B.Sc. degree in Geology.
3. I have worked as a geologist or geological assistant on and off since 2015.
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.

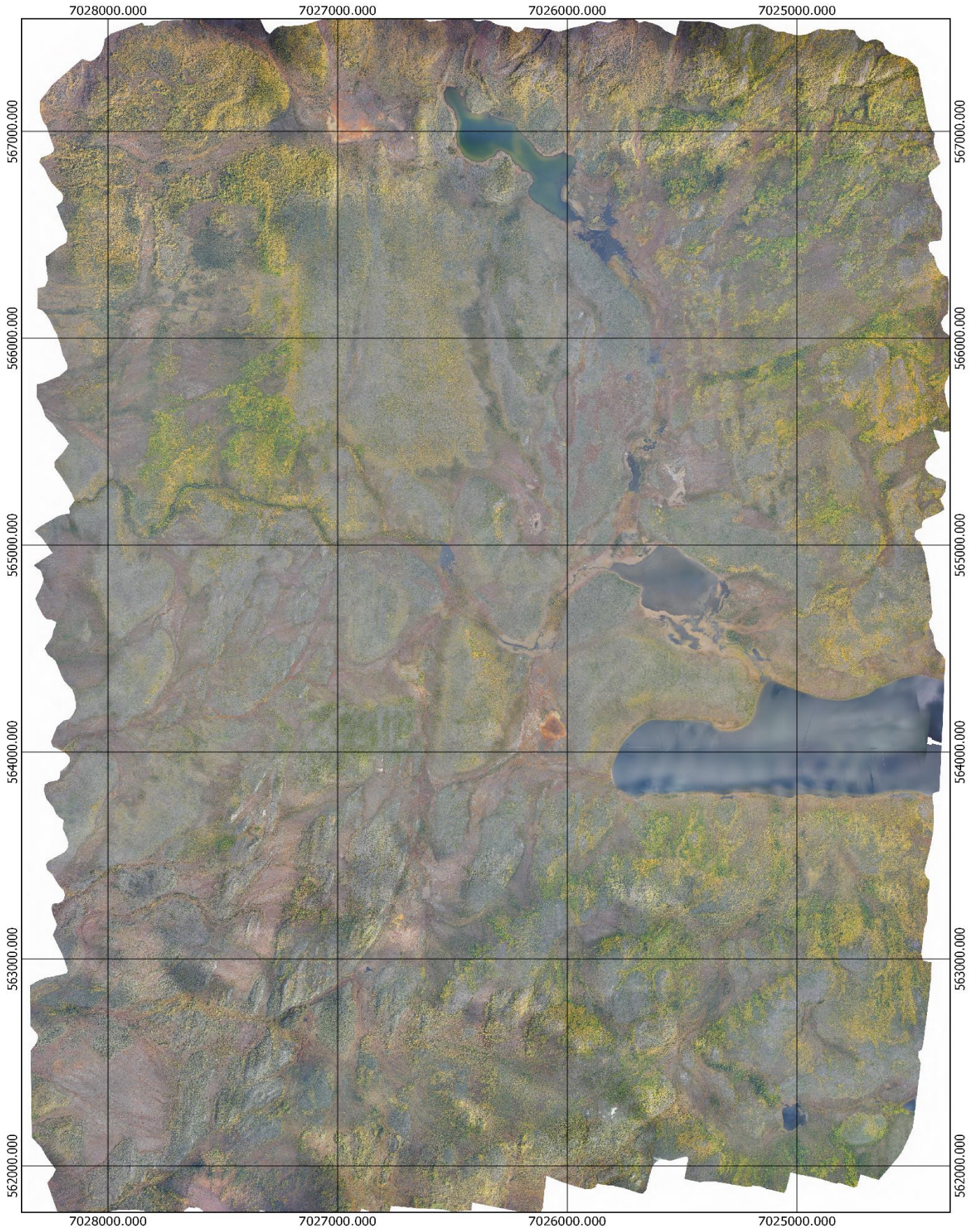
Dated: March 20, 2020

Appendices

Appendix I: Drone Imagery

Appendix II: Full Sized Maps

Appendix I: Drone Imagery



Appendix II: Full Sized Maps

Hess Property

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Map Sheet: 105N/ 05

Kaitlyn Crawford Scale: 1:5000000

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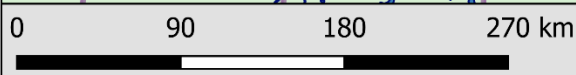
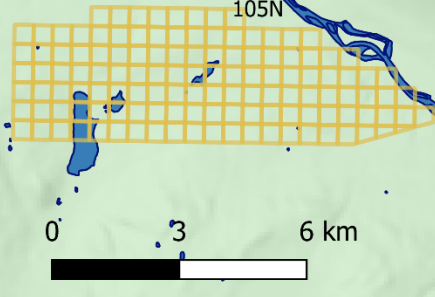
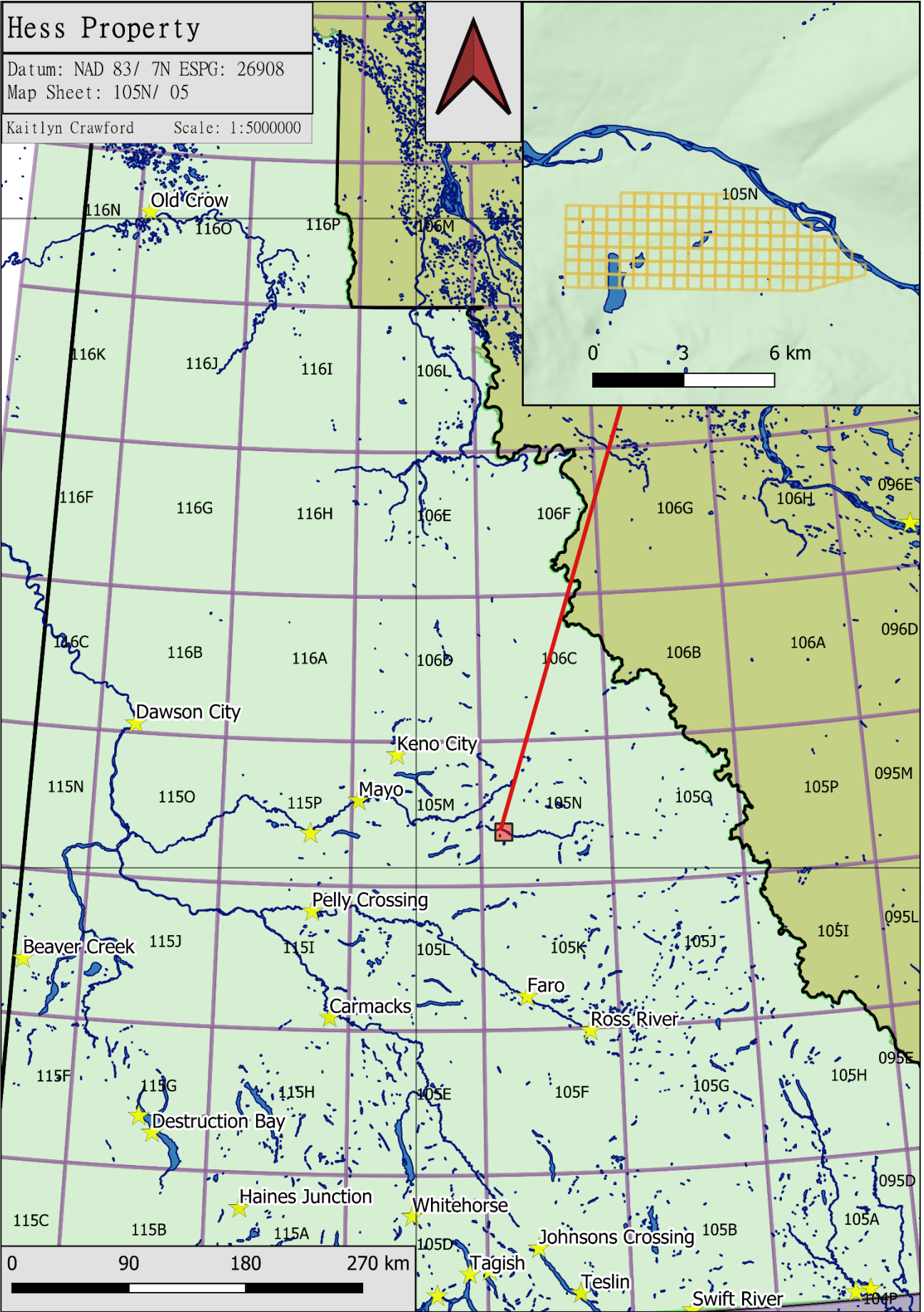


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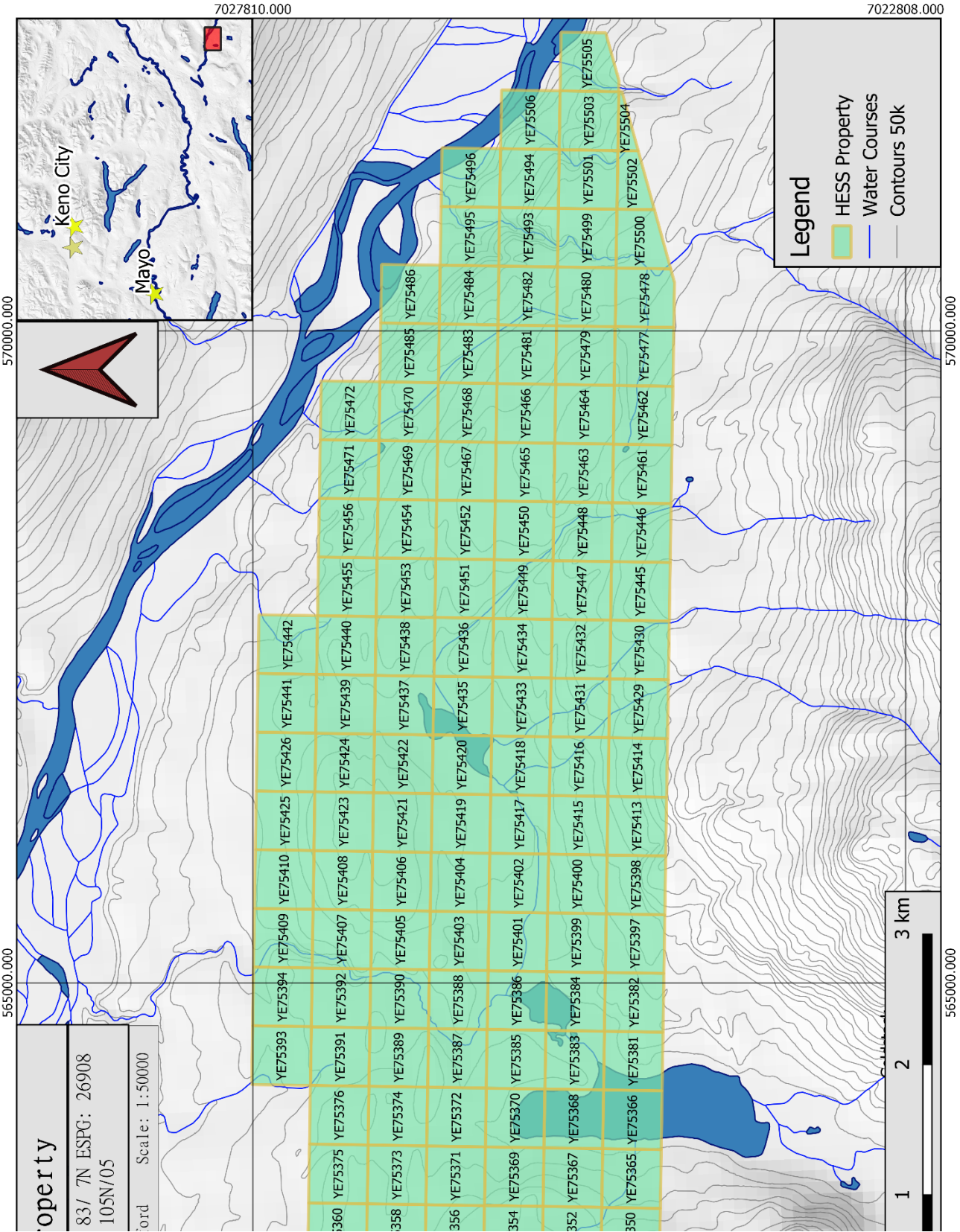
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Property

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105N/05

Scale: 1:50000

Legend

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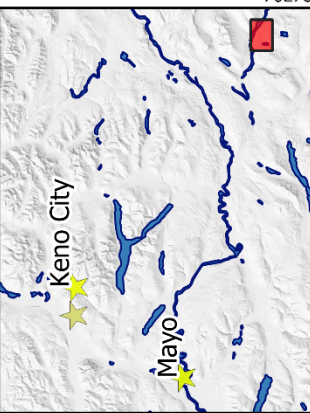
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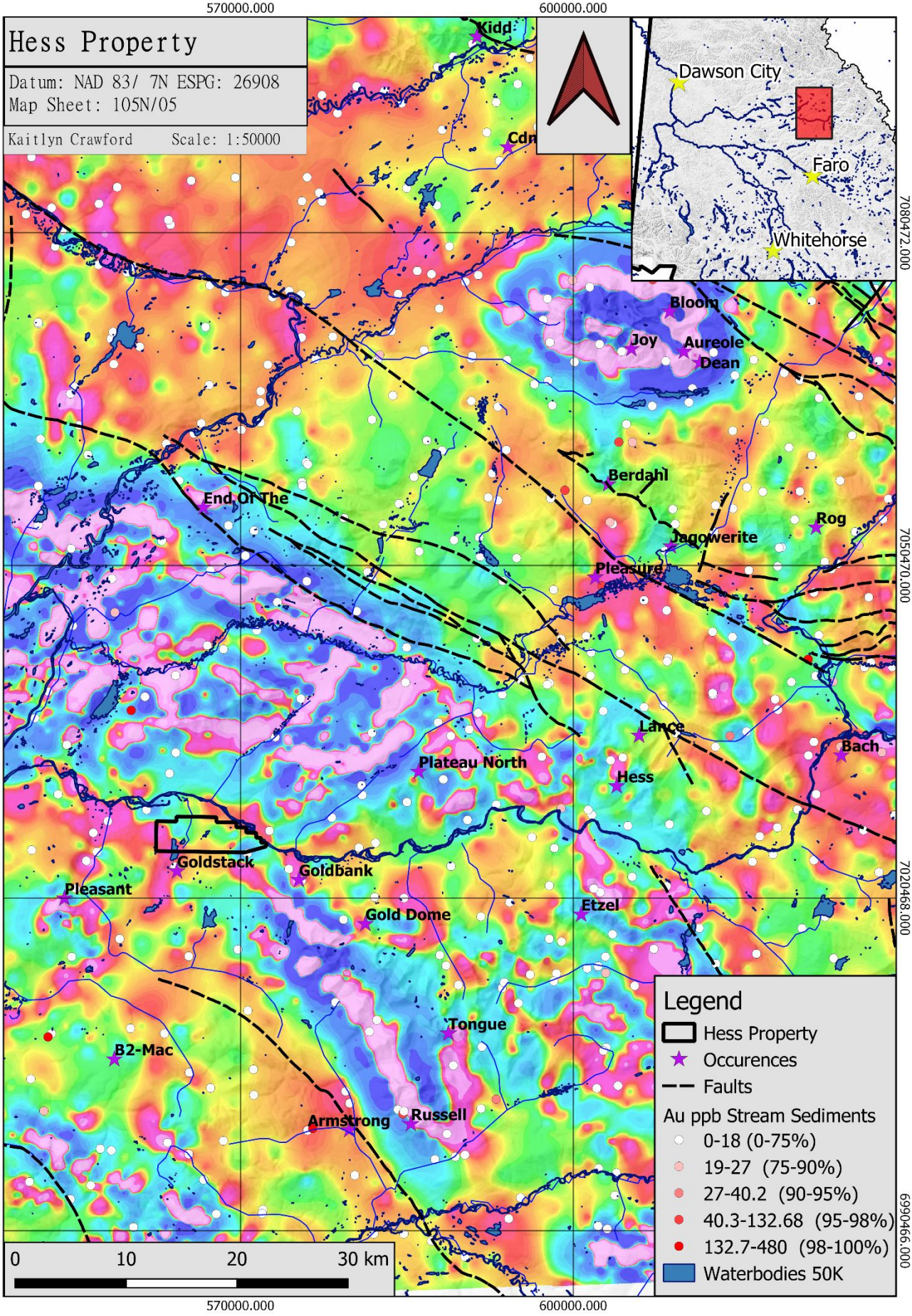
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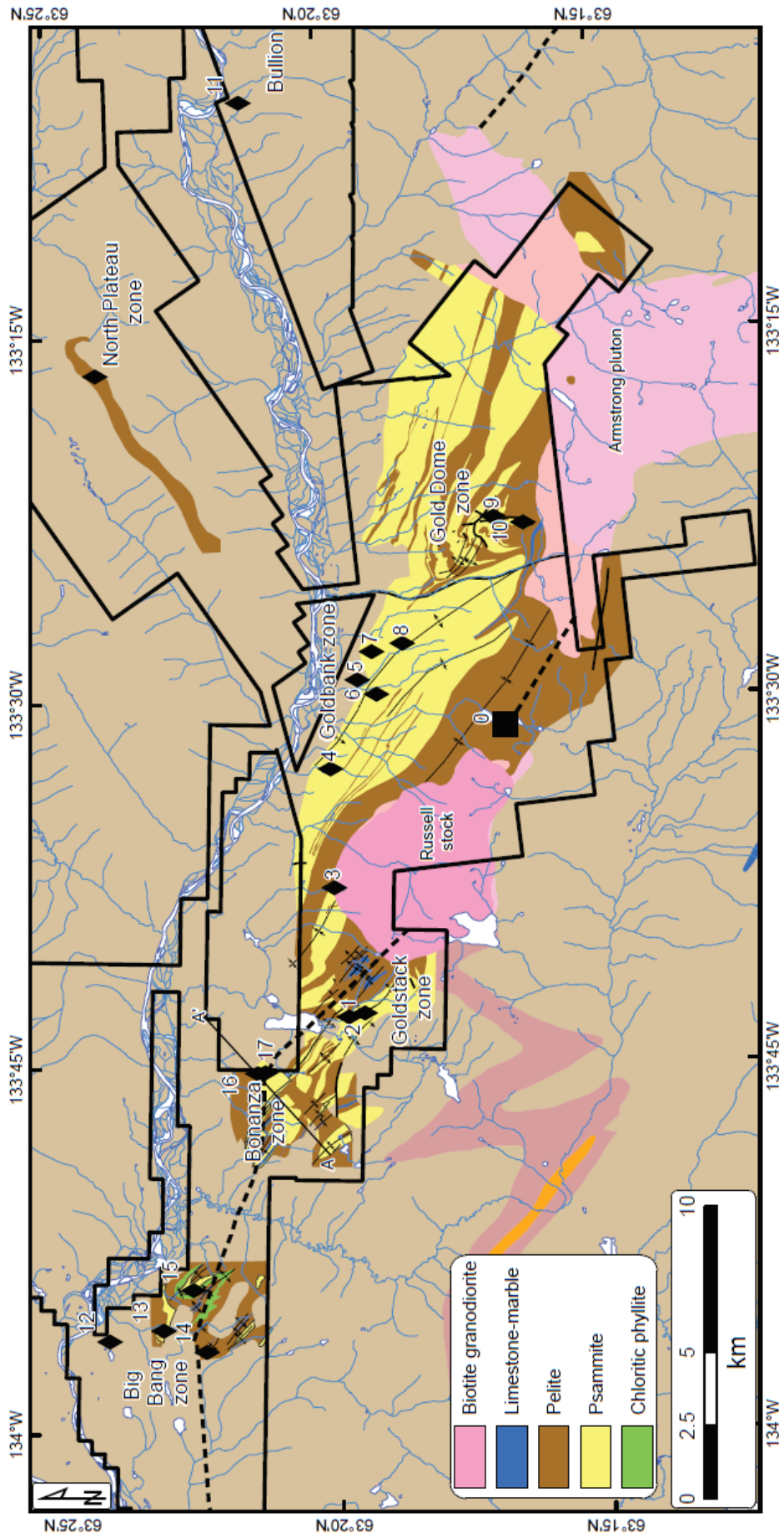
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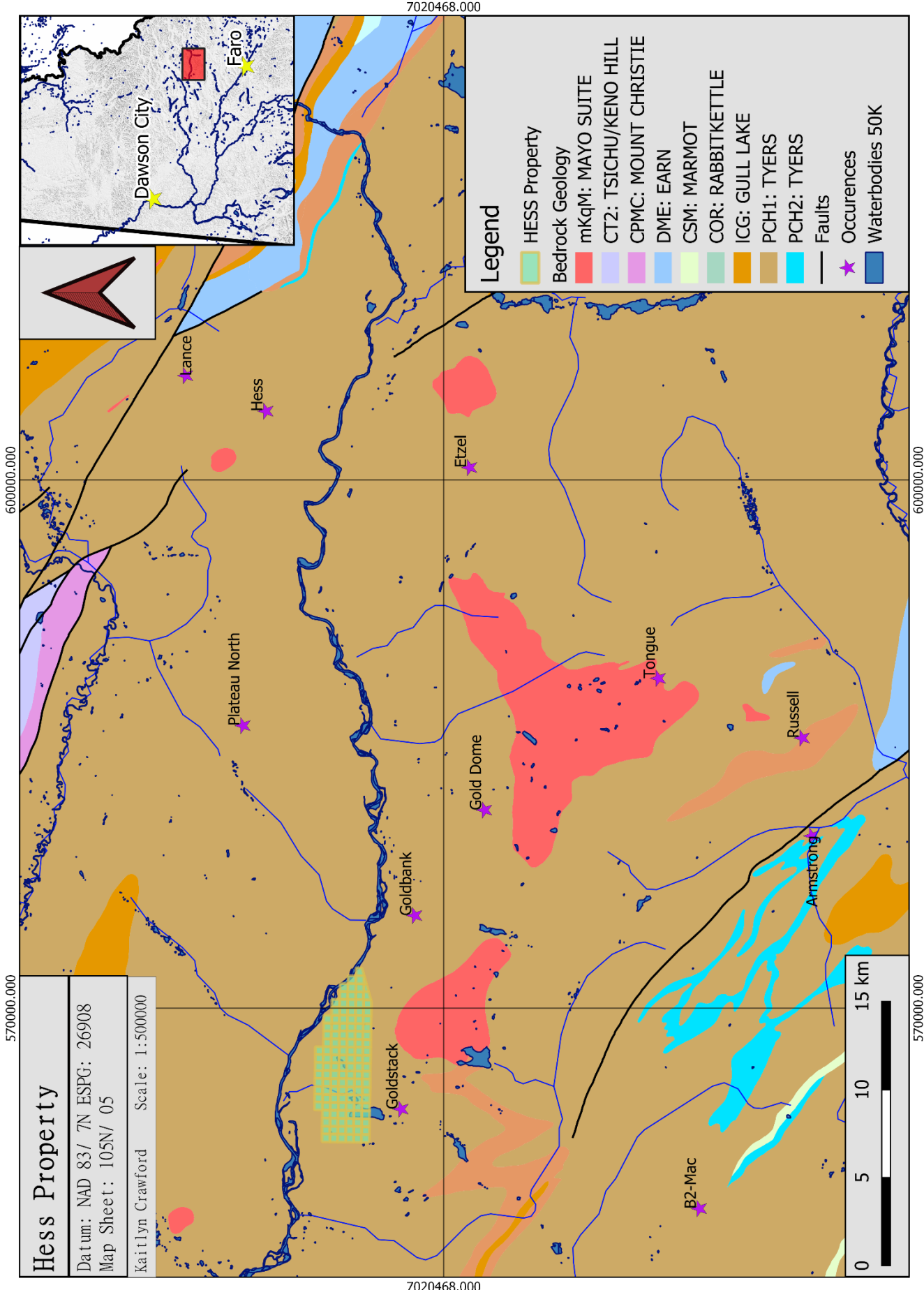
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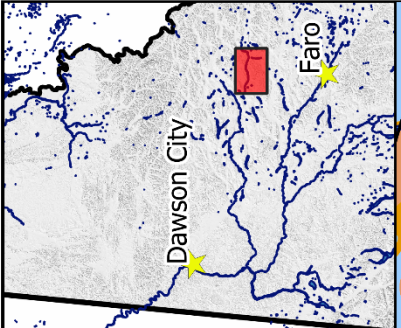
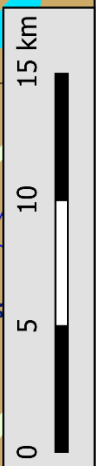


Hess Property

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 Map Sheet: 105N/ 05

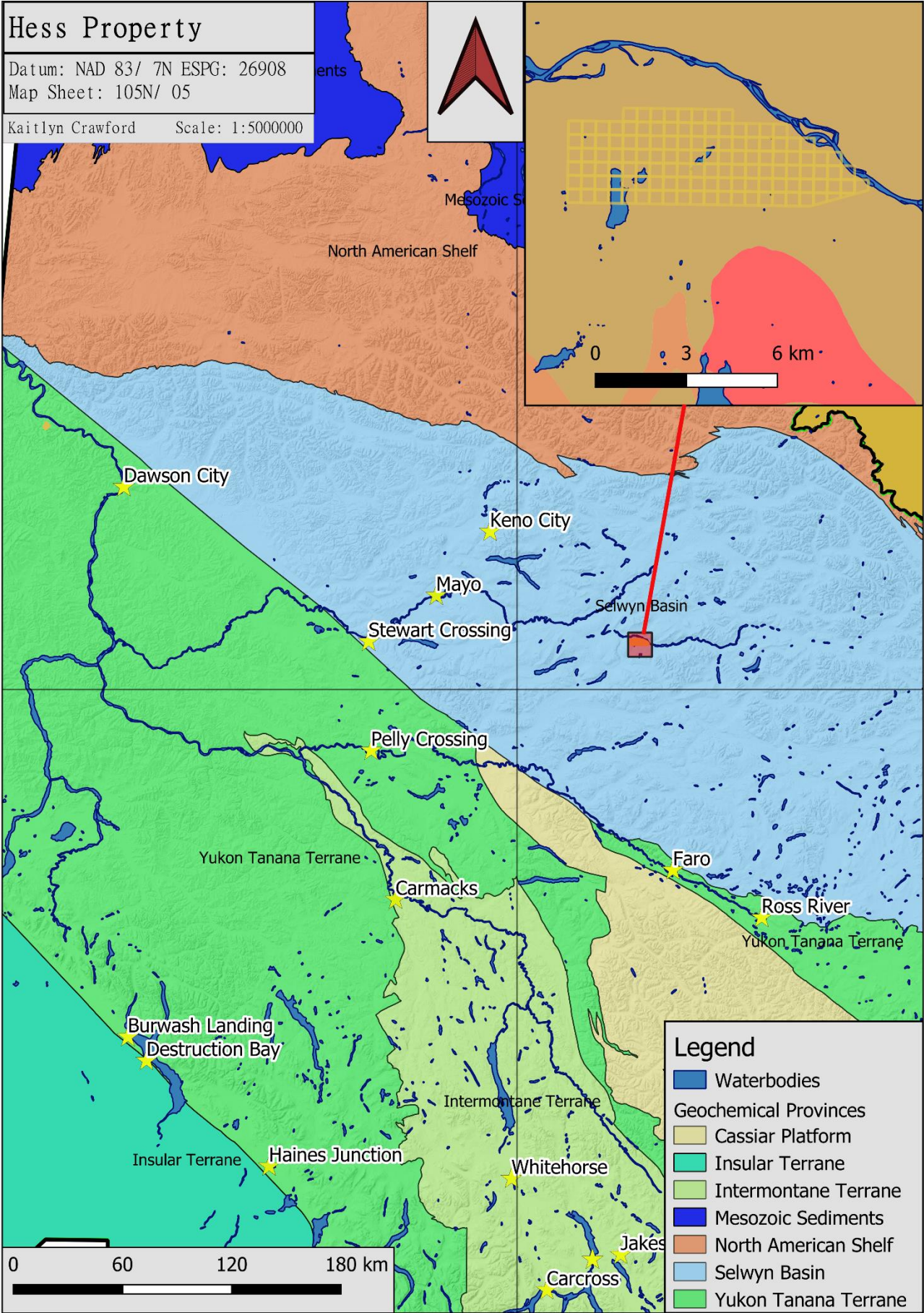
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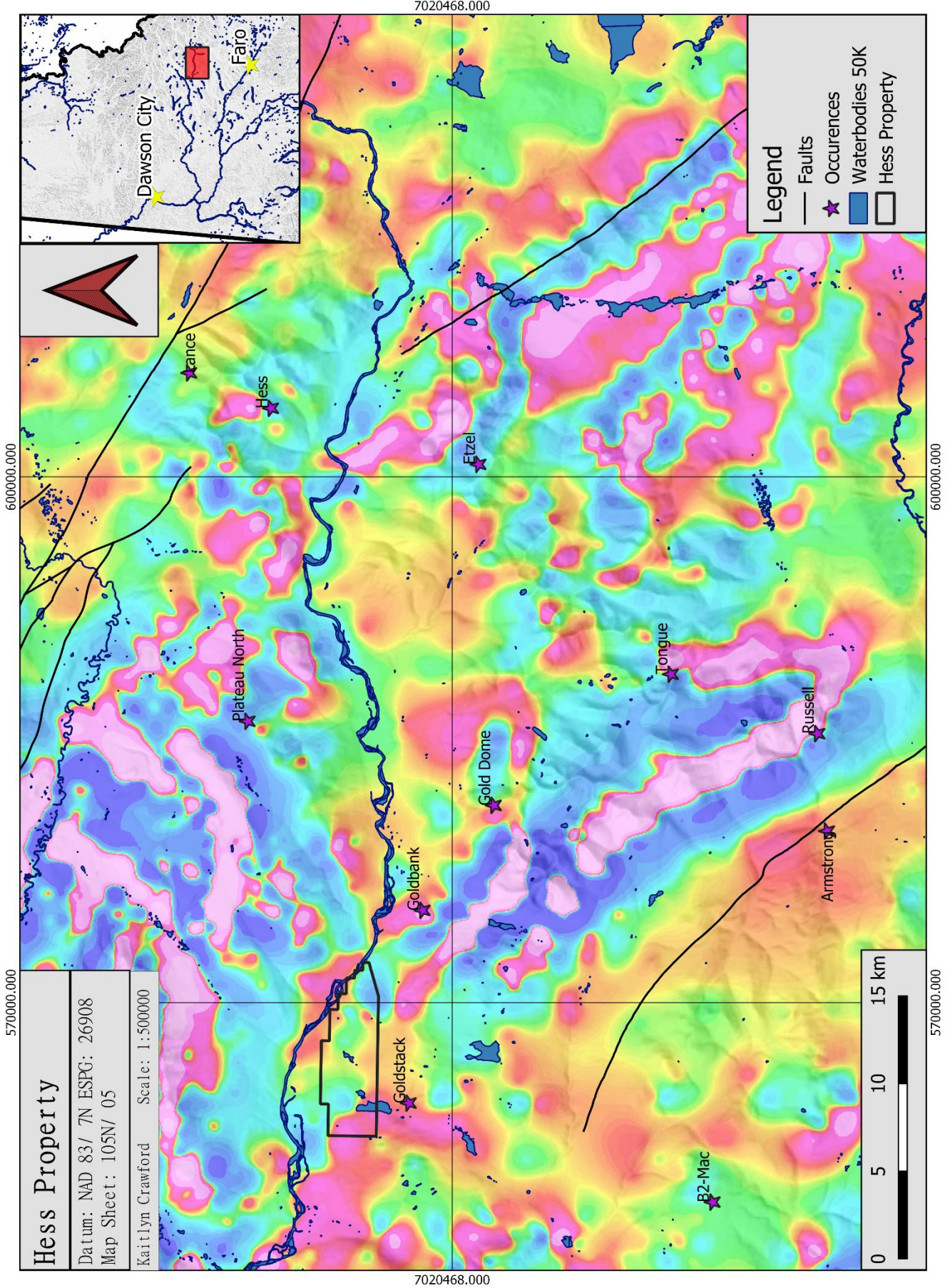
- Legend**
- HESS Property
 - Bedrock Geology
 - mKqM: MAYO SUITE
 - CT2: TSICHU/KENO HILL
 - CPMC: MOUNT CHRISTIE
 - DME: EARN
 - CSM: MARMOT
 - COR: RABBITKETTLE
 - ICG: GULL LAKE
 - PCH1: TYERS
 - PCH2: TYERS
 - Faults
 - Occurrences
 - Waterbodies 50K



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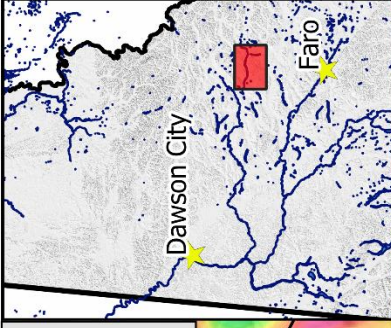
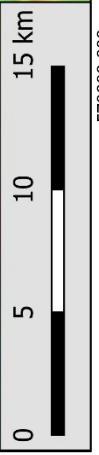




Hess Property
 Datum: NAD 83/ 7N ESPG: 26908
 Map Sheet: 105N/ 05
 Kaitlyn Crawford Scale: 1:500000

Legend

- Faults
- ★ Occurrences
- Waterbodies 50K
- Hess Property

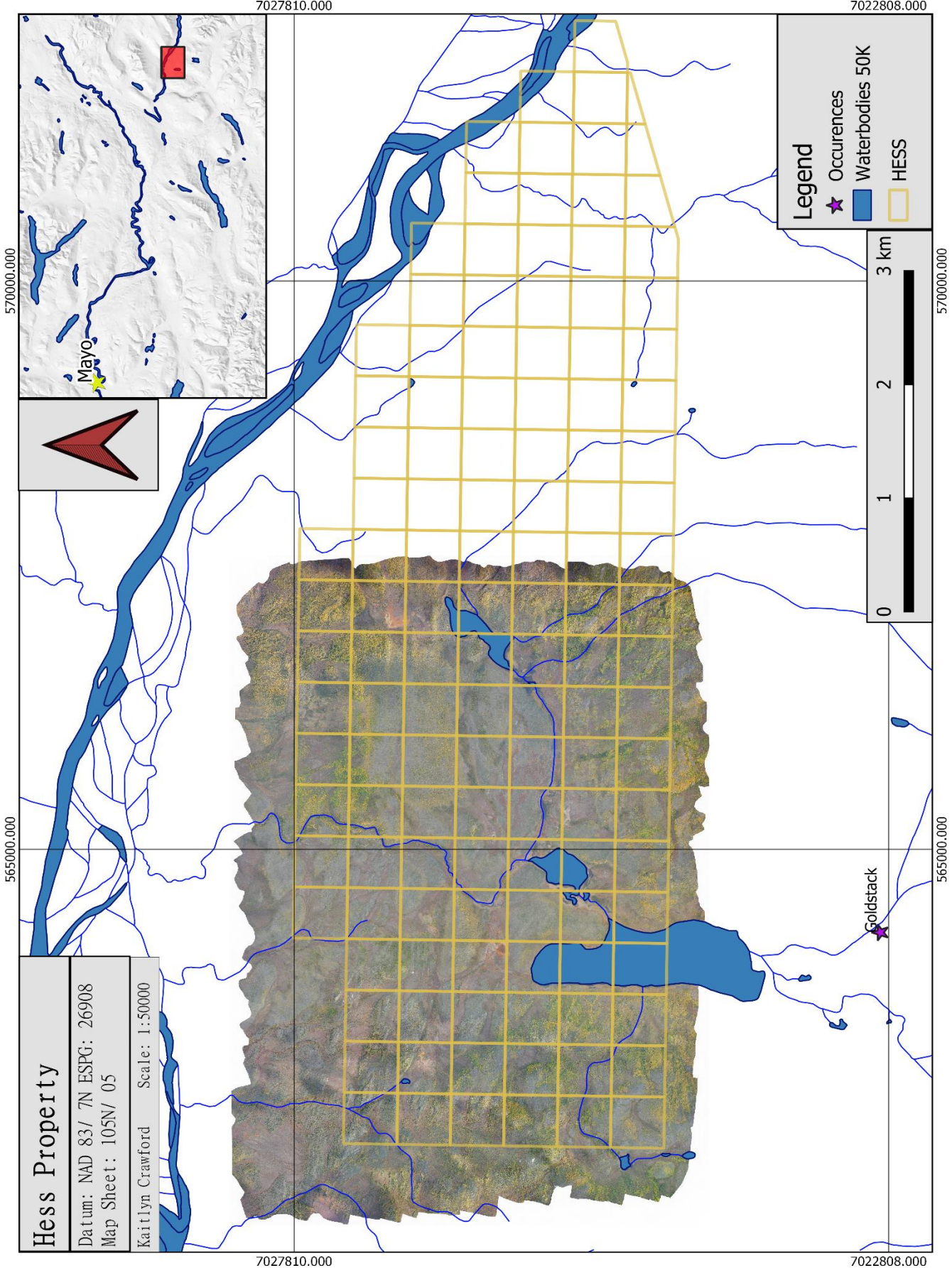


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Hess Property

Datum: NAD 83/ 7N ESPG: 26908
Map Sheet: 105N/ 05

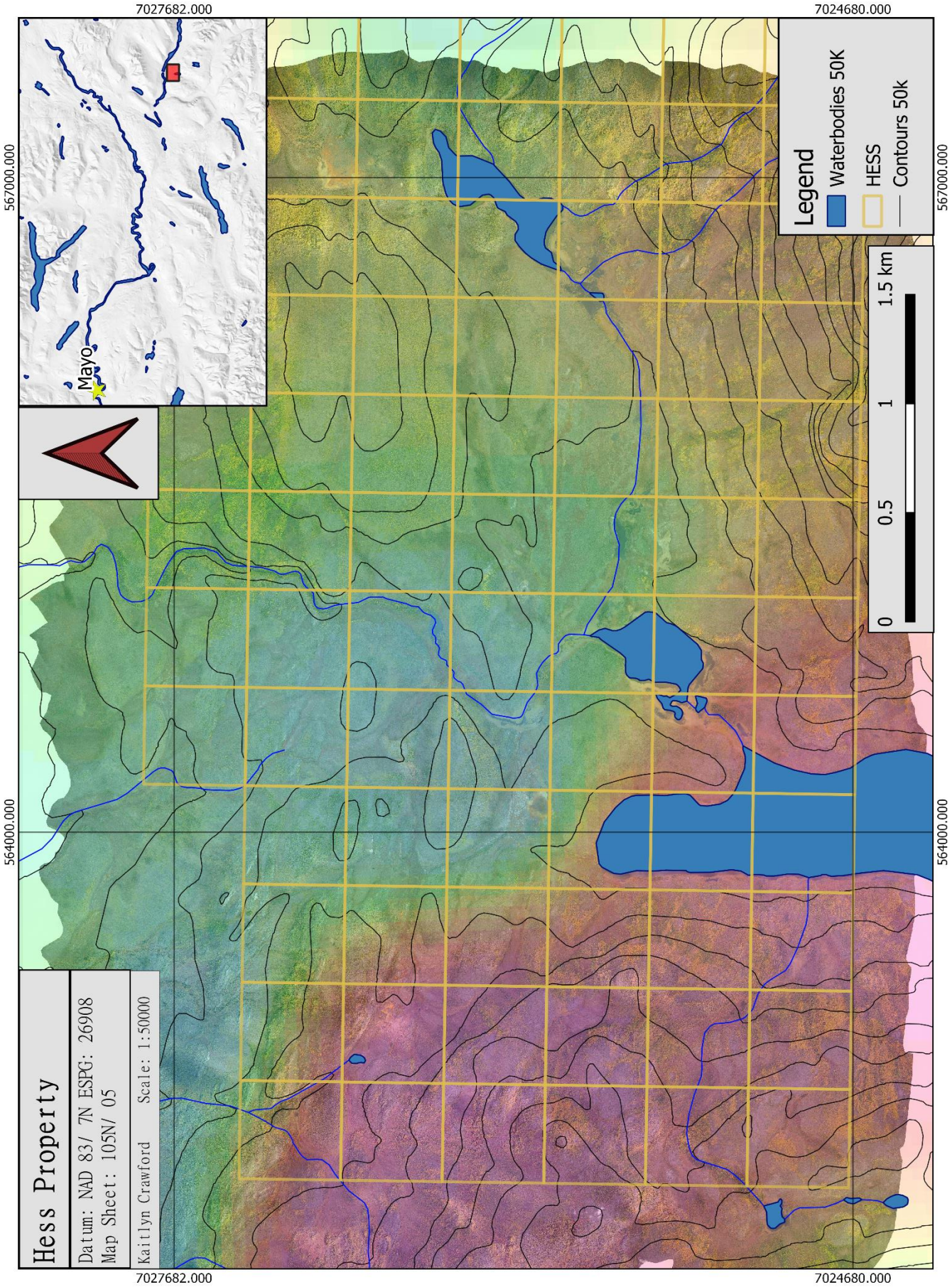
Kaitlyn Crawford Scale: 1:50000



Legend

- Occurrences
- Waterbodies 50K
- HESS





Hess Property

Datum: NAD 83/ 7N ESPG: 26908
Map Sheet: 105N/ 05

Kaitlyn Crawford Scale: 1:50000

Legend

- Waterbodies 50K
- HESS
- Contours 50k

