

Route 109 Property Geological Assessment

LAURENTIA



EXPLORATION

Laurentia Exploration Inc.

Jan 2021

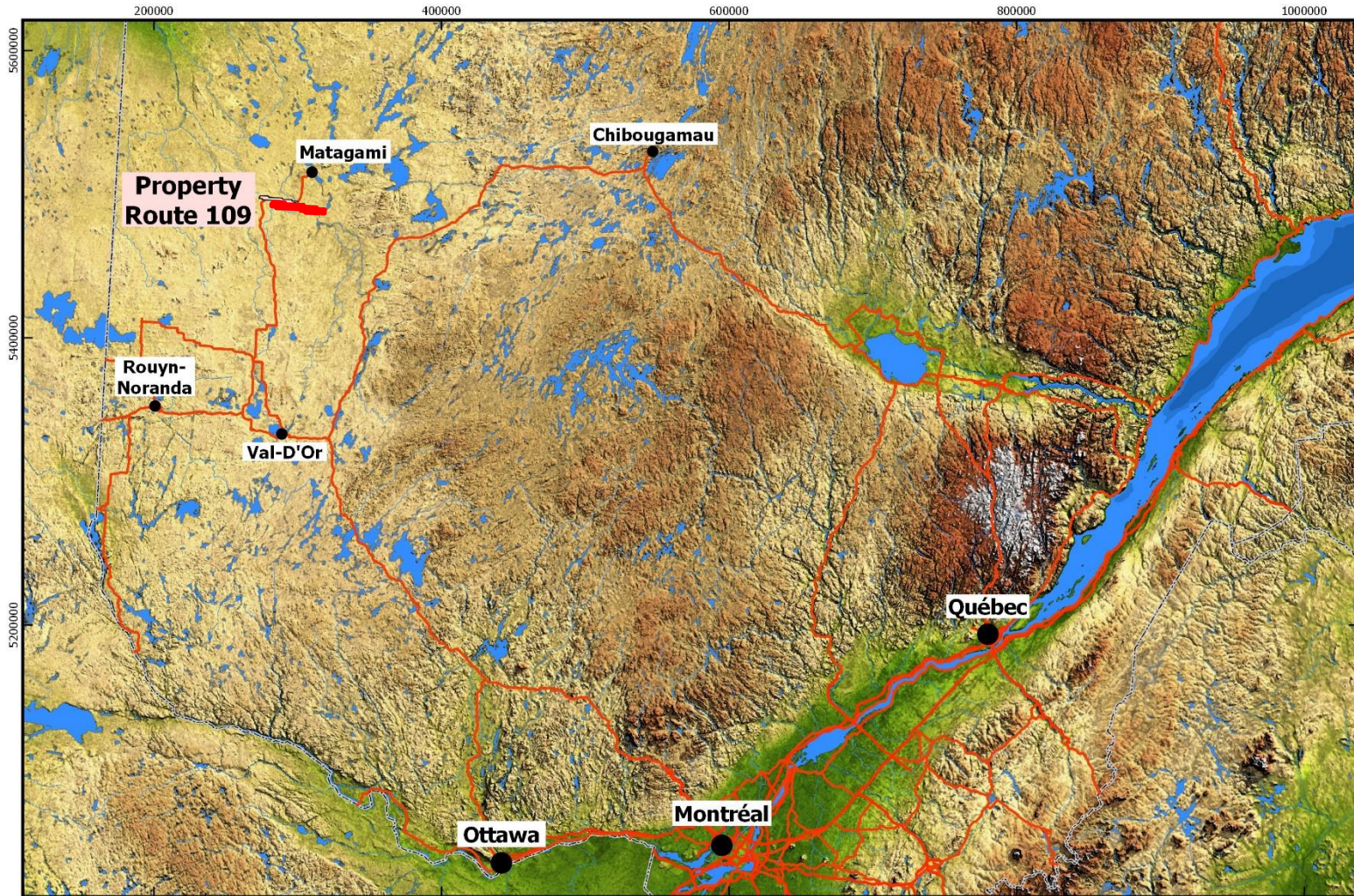


Summary

1. Project Location
2. Regional Geology
3. Property Geology
4. Geophysics
5. Previous Exploration Work
6. Mineral Deposits / Occurrences
7. Potential Targets
8. Recommendations
9. Summary



1- Project Location



 Route 109 property outline

Regional Location for Route 109 Property, Abitibi, Québec.

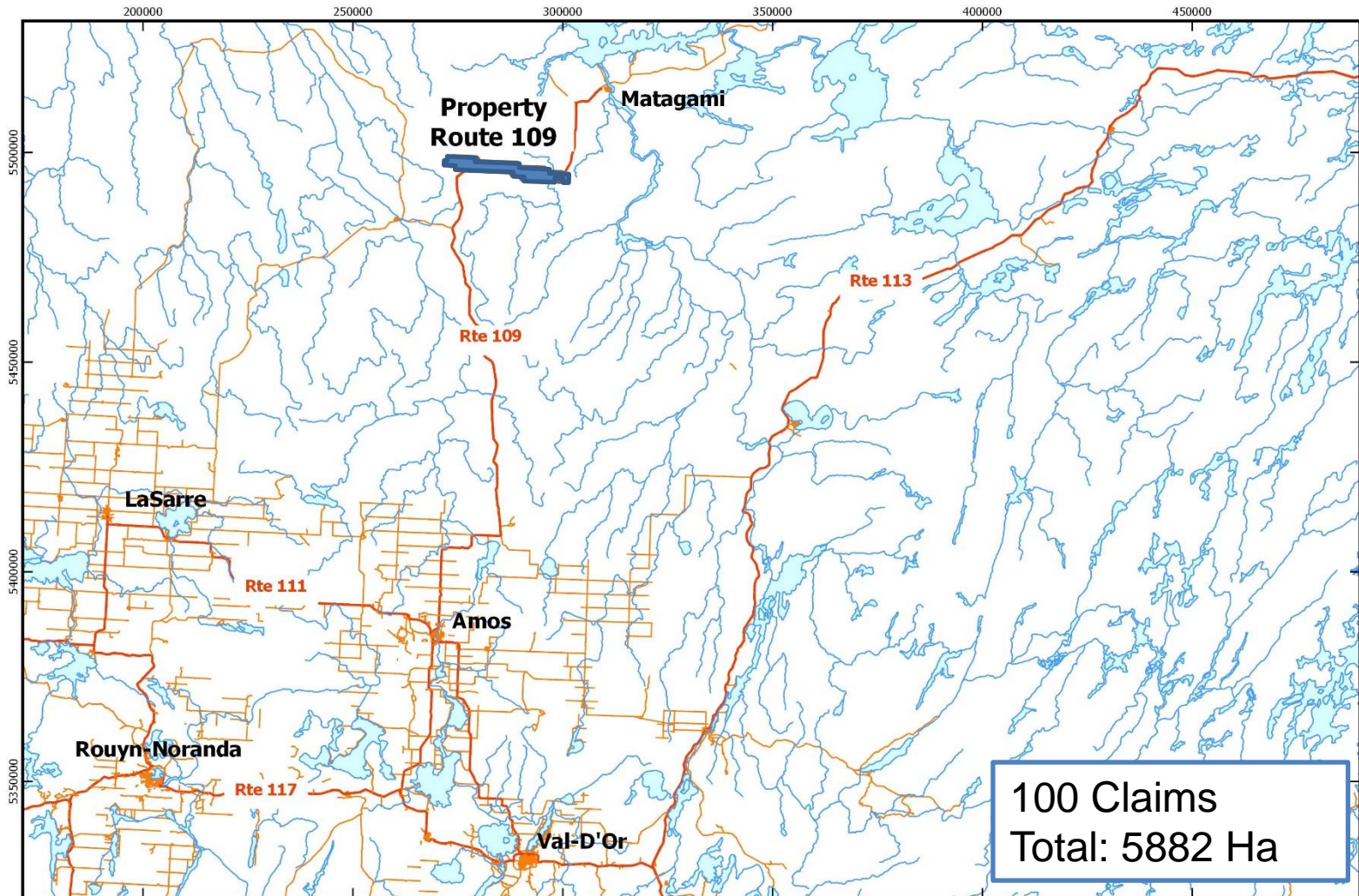
0 50 100 km




1: 3 500 000



1- Project location



 Route 109 property outline

Regional Location for Route 109 Property, Abitibi, Québec.

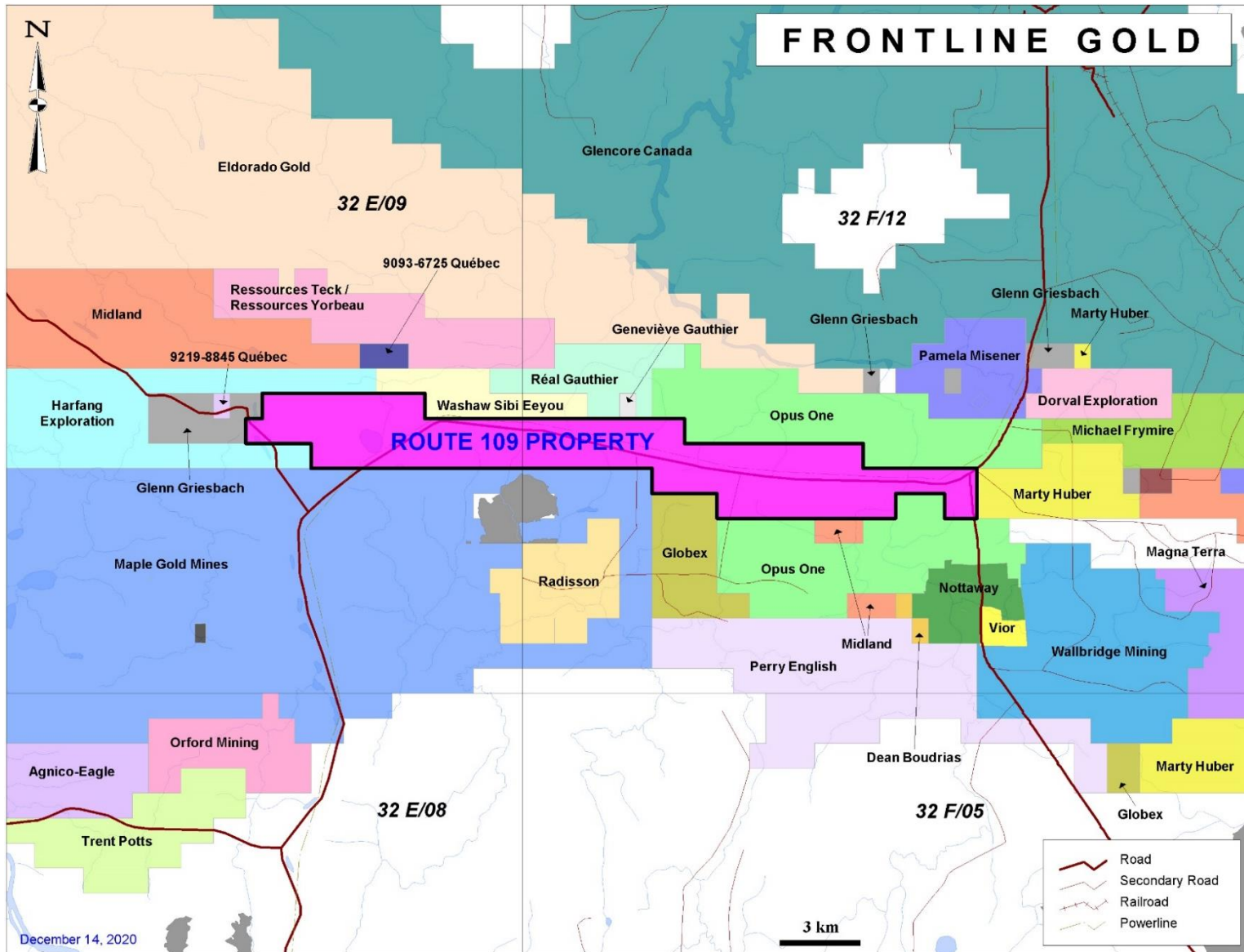
0 50 100 km



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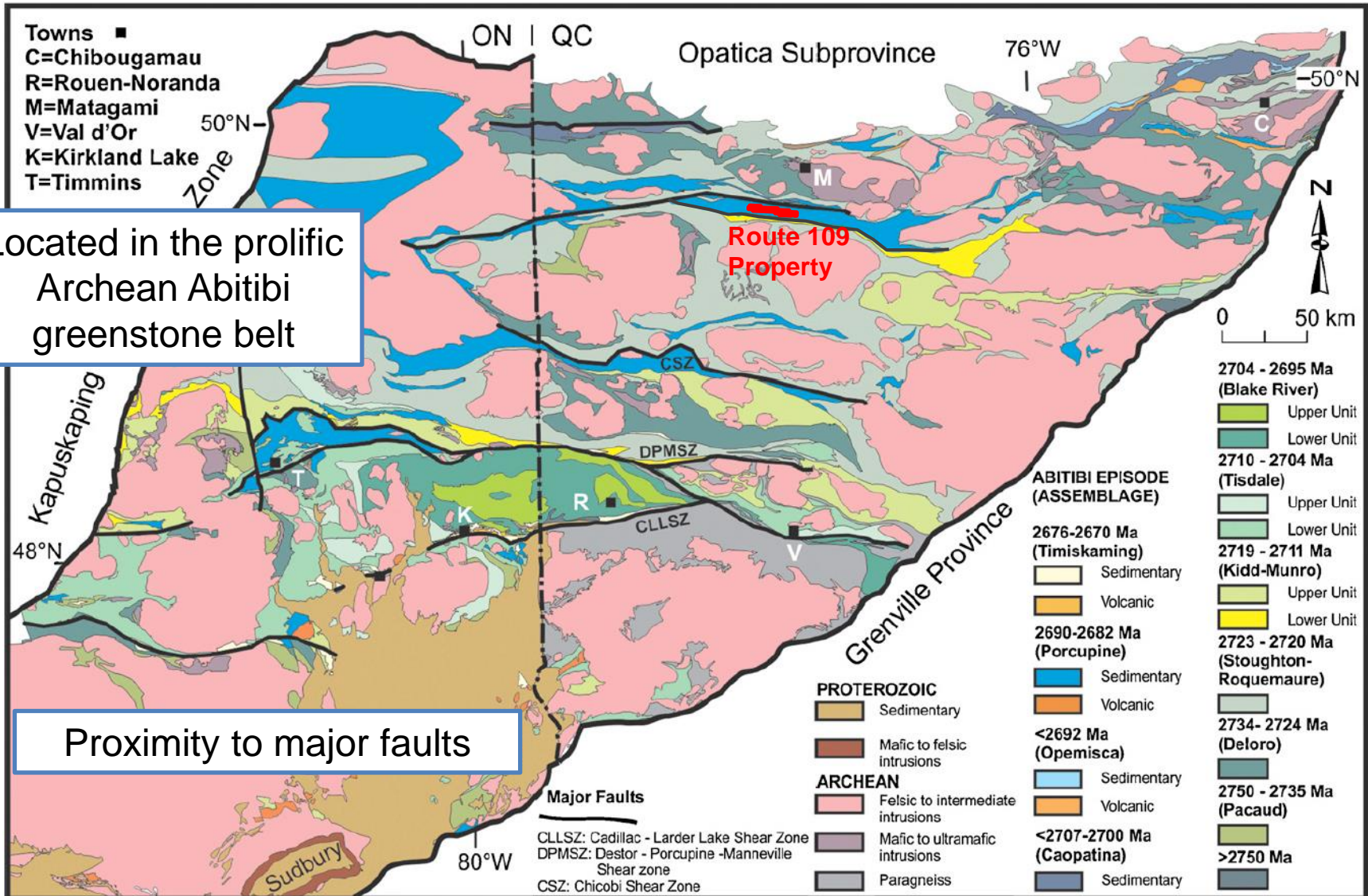
1- Project location: Claims





1- Project Location: Abitibi belt

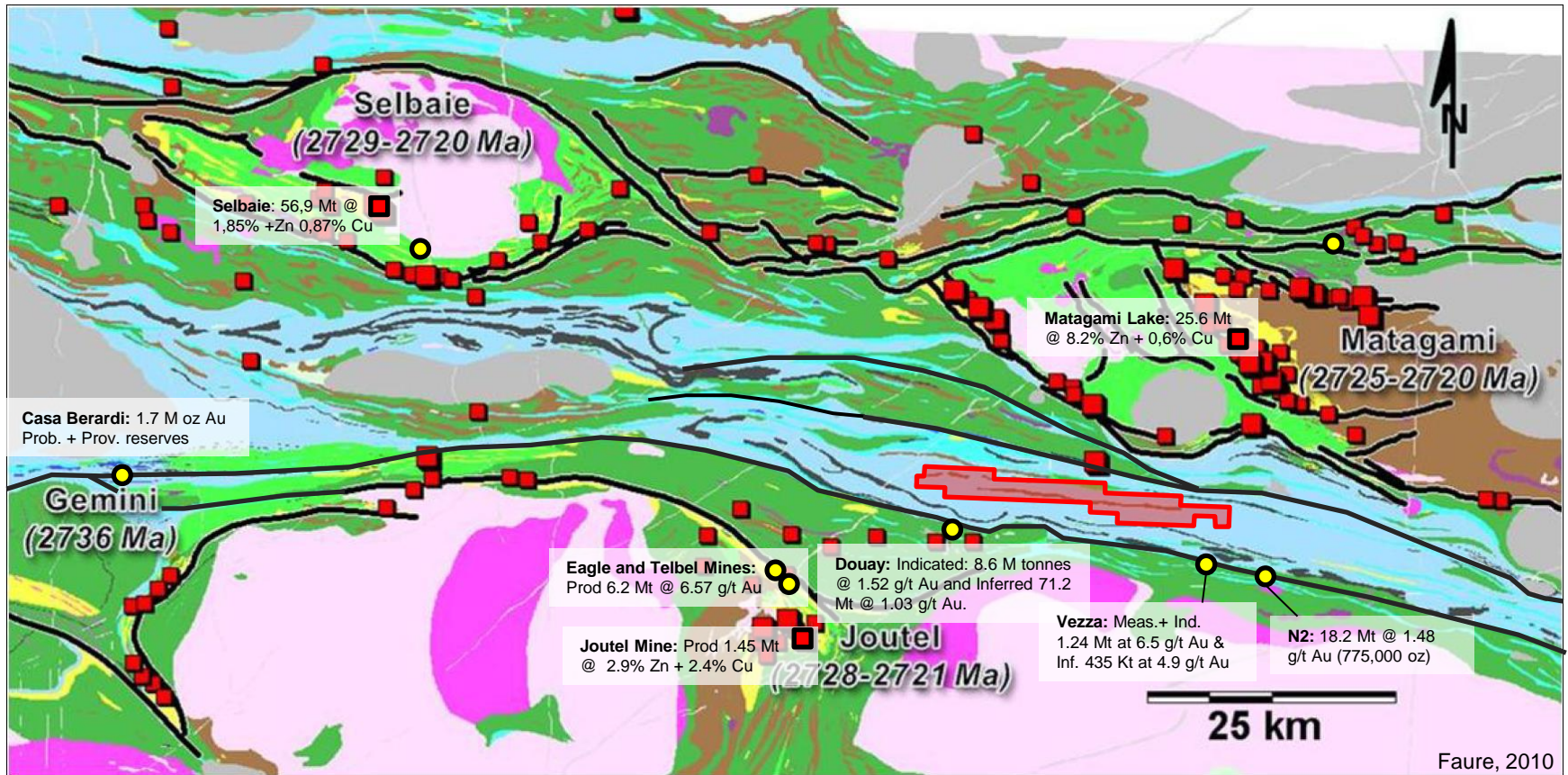
Located in the prolific Archean Abitibi greenstone belt



Proximity to major faults



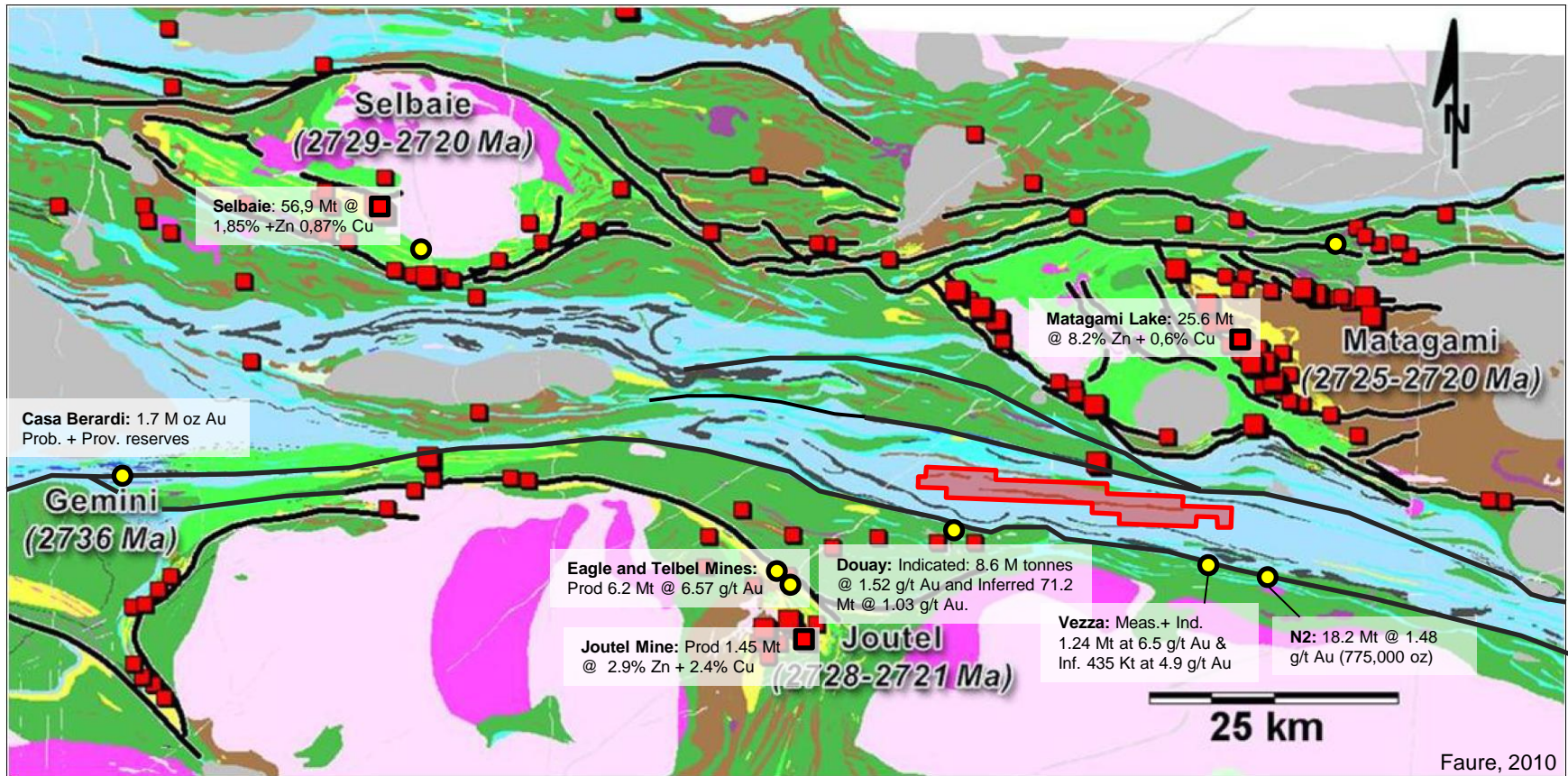
2 - Regional Geology



- Significant base metals deposits/ occurrences shown as red squares.
- Significant gold deposits/ occurrences shown as yellow circles.
- Black lines represent major faults.



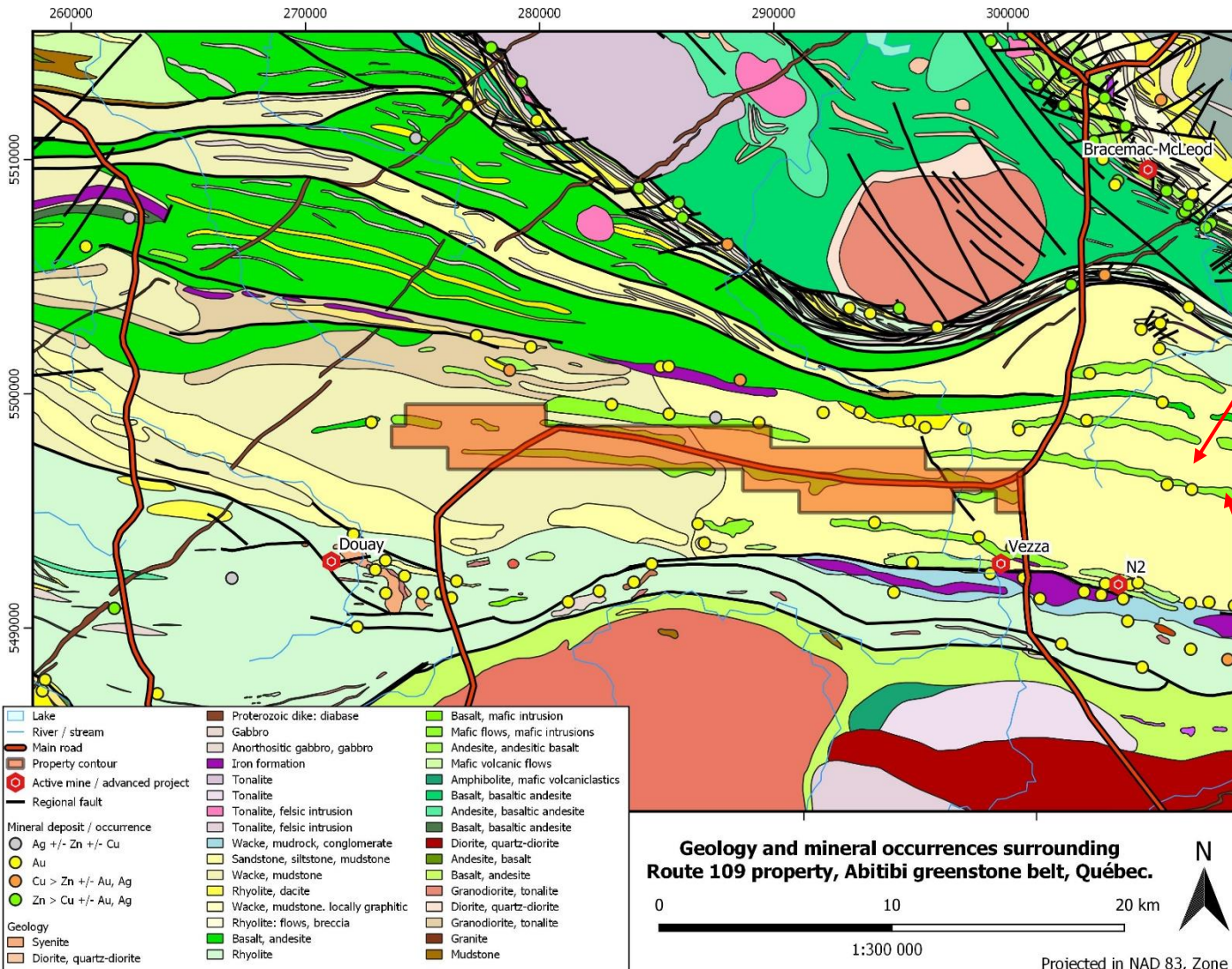
2 - Regional Geology



- The property is located within the Turgeon-Harricana greenstone belt, a segment the of the Archean Abitibi subprovince. It is located along a sedimentary basin between the Matagami and the Joutel VMS camps.
- The sediments are bound by two major deformation corridors, known to be associated to gold mineralization, that separate them from volcanic complexes. The Casa – Cameron deformation corridor occurs to the south of the property and the Casa Berardi – Cavalier corridor is found along the northern edge of the sediments.



3- Property Geology



Taibi Domain sediments

Taibi Sedimentary Domain is composed of clastic sediments (sandstone, siltstone and minor mudstone) associated with a turbidite sequence.

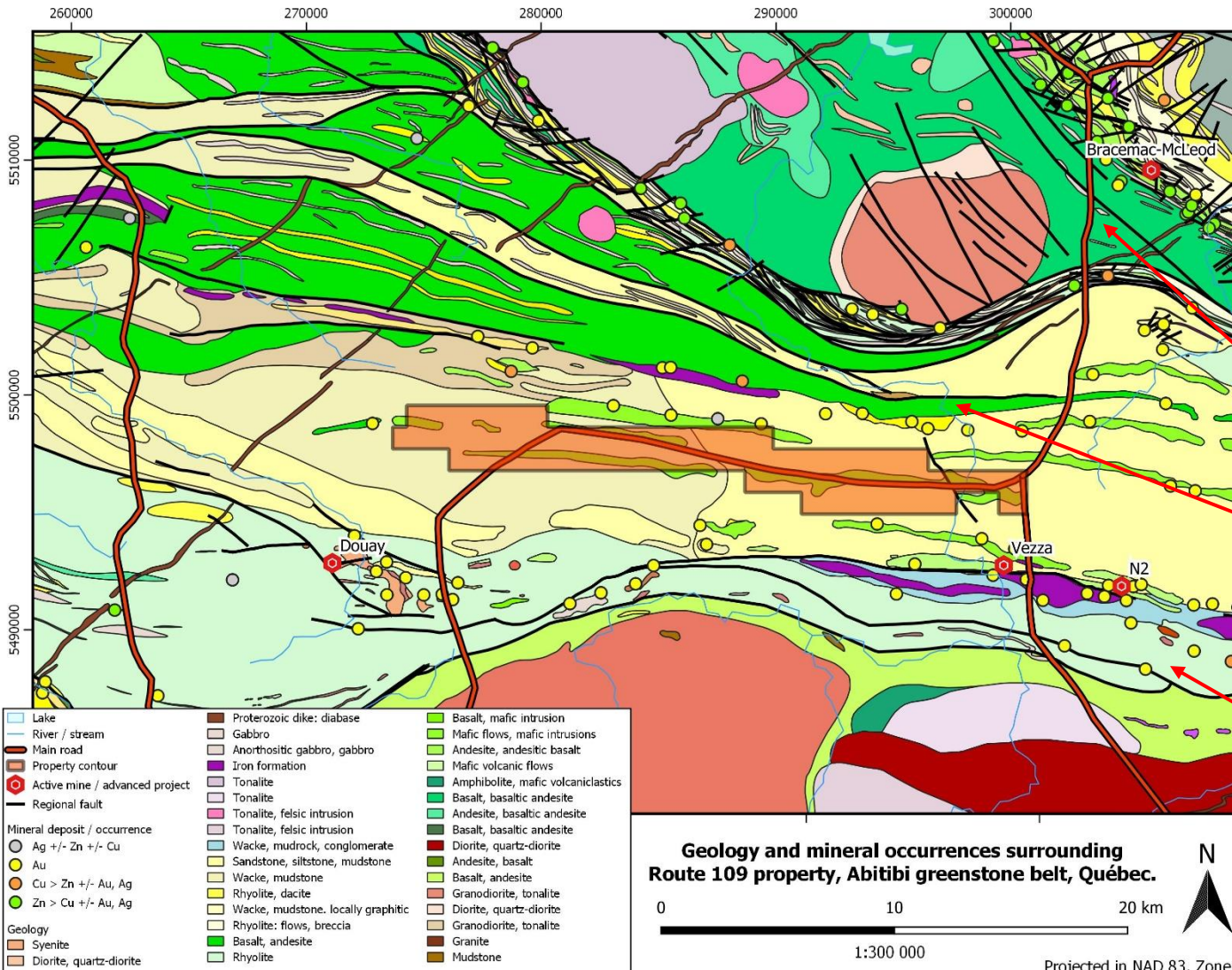
Mafic volcanic flows and minor felsic tuffs horizons are intercalated in the sedimentary sequence, in a proportion of 10 to 20%.

Mafic flows can have several hundreds of meters in thickness and traced over up to 10 km.

Also includes bands of oxide facies iron formations.



3- Property Geology



Taibi Group sediments

In structural contact with volcanic sequences to the North and South (major deformation corridors).

To the North:

Bimodal volcanic complex of the Wabasse Domain

Andesites and basalts of the Orvillier-Desmazures Domain.

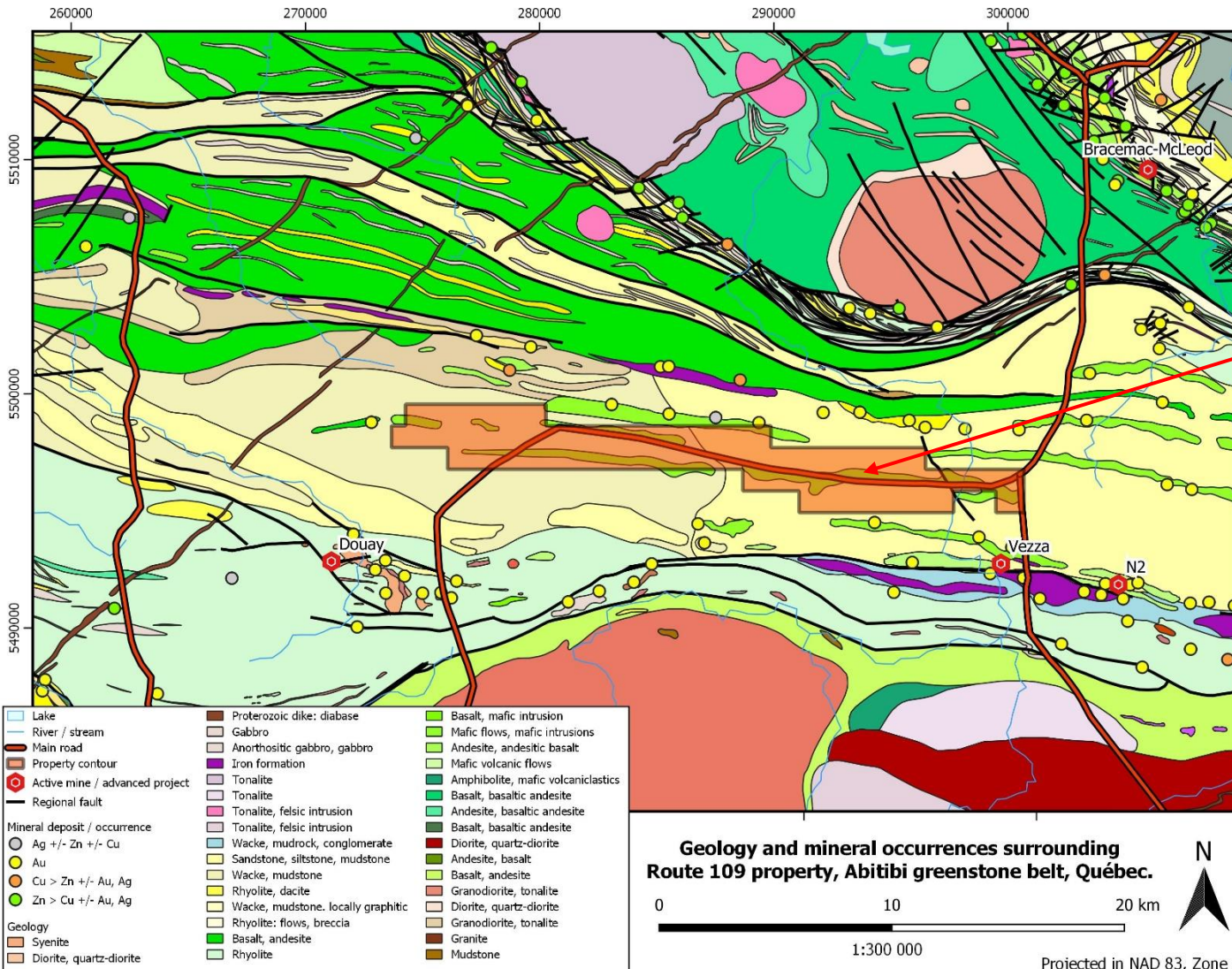
To the South: komatiitic basalts of the Cartwright volcanic domain.



3- Property Geology

The property:

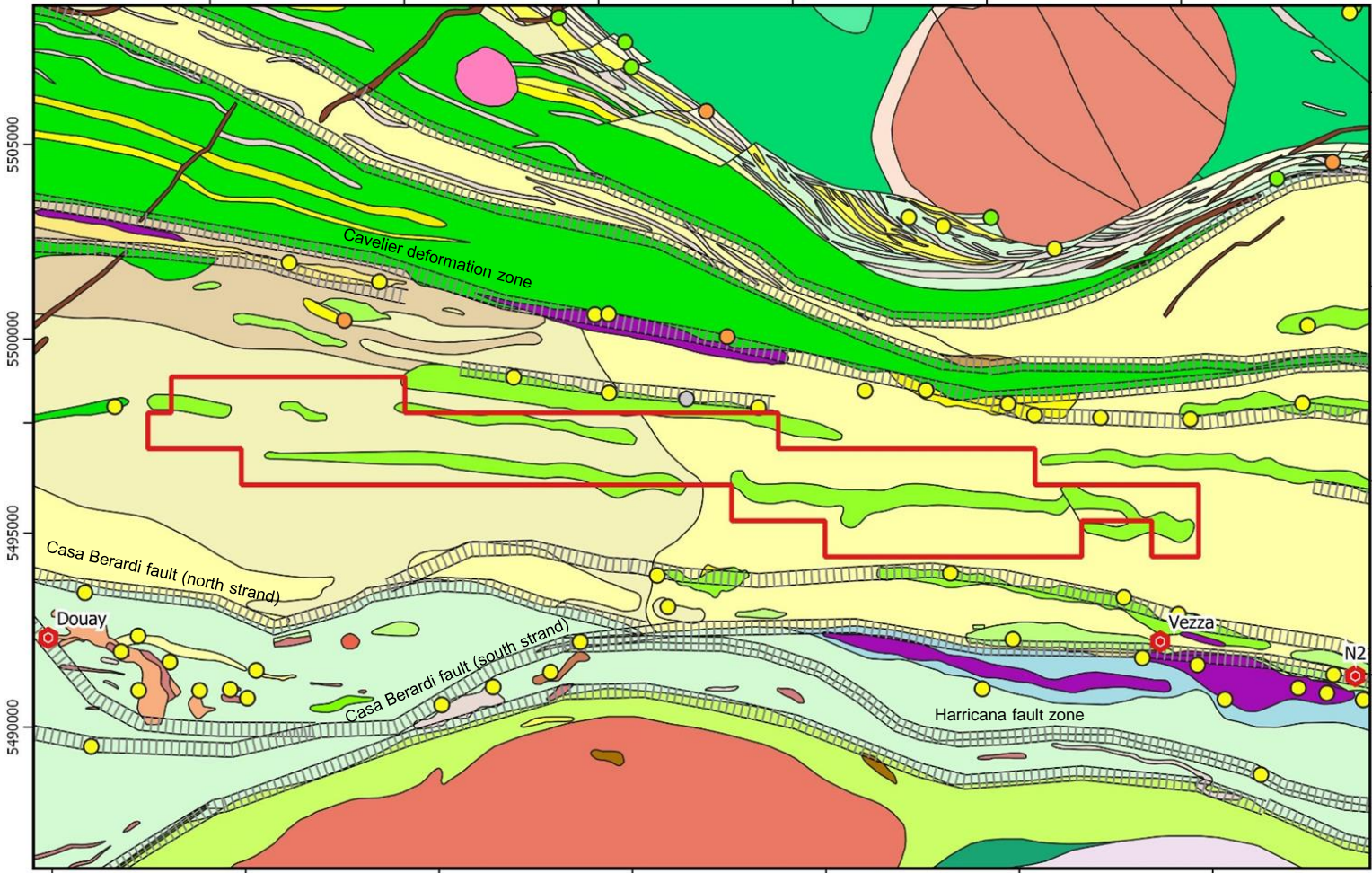
- Lies entirely within the Taibi domain sediments
- Comprises km-long mafic flows intruded within the sediments





3- Property Geology: Structural Geology

275000 280000 285000 290000 295000 300000



- Route 109 region:**
- Host multiple known E-W trending shear zones of variable width
 - Several of the shear zones host gold occurrences
 - Main deformation corridors extend for 10's km
 - Three significant gold deposits in the immediate region of the property (Douay, Veza, and N2)
 - Part of the gold rich Casa Berardi – Cameron deformation corridor

Mineral deposit / occurrence

- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag

Deformation corridor

- ▨ Active mine / advanced project
- ▭ Property outline

Geology, compiled deformation corridors / shear zones, and mineral occurrences in the vicinity of Route 109 property, Québec.

0 5 10 km

1: 200 000

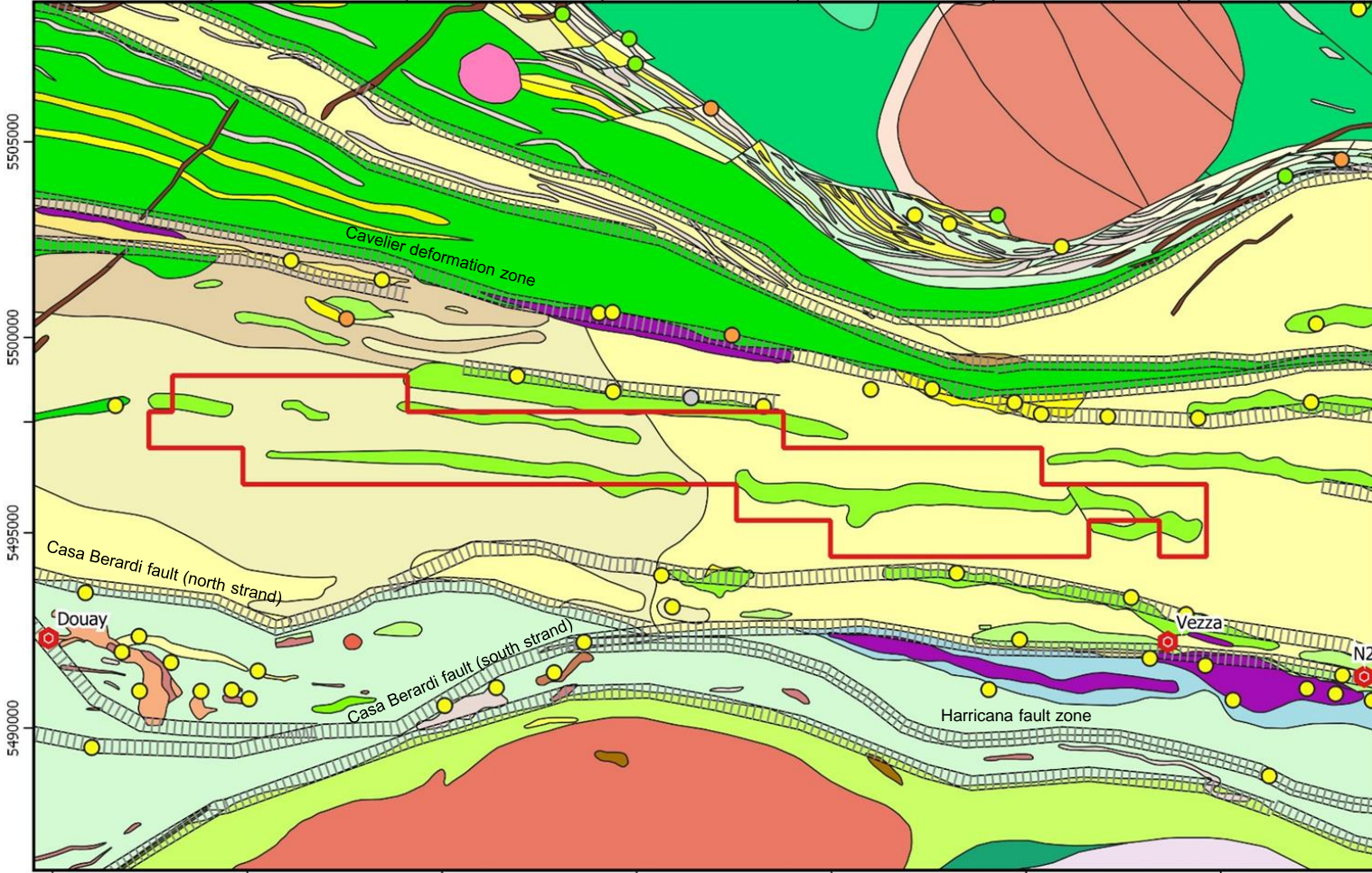


Projected in NAD 83, Zone 18



3- Property Geology: Structural Geology

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The Casa Berardi – Cameron deformation corridor consist of multiple 10's to 100's of metres wide zone of high strain

- strong association with gold mineralization.

- Strong strain partitioning with low deformation domain adjacents to high strain zones

- Contacts between large mafic flows and sediments represent favorable plane for shear zone nucleation

- Veza and N2 deposits are shear zone-hosted gold deposits emplaced along volcanic-sediment contacts

Mineral deposit / occurrence

- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag

▨ Deformation corridor

- ⊙ Active mine / advanced project
- ▭ Property outline

Geology, compiled deformation corridors / shear zones, and mineral occurrences in the vicinity of Route 109 property, Québec.

0 5 10 km

Route 109 Property Assessment

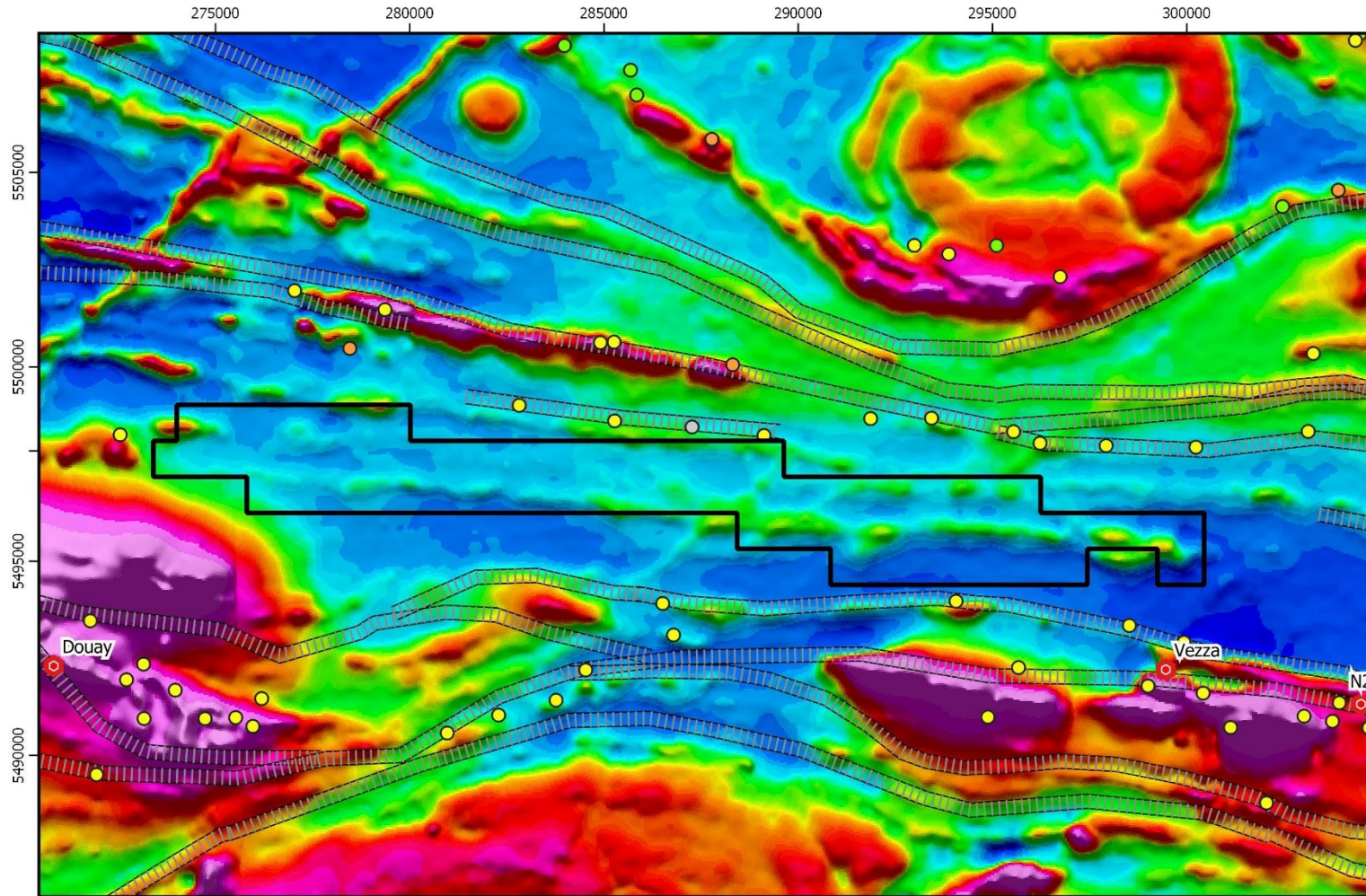
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Projected in NAD 83, Zone 18



4- Geophysics



- Regional compilation of airborne magnetic and EM data
- Mag data useful to outline main geological feature in the region
- EM data not too useful. No significant anomalies within the property.

- | | |
|------------------------------|--------------------------------|
| Mineral deposit / occurrence | Property outline |
| ○ Ag +/- Zn +/- Cu | Deformation corridor |
| ● Au | Active mine / advanced project |
| ● Cu > Zn +/- Au, Ag | |
| ● Zn > Cu +/- Au, Ag | |

Airborne regional total magnetic intensity, mineral occurrences, deformation corridors; Route 109 property, Québec.

0 5 10 km

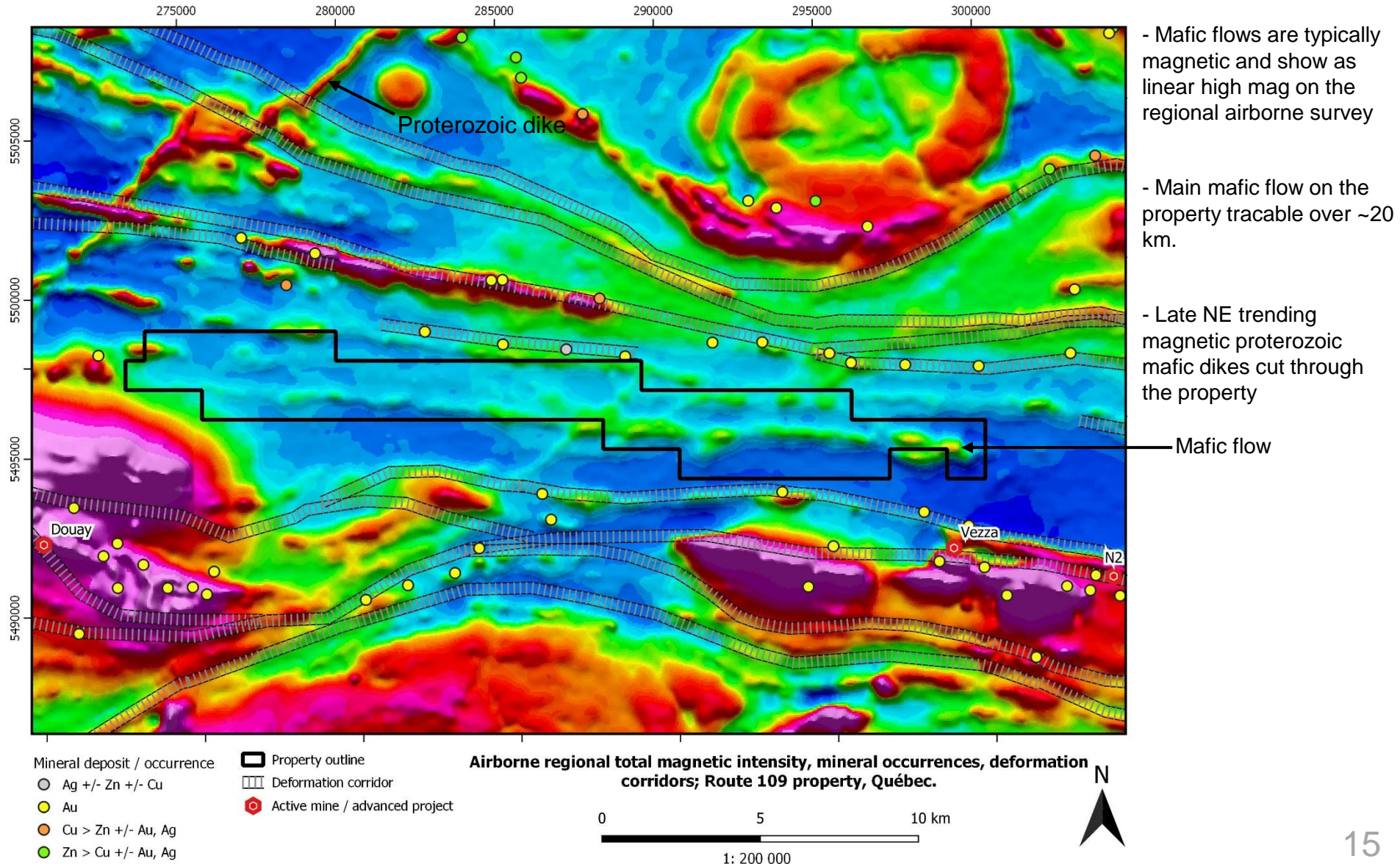
1: 200 000



Projected in NAD 83, Zone 18



4- Geophysics



- Mafic flows are typically magnetic and show as linear high mag on the regional airborne survey

- Main mafic flow on the property tracable over ~20 km.

- Late NE trending magnetic proterozoic mafic dikes cut through the property



4- Geophysics

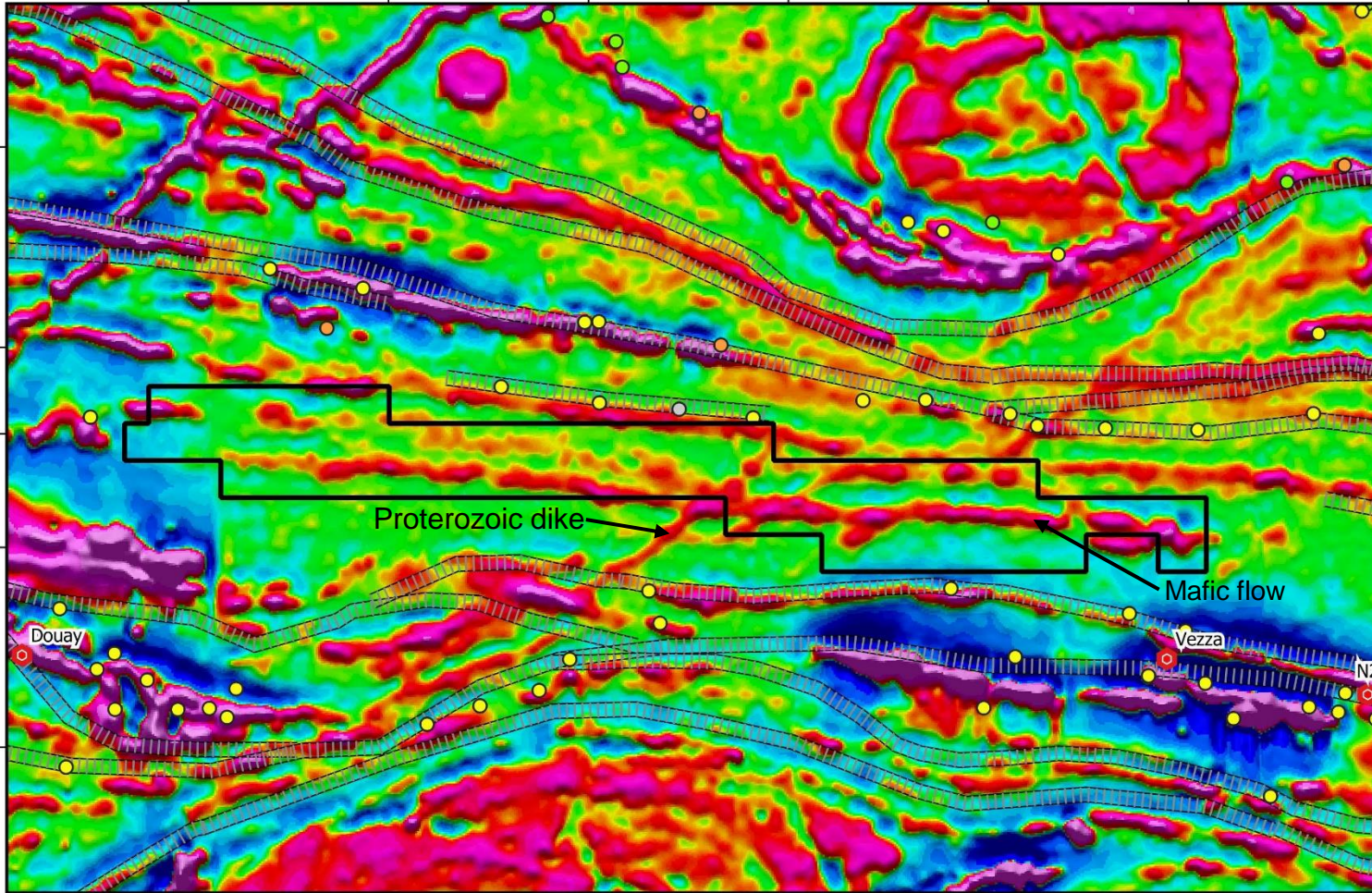
275000 280000 285000 290000 295000 300000

5505000

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5490000



-First vertical derivative very useful to identify larger mafic flows (magnetic and show as linear high mag).

-Shear zones commonly follow lithological contact or mafic flow margins

-One significant mafic flow on the property tracable over ~20 km.

-Several of the reported gold occurrences are associated to highly magnetic lineaments

Mineral deposit / occurrence

- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag

▭ Property outline

▨ Deformation corridor

● Active mine / advanced project

First vertical derivative of the regional airborne magnetic gradient, mineral occurrences, deformation corridors; Route 109 property, Québec.

0 5 10 km

1: 200 000

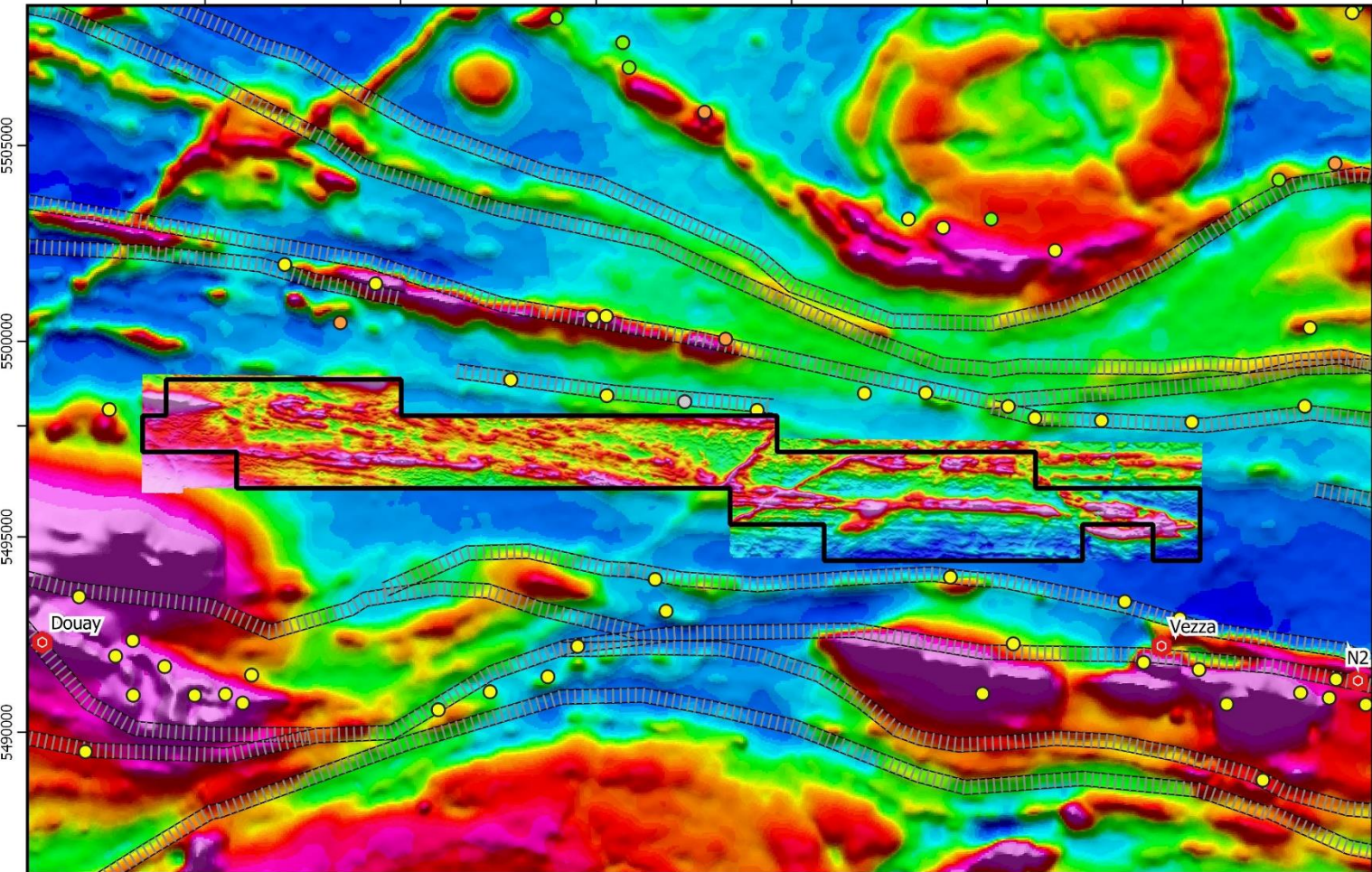


Projected in NAD 83, Zone 18



4- Geophysics: New Mag

275000 280000 285000 290000 295000 300000



- New airborne magnetic survey with significantly increased resolution
- Shows some folding and faulting within formational markers
- Formational markers are likely iron formation or pyrrhotite-bearing argillites
- New mag highlights the trace of mafic flows better

Mineral deposit / occurrence

- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag

Property outline

Deformation corridor

Active mine / advanced project

Total magnetic gradient of the recent property survey and regional mag (TMI), mineral occurrences, deformation corridors; Route 109 property, Québec.

0 5 10 km

1: 200 000

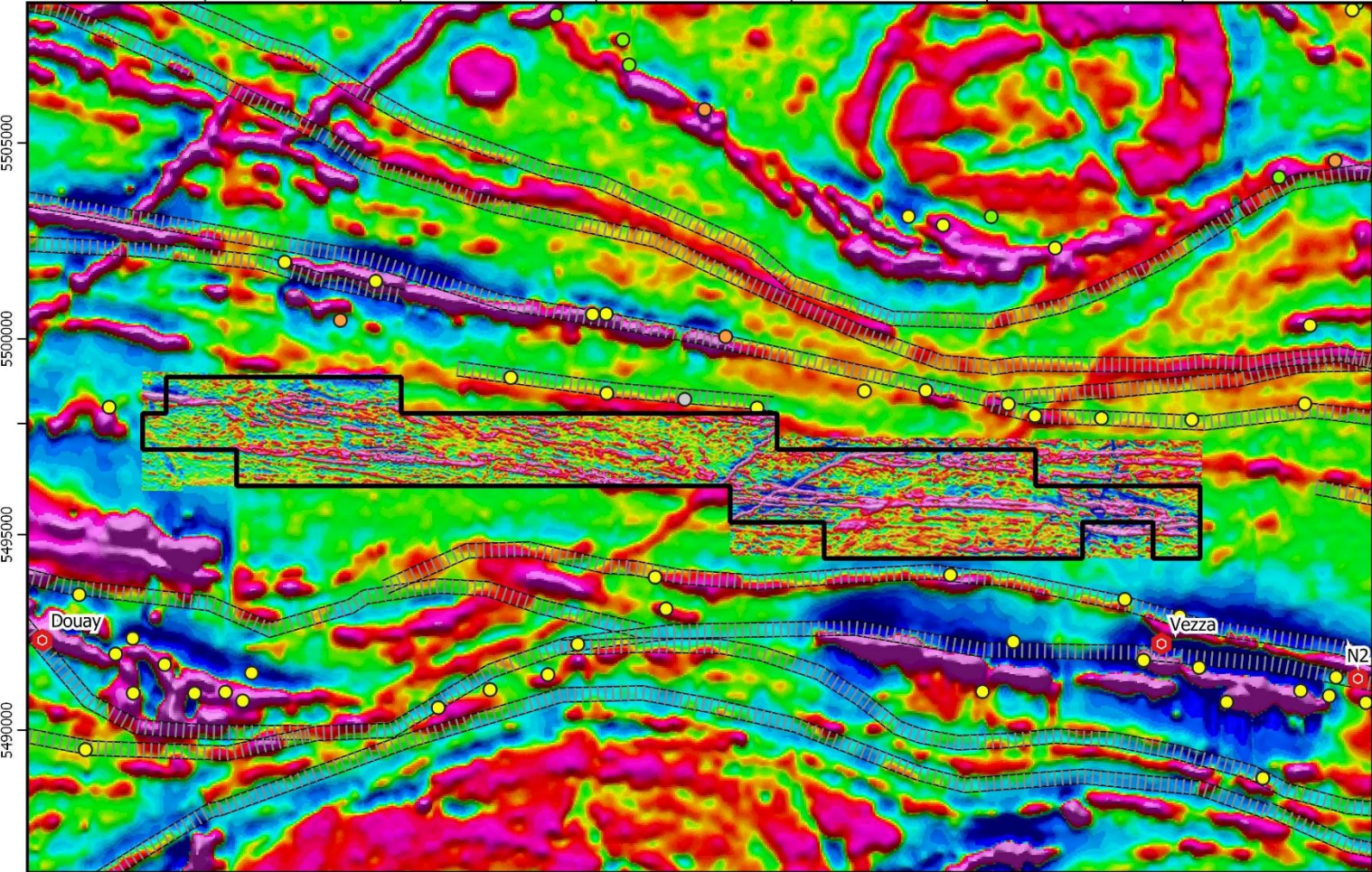


Projected in NAD 83, Zone 18



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- New airborne magnetic survey with significantly increased resolution
- Shows some folding and faulting within formational markers
- Formational markers likely iron formation or pyrrhotite-bearing argillites
- New mag highlights the trace of mafic flows better

Mineral deposit / occurrence

- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag

▭ Property outline

▨ Deformation corridor

● Active mine / advanced project

First vertical derivative of the magnetic gradient from the recent property airborne survey and regional 1VD mag, mineral occurrences, deformation corridors; Route 109 property, Québec.

0 5 10 km

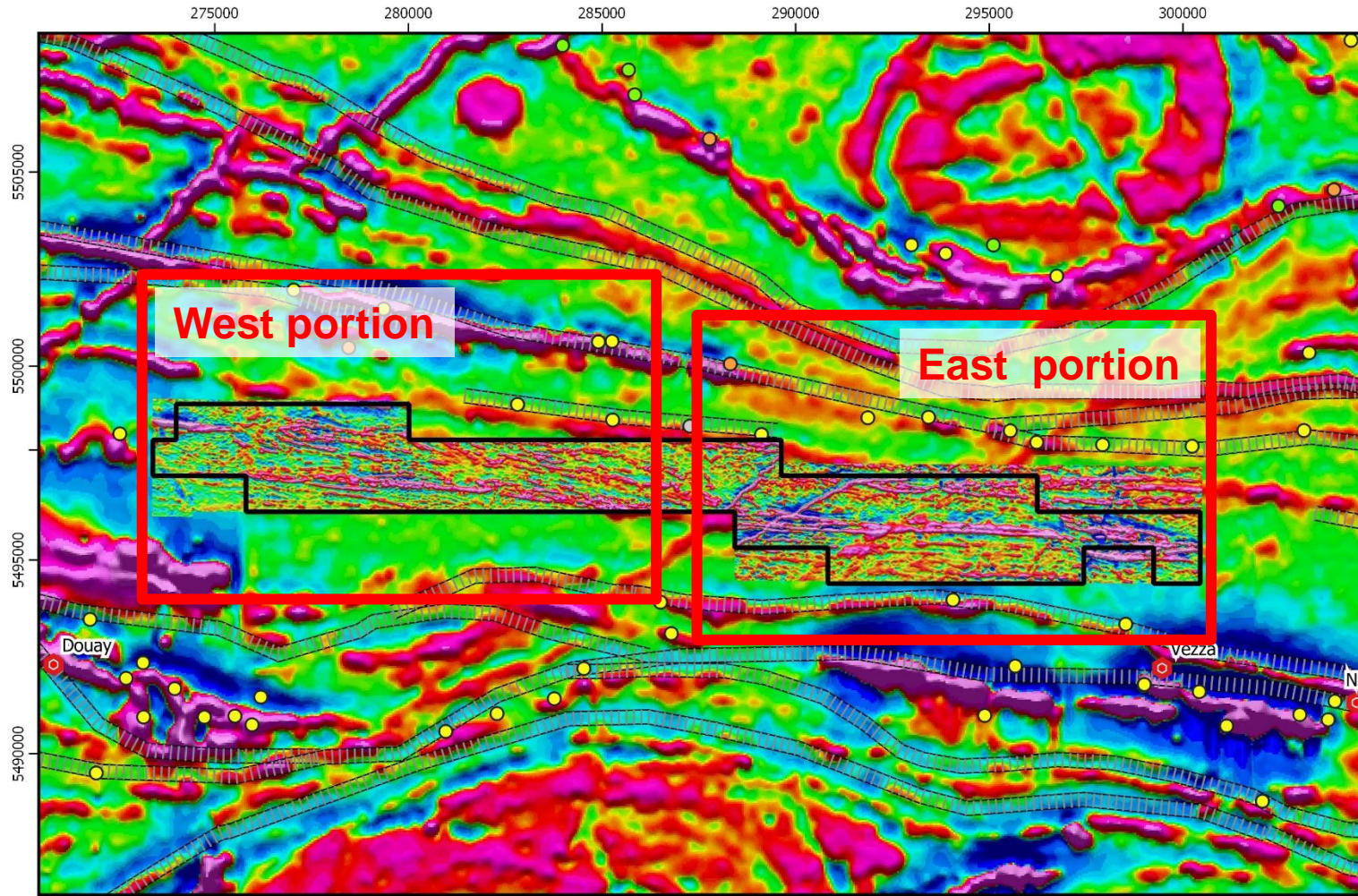


1: 200 000



Projected in NAD 83, Zone 18

4- Geophysics: New Mag



- Preliminary lineament interpretation of the new mag data was completed in order to help generate exploration targets.

- Observations are presented in close-up maps of the following slides.

Mineral deposit / occurrence

- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag

▭ Property outline

▤ Deformation corridor

⬢ Active mine / advanced project

First vertical derivative of the magnetic gradient from the recent property airborne survey and regional 1VD mag, mineral occurrences, deformation corridors; Route 109 property, Québec.

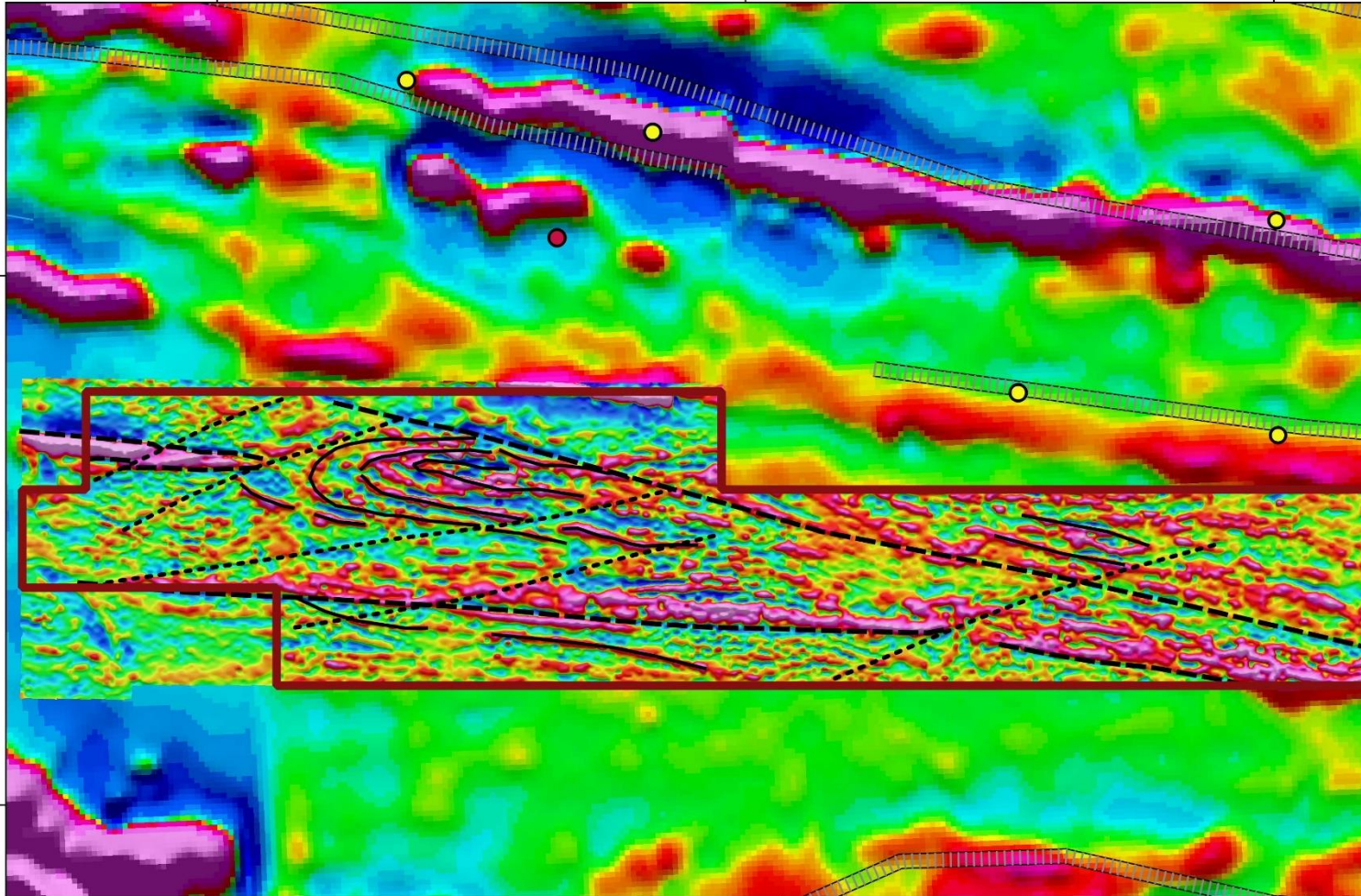
0 5 10 km

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Projected in NAD 83, Zone 18

4- Geophysics: New Mag, West portion

275000 280000 285000



- High resolution mag data shows distinct formational markers (iron formation or pyrrhotite-bearing seds?)

- Formational markers outline an isoclinal fold nose with sheared limbs and possibly a fault cutting through its axial plane.

- One E-W mafic flow can be traced near the southern edge of the property

- Several NE brittle faults

- Flanks of mafic intrusion probable location of shear zone as indicated by sharp lineament, local truncation and possible drag folds

Mineral deposit or occurrence

- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag
- Property outline

▤ Deformation corridors

Interpreted faults and folds

- - Late brittle NE trending faults
- E to SE shears
- Formational trends
- ▬ Proterozoic mafic dike

West part of Property Route 109: first vertical derivative of the magnetic gradient from recent property airborne survey and lineament interpretation, regional 1VD mag.

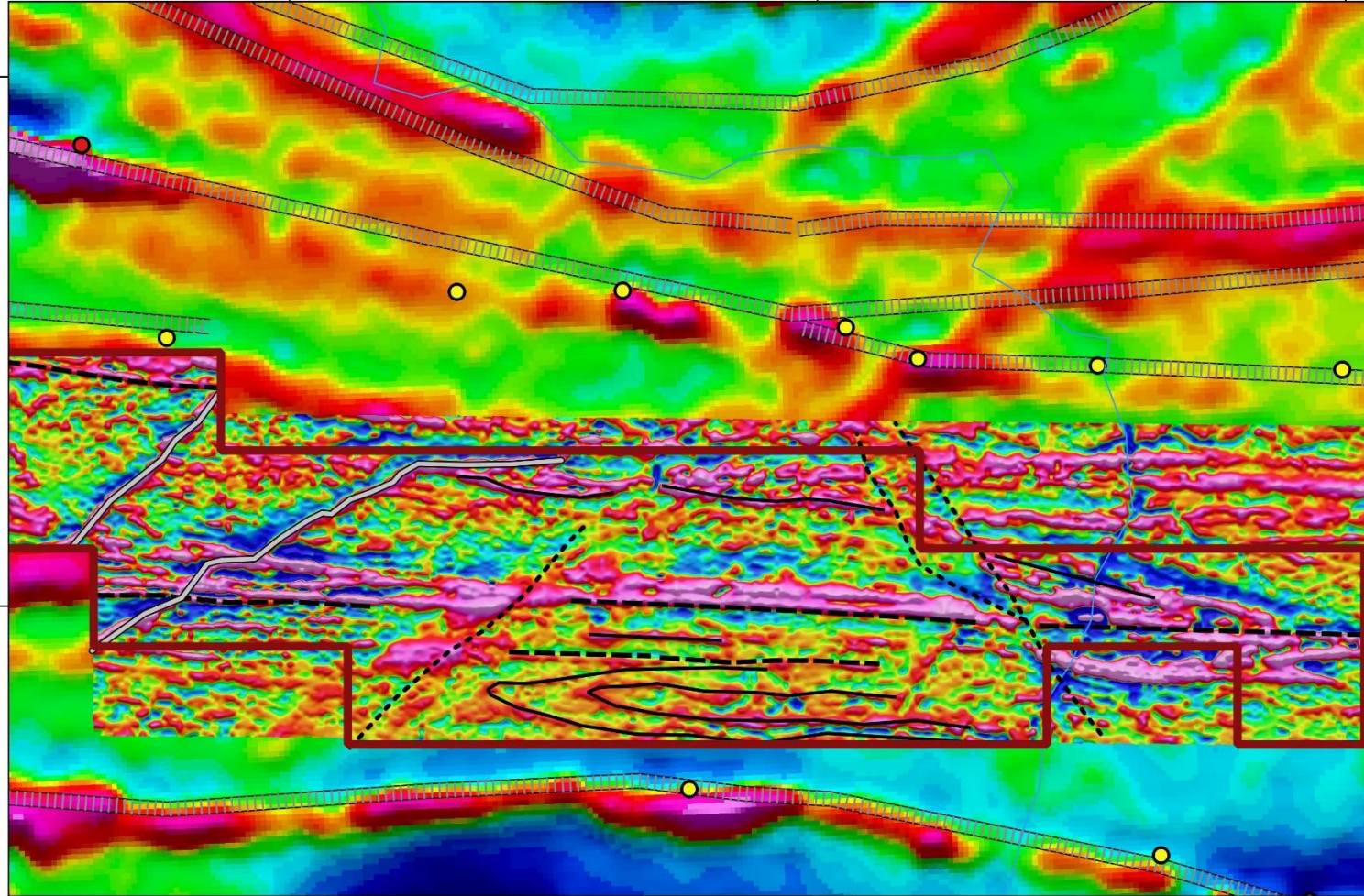
0 2 4 km

1:75 000



4- Geophysics: New Mag, East portion

290000 295000 300000



- Formational markers outline another isoclinal fold nose near the south edge of the property
- One E-W mafic flow can be traced near the southern edge of the property and another mafic flows is located along the northern edge
- Several NE or NW brittle faults
- Late NE-trending Proterozoic mafic dikes
- Flanks of mafic intrusion probable location of shear zone as indicated by sharp lineament, local truncation and possible drag folds

Mineral deposit or occurrence

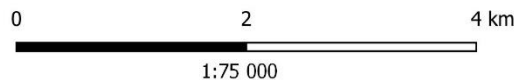
- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag
- Property outline

▤ Deformation corridors

Interpreted faults and folds

- - Late brittle NE trending faults
- E to SE shears
- Formational trends
- Proterozoic mafic dike

East part of Property Route 109: first vertical derivative of the magnetic gradient from recent property airborne survey and lineament interpretation, regional 1VD mag.



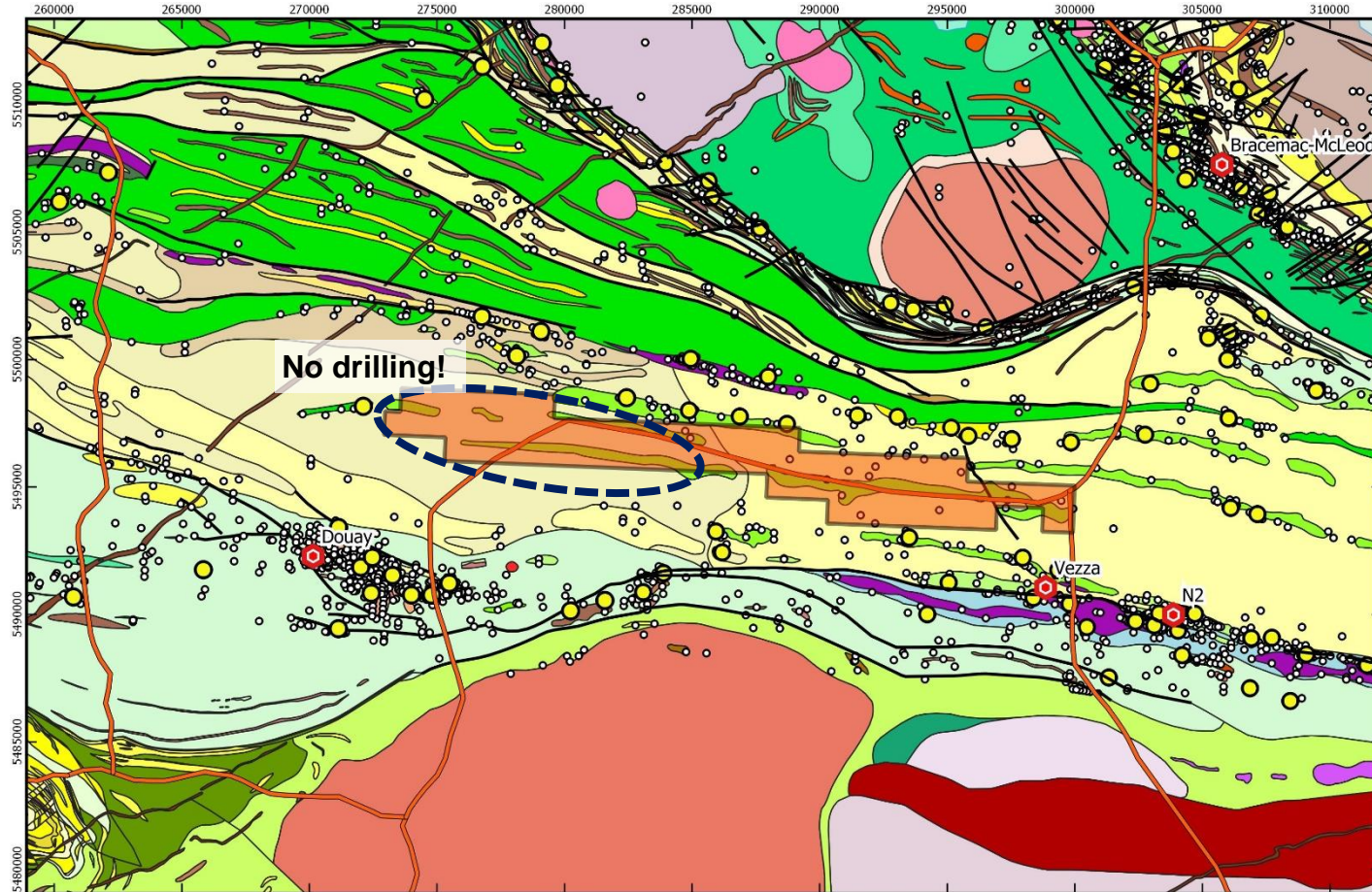


5- Previous Exploration Work

- The property itself has seen little exploration, although regionally the area has a rich exploration history.
- Exploration has mostly focused on deformation corridor North and South of the property and nearby VMS camps.
- Several exploration programs covered part of the property, but no extensive program focussed on the property itself.
- Historical works reported here mostly include exploration within property limits as well as work done in the immediate vicinity when relevant.



5- Previous Exploration Work: Drilling



- Only 21 DDH drilled to date on the property.
- The whole western portion of the property has not been tested.
- Historical drilling focused along known shear zones and geophysical VMS targets.

- Route 109 property outline
- Mineral occurrence or deposit
- Diamond drill hole
- Lakes
- Roads

**Geology, drill holes, and mineral showings
Route 109 property, Abitibi Grenstone belt, Québec.**

0 10 20 km



1:200 000



5- Previous Exploration Work

North Mattagami Mines Ltd.

1959: EM survey and one short diamond drill hole (152 m) immediately west of property; intersected several narrow quartz veins (few inches wide) with disseminated py/po. A sample from quartz stringer zone assayed 0.23 oz/ton Au (7.36 g/t Au), discovery named the ***Lac Desmazures*** showing [GM 09493].

Ressources Canamax Inc.:

1983: Drilling, one DDH inside property, 031-05-1 [GM 40136]; no anomalous gold.

Cane Corporation:

1986: Airborne mag and VLF surveys by Sanders Geophysics (GM 43553).

1987: IP ground survey (GM), drilling, three DDH, C87-1, C87-2, C87-3, inside property [GM 45476]; mostly seds, no significant gold values.



5- Previous Exploration Work

Gowest Amalgamated Resources Ltd.

1987: EM and Mag survey, four DDH holes (DDH 88-4 to 88-7), 1-2 km west of property [GM47809]; quartz-carbonate veining was intersected in two holes, no significant gold values.

Penn-Gold Resources Inc.

1988: Ground Mag an EM survey in eastern portion of the property [GM 48419]

1989: Two drill holes, DDH P1 and P2-B, [GM 48420]; Metasedimentary rock, predominately greywacke and argillite were intersected in drill holes DDH-P1 and DDH-P2-B. Up to 2% disseminated sulphides (pyrite with trace pyrrhotite) and some quartz-carbonate veining were noted in the core. The presence of pyrrhotite can account in part for magnetic variation in the area.

Energold Corporation:

1990: Drilling, 5 DDH in central part of property (GM 49939: 246-90-02, 246-90-03, 246-90-06; GM 50525: 246-90-05 and 247-90-02)

GeoNova Explorations Inc.

1995: Two drill holes, DDH 95-CA-A-11 and -12, [GM 53562]; diss. sulfides, no anomalous gold.



5- Previous Exploration Work

Mines Agnico-Eagle Ltd: various exploration programs nearby or over parts of the property.

1991: Drilling, two DDH inside property, east end, 91-VZA-17 and 91-VZA-18 [GM 50073]

1993: Airborne Mag-EM (VLF) and RC drilling, just north of the property.

1994: Drilling, one DDH inside property, 93-VC-08; 3 DDH, 93-VC-05 to 93-VC-07 lie just outside [GM 52729]

1995: IP and Mag survey [GM 53 610], Drilling (25-95-01; GM 54100); presence of carbonatized iron formation with significant sulphidization and arsenic anomalies suggest potential along strike.

1996 Drilling

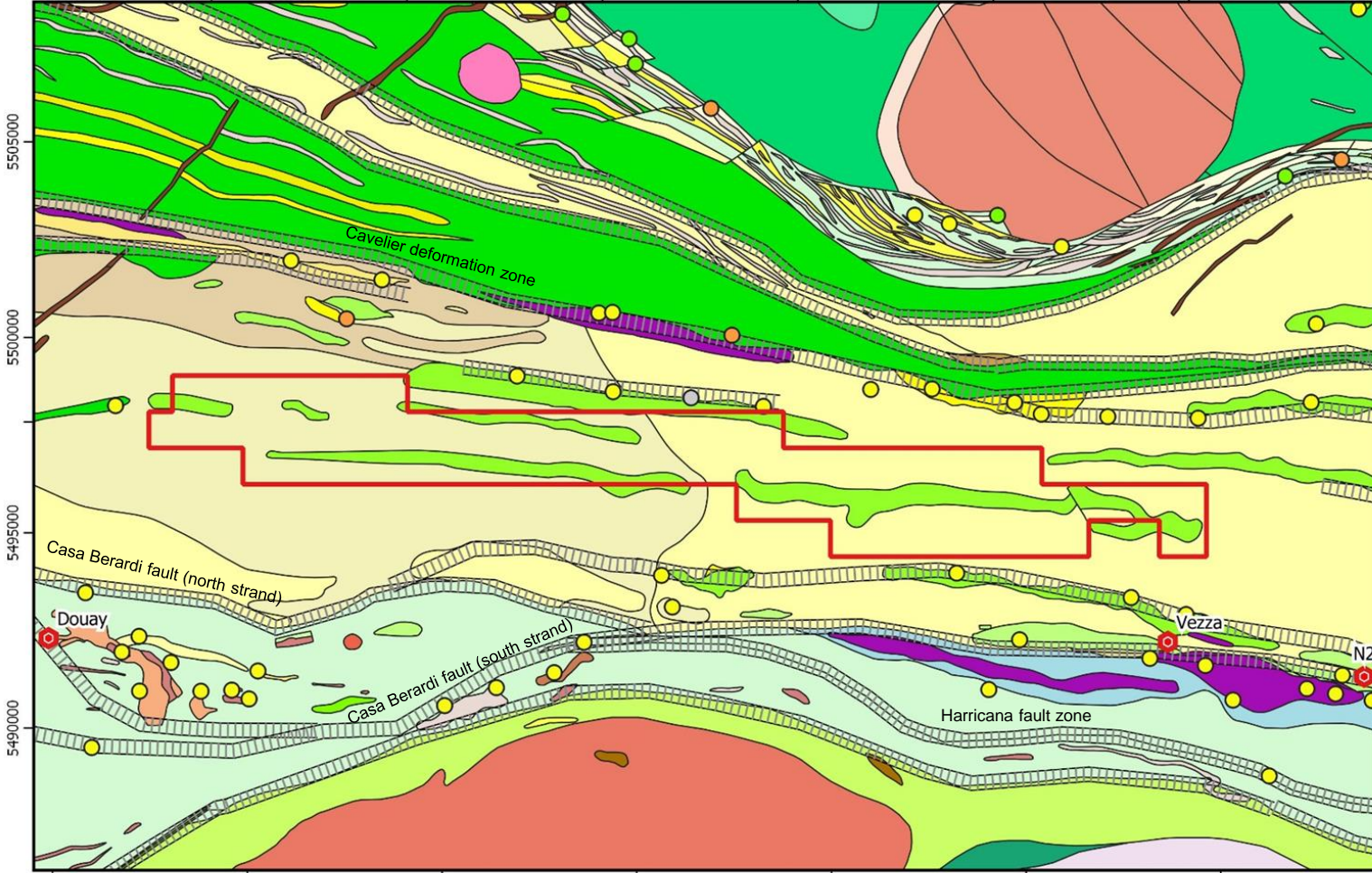
1997: IP survey

1998: Drilling, three holes inside property, 90N-98-01, 90N-98-02, 90N-98-05 [GM 56070]; discovery of the Desmazures 1 showing 900m to the North [GM 56266]

2000: ground geophysics

6- Mineral Deposits / Occurrences

275000 280000 285000 290000 295000 300000



- Multiple gold showings found along parallel shears of the Casa Berardi-Cameron deformation zone.

- 7 gold and one silver occurrences within 1500 m from the property.

- 3 significant gold deposits along the deformation corridor south of the property:

Douay, Vezza, N2.

Mineral deposit / occurrence

- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag

▤ Deformation corridor

- ⊗ Active mine / advanced project
- ▭ Property outline

Geology, compiled deformation corridors / shear zones, and mineral occurrences in the vicinity of Route 109 property, Québec.

0 5 10 km

1: 200 000

Projected in NAD 83, Zone 18





6- Mineral Deposits / Occurrences

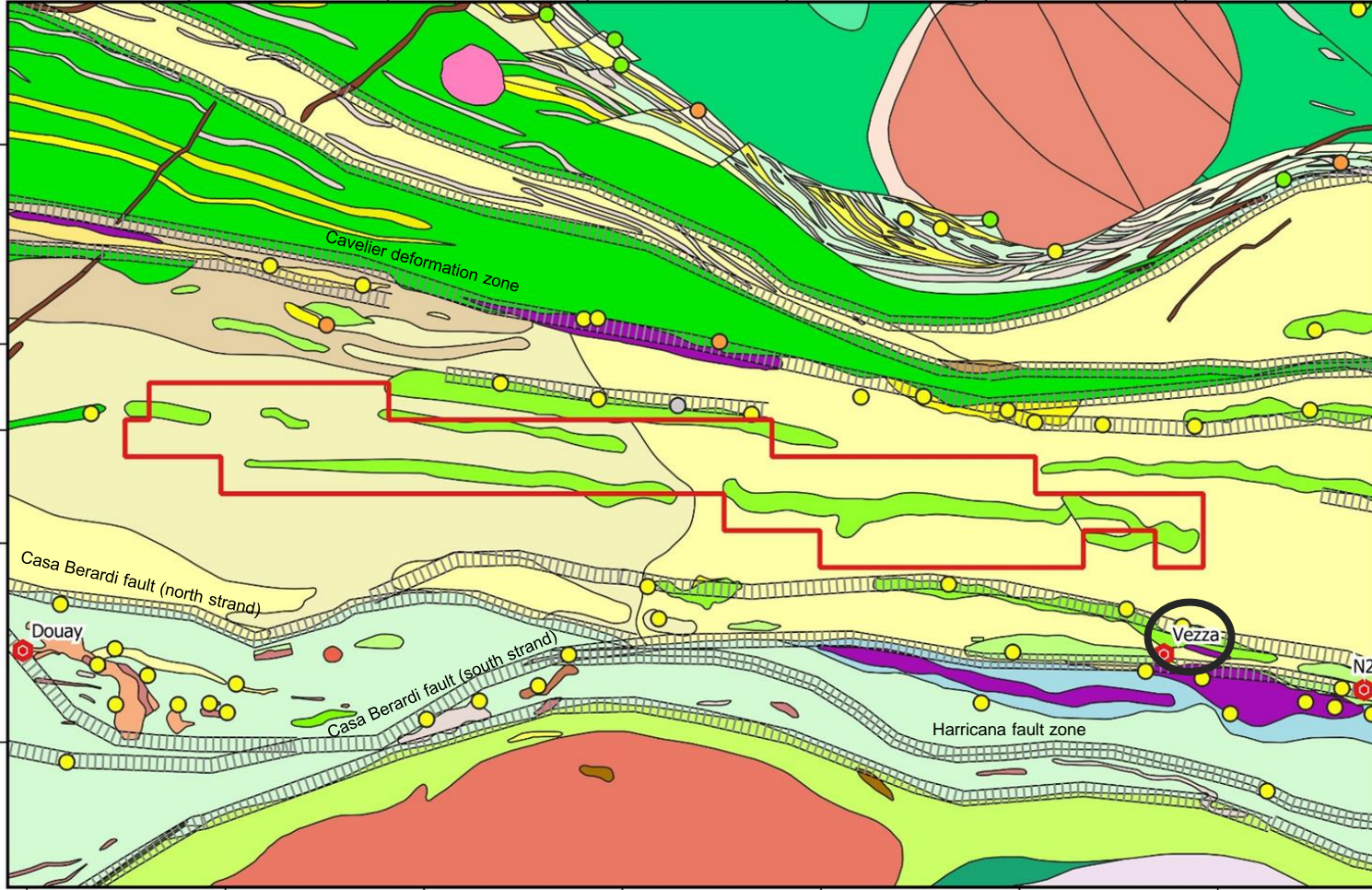
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Mineral deposit / occurrence

● Ag +/- Zn +/- Cu

● Au

● Cu > Zn +/- Au, Ag

● Zn > Cu +/- Au, Ag

▨ Deformation corridor

⊕ Active mine / advanced project

▭ Property outline

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- **Vezza Deposit:** occurs along the Vezza ductile shear zone, at the contact between sediments and a mafic volcanic flow.

- Gold is associated to fine pyrite in strongly carbonated and/or silicified, brecciated and sheared sandstone horizon located at the contact with a mafic volcanic sequence.

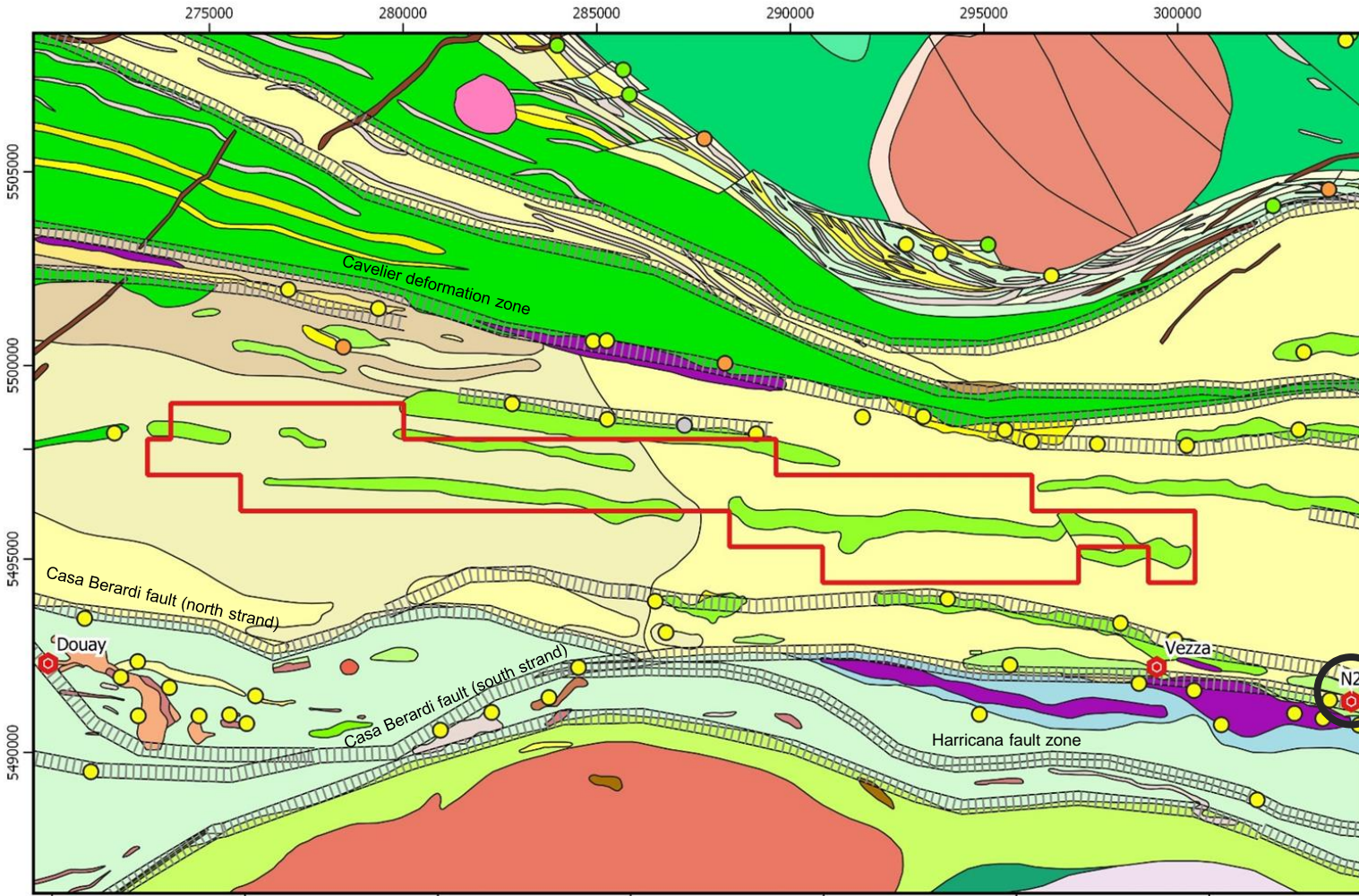
- Several discontinuous lenses of BIF occur within the mineralized sequence.

- M+I 1,244,850 t at 6.5 g/t Au (261,110 oz)

- Inferred 435,000 t at 4.9 g/t Au (68,540 oz)



6- Mineral Deposits / Occurrences



- **N2:** Deposit hosted along the same deformation corridor as the Vezza mine, about 8 km ESE of the property.
- Gold associated to metres thick zones of silica, carbonate, and sericite alteration with disseminated pyrite and arsenopyrite.
- Deposit hosted in altered rocks along the contact between sediments and mafic volcanics.
- Historical Resource (1994; 43-101 non-compliant) of 18.2 Mt @ 1.48 g/t Au (775,000 oz)

Mineral deposit / occurrence

- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag

▤ Deformation corridor

- Active mine / advanced project
- ▭ Property outline

Geology, compiled deformation corridors / shear zones, and mineral occurrences in the vicinity of Route 109 property, Québec.

0 5 10 km

1: 200 000

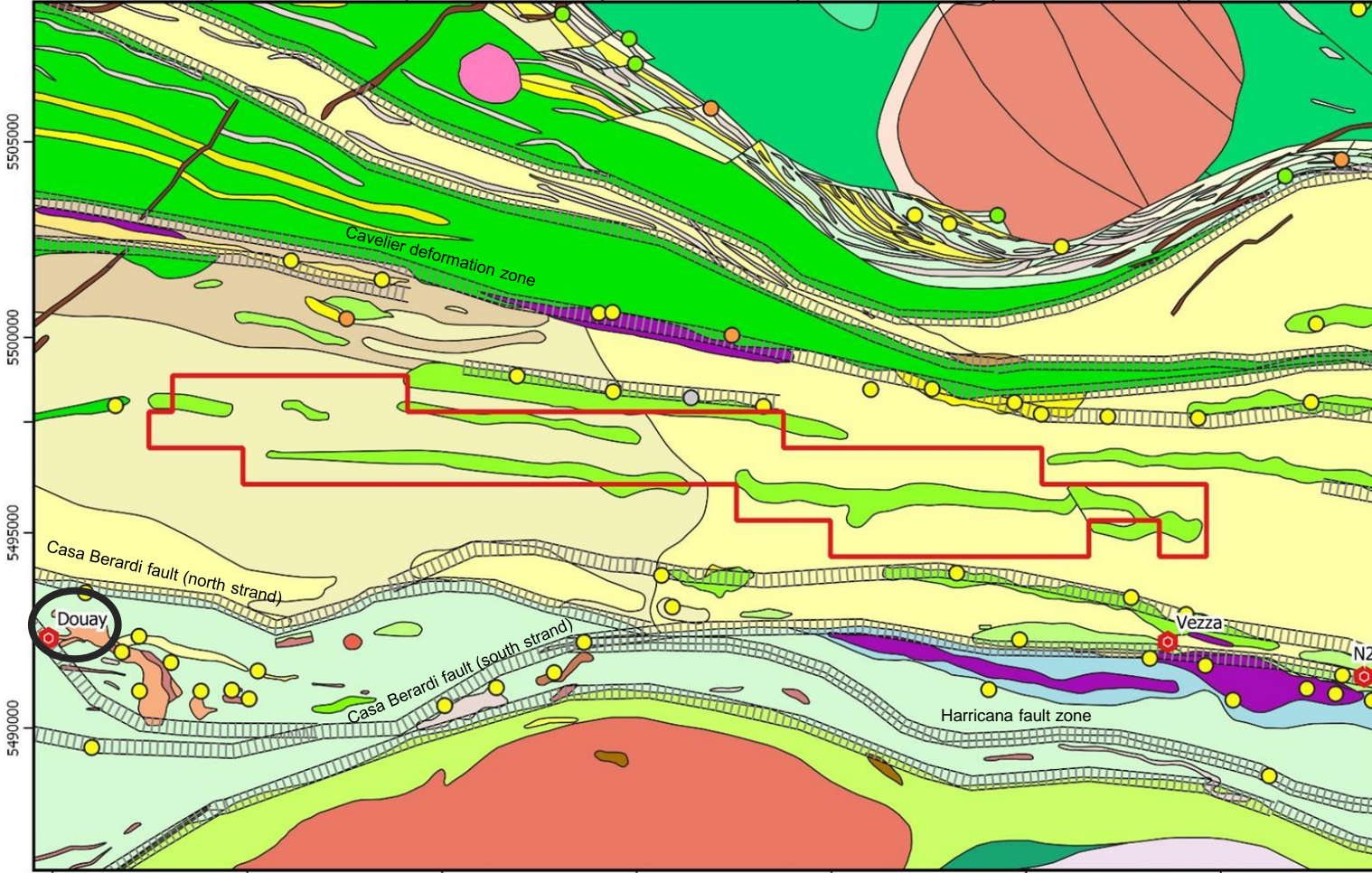
Projected in NAD 83, Zone 18





6- Mineral Deposits / Occurrences

275000 280000 285000 290000 295000 300000



Mineral deposit / occurrence

● Ag +/- Zn +/- Cu

● Au

● Cu > Zn +/- Au, Ag

● Zn > Cu +/- Au, Ag

▤ Deformation corridor

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▭ Property outline

Geology, compiled deformation corridors / shear zones, and mineral occurrences in the vicinity of Route 109 property, Québec.

0 5 10 km

1: 200 000

Projected in NAD 83, Zone 18



Douay: Deposit hosted along a deformation corridor, but associated to an alkaline intrusive complex.

- Gold zones genetically and spatially linked to proximity of the syenitic intrusive complex.

- The rocks are locally strongly Fe-carbonate altered. Chlorite and sericite may also be significant. Large, disseminated, pyritic zones associated to gold.

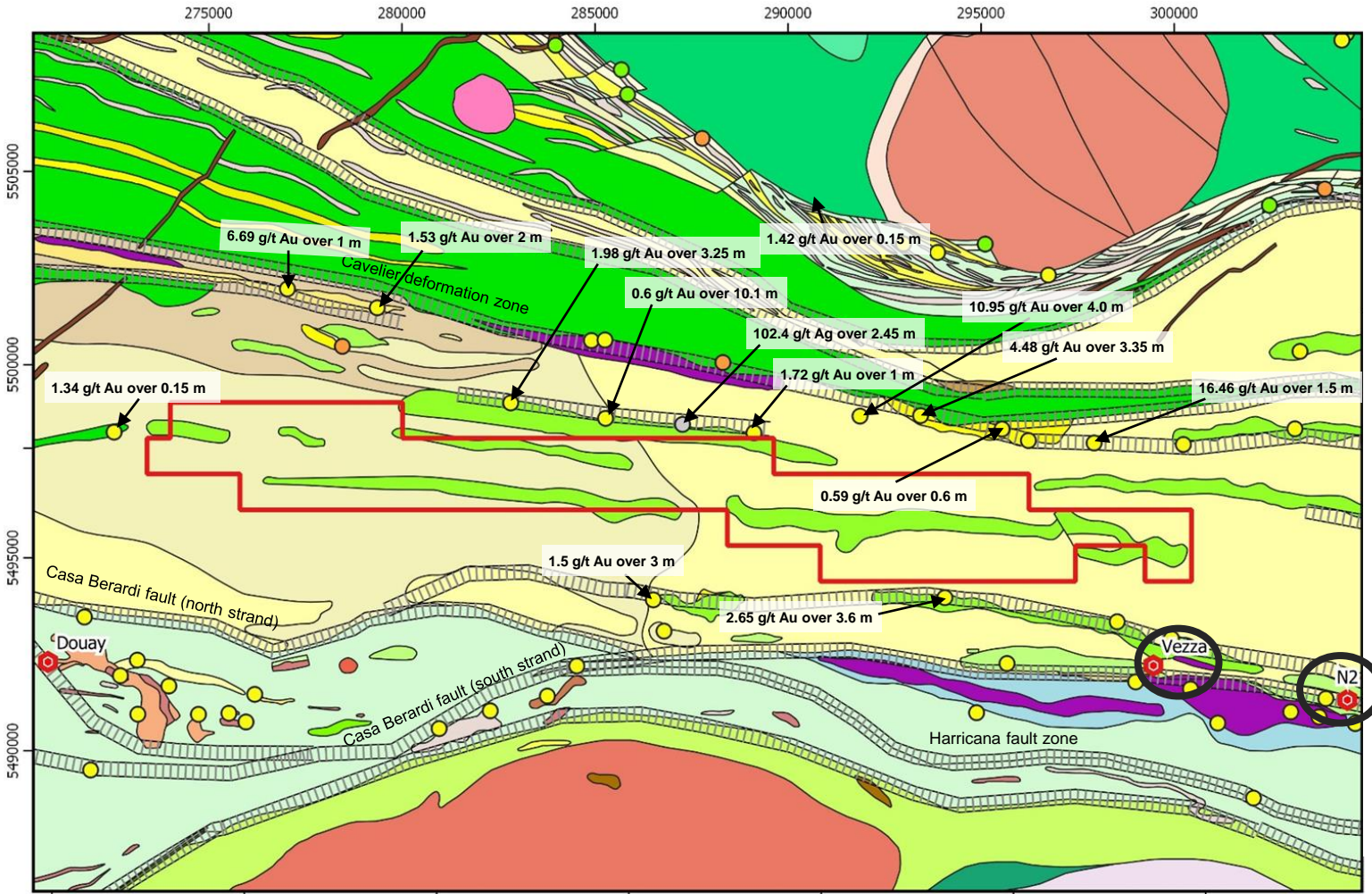
- Interpreted to be IRGS type associated to a syenitic intrusive complex

- Mineral Resource: Indicated: 8.6 M tonnes @ 1.52 g/t Au and Inferred 71.2 Mt @ 1.03 g/t Au.



6- Mineral Deposits / Occurrences

- Vezza and N2 deposits are shear zone-hosted gold deposits emplaced along volcanic-sediment contacts



Mineral deposit / occurrence

- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag

▤ Deformation corridor

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Geology, compiled deformation corridors / shear zones, and mineral occurrences in the vicinity of Route 109 property, Québec.

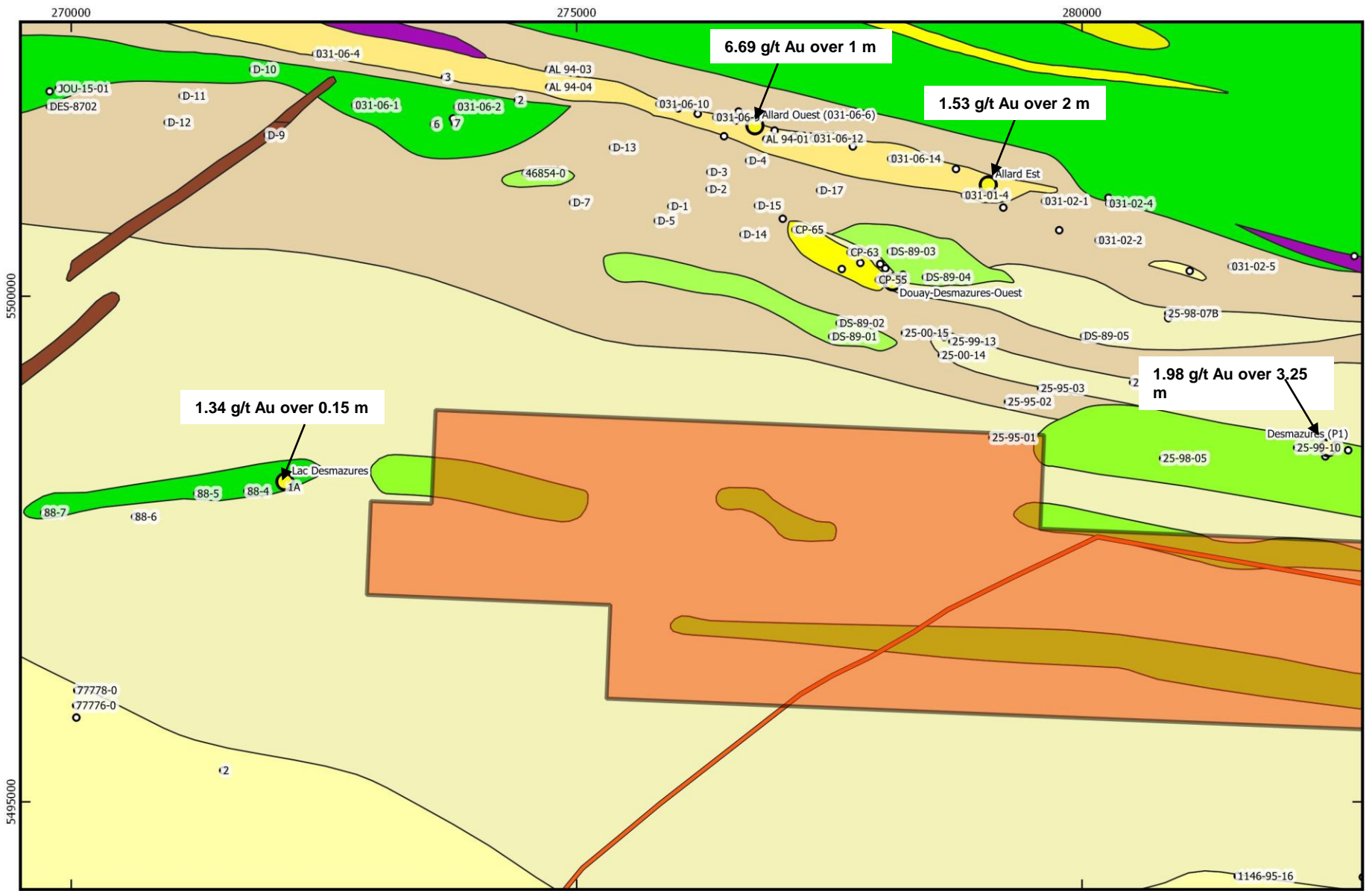
0 5 10 km



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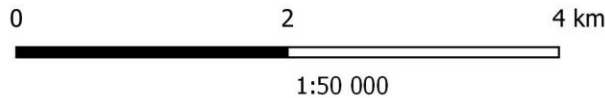


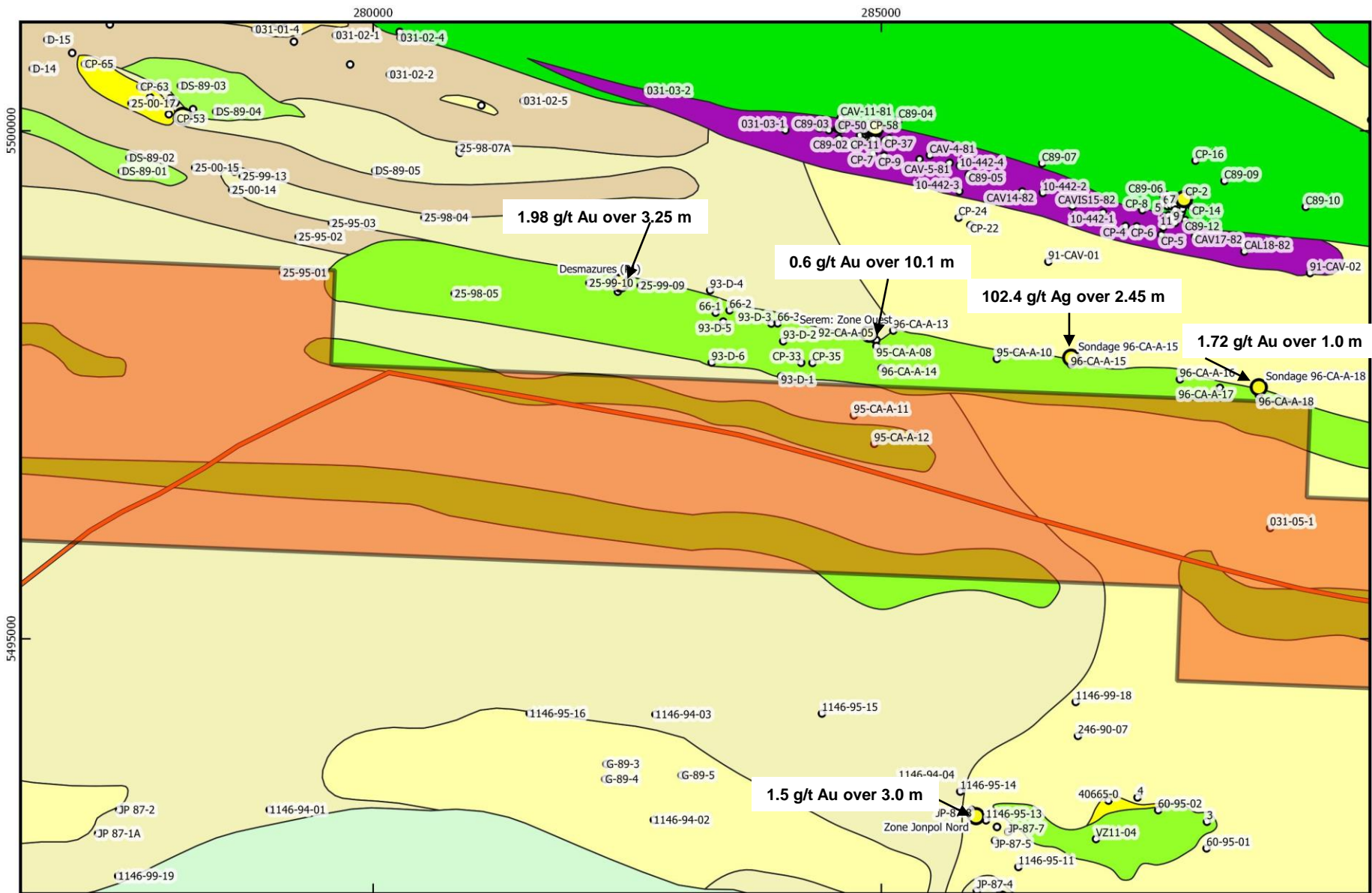
Projected in NAD 83, Zone 18



- Route 109 property outline
- Mineral occurrence or deposit
- Diamond drill hole
- Roads

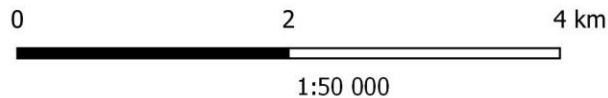
**Geology and significant mineralization
Route 109 property, Abitibi Grenstone belt, Québec.**



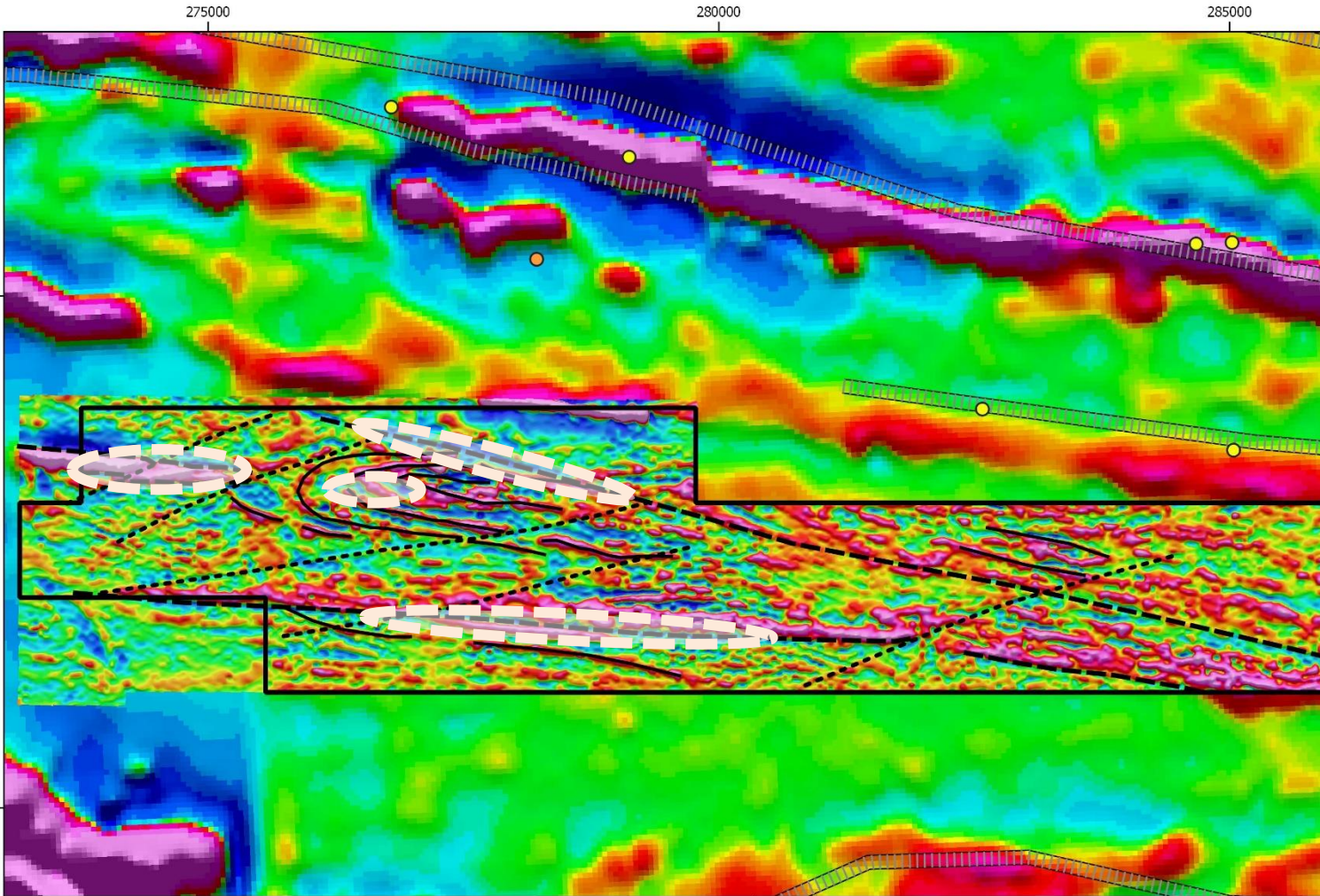


- Route 109 property outline
- Mineral occurrence or deposit
- Diamond drill hole
- Roads

Geology and significant mineralization Route 109 property, Abitibi Grenstone belt, Québec.



7- Potential Targets: Western Portion



Mineral deposit / occurrence

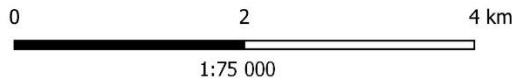
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- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag
- Property outline

▤ Deformation corridors

Interpreted faults and folds

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- E to SE shears
- Formational trends
- ▬ Proterozoic mafic dike

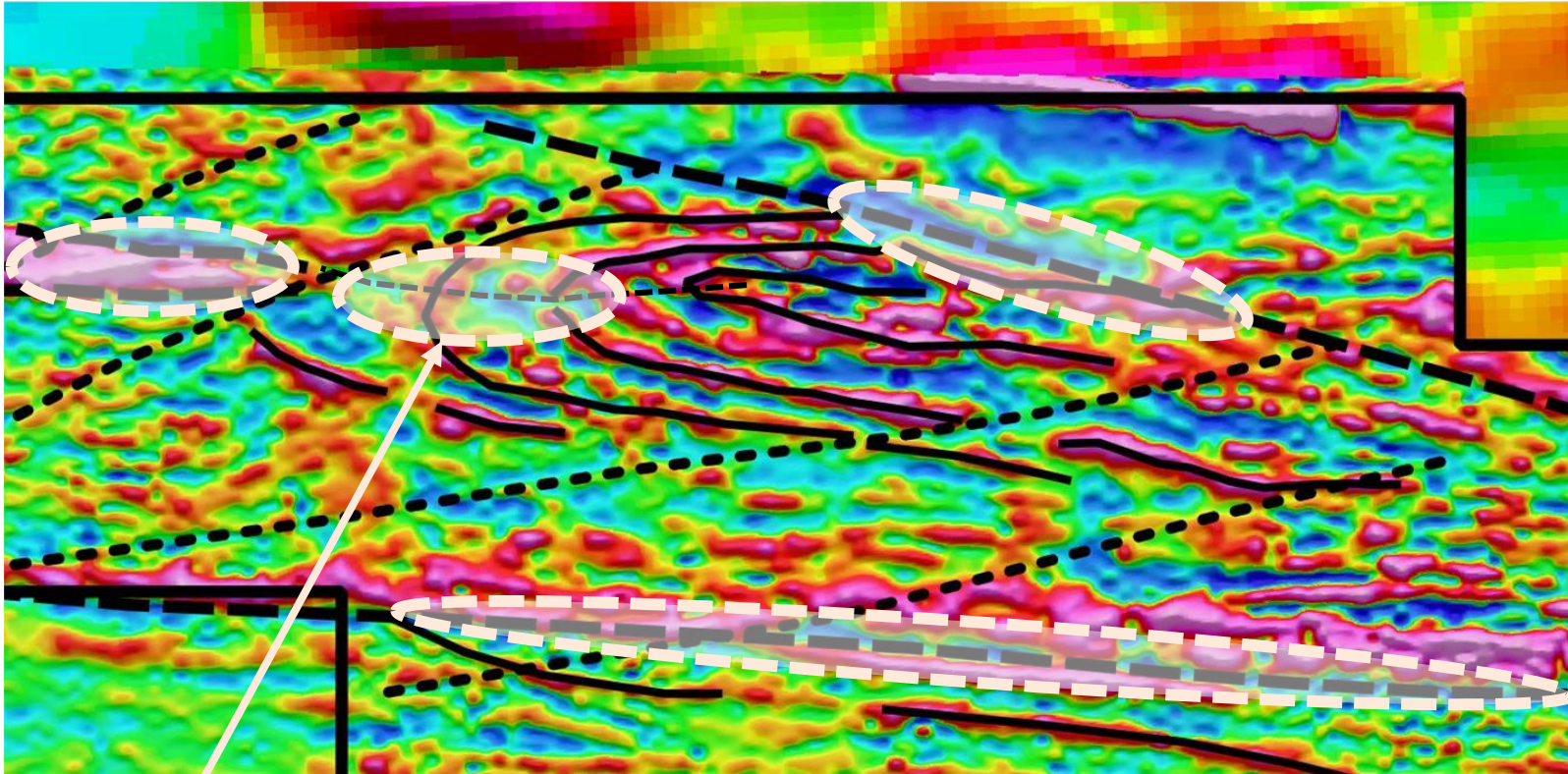
West part of Property Route 109: first vertical derivative of the magnetic gradient from recent property airborne survey and lineament interpretation, regional 1VD mag.



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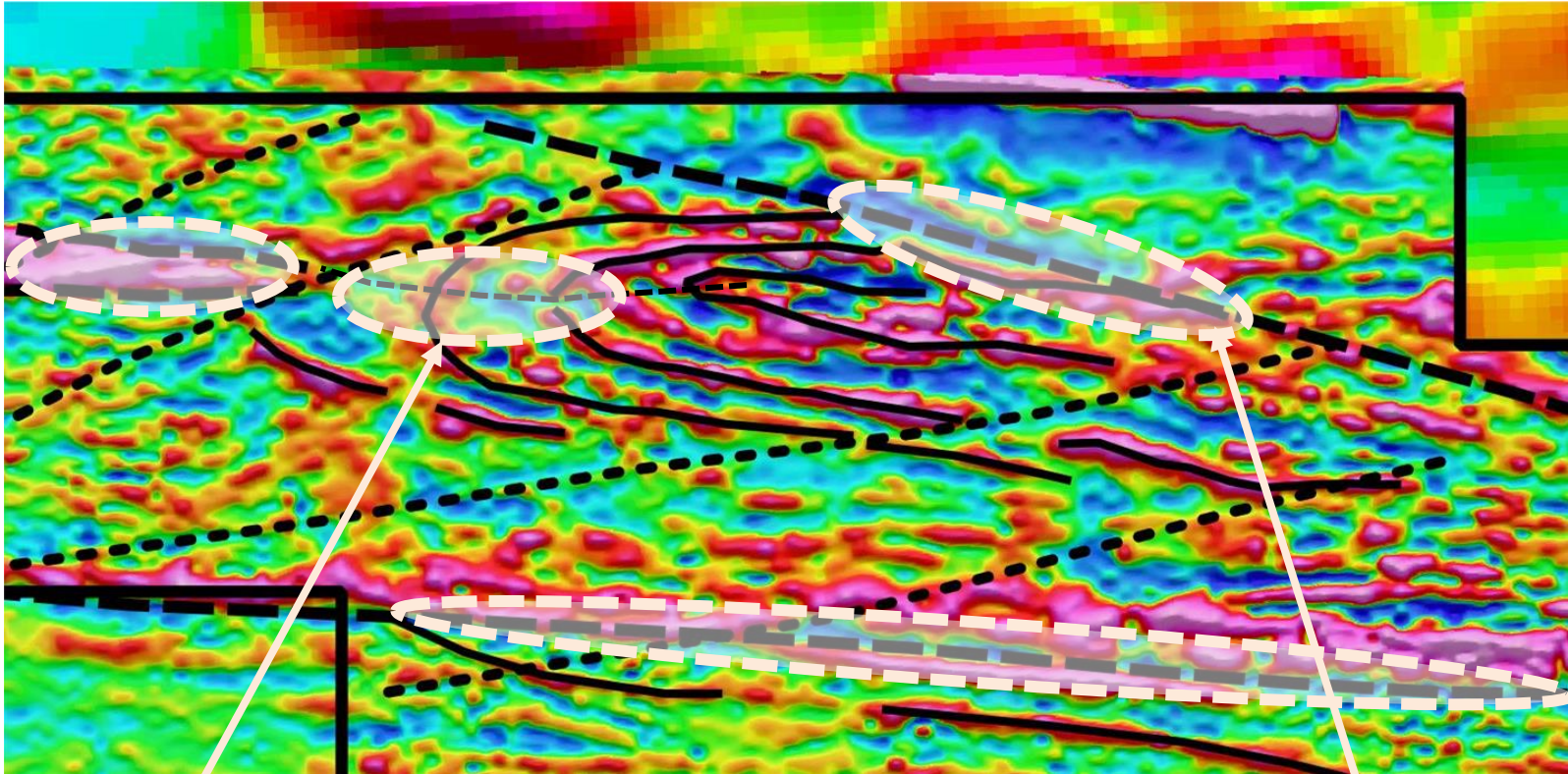
January 2020,
Projected in NAD 83, Zone 18

7- Potential Targets: Western Portion



Orogenic gold target #1: Hinge zone outline by formational mag, possibly iron formation, with small offset caused by axial planar fault

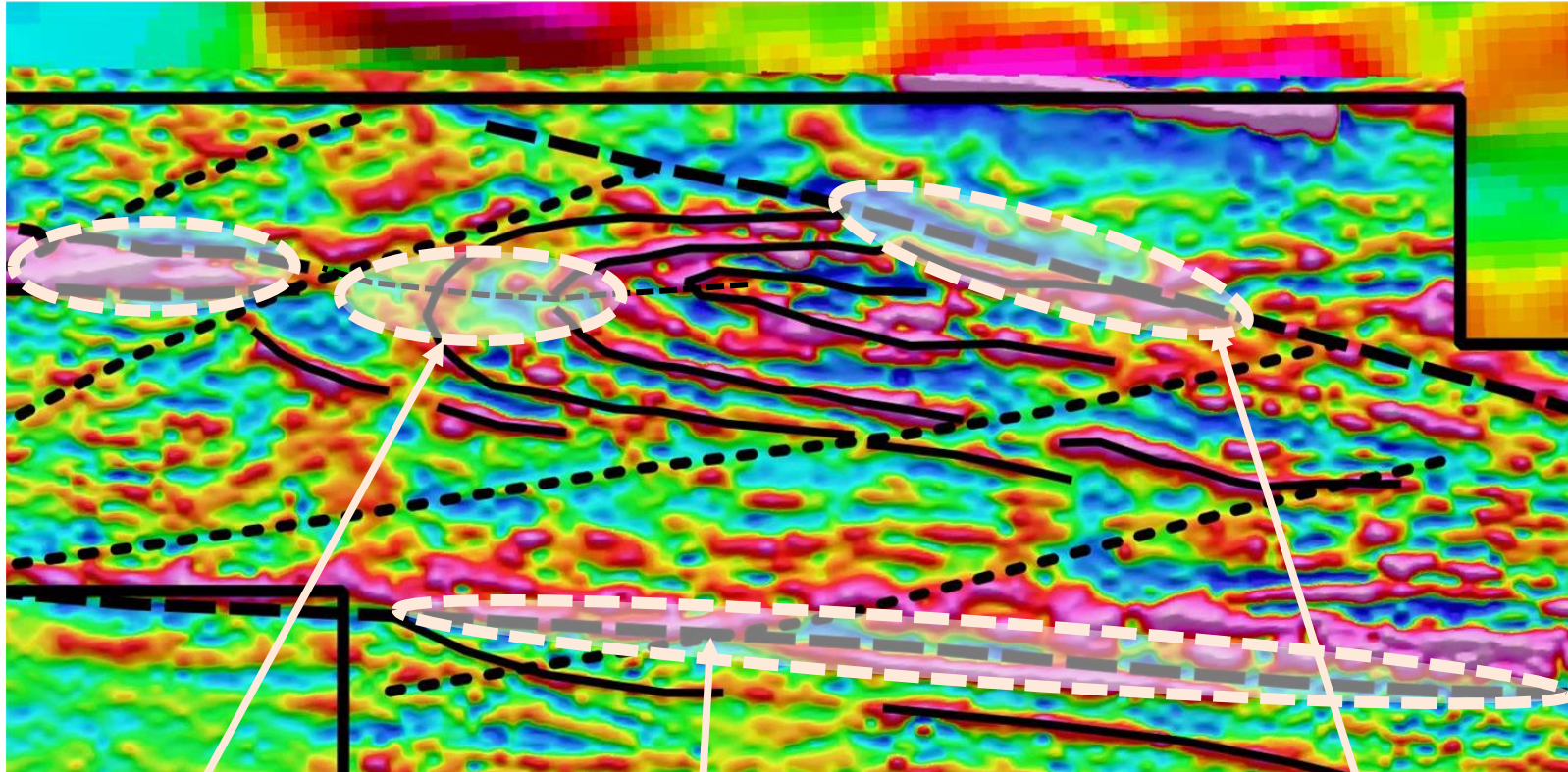
7- Potential targets: Western portion



Orogenic gold target #1

Orogenic gold target #2: sheared limb on isoclinal fold outlined by formational marker

7- Potential Targets: Western Portion



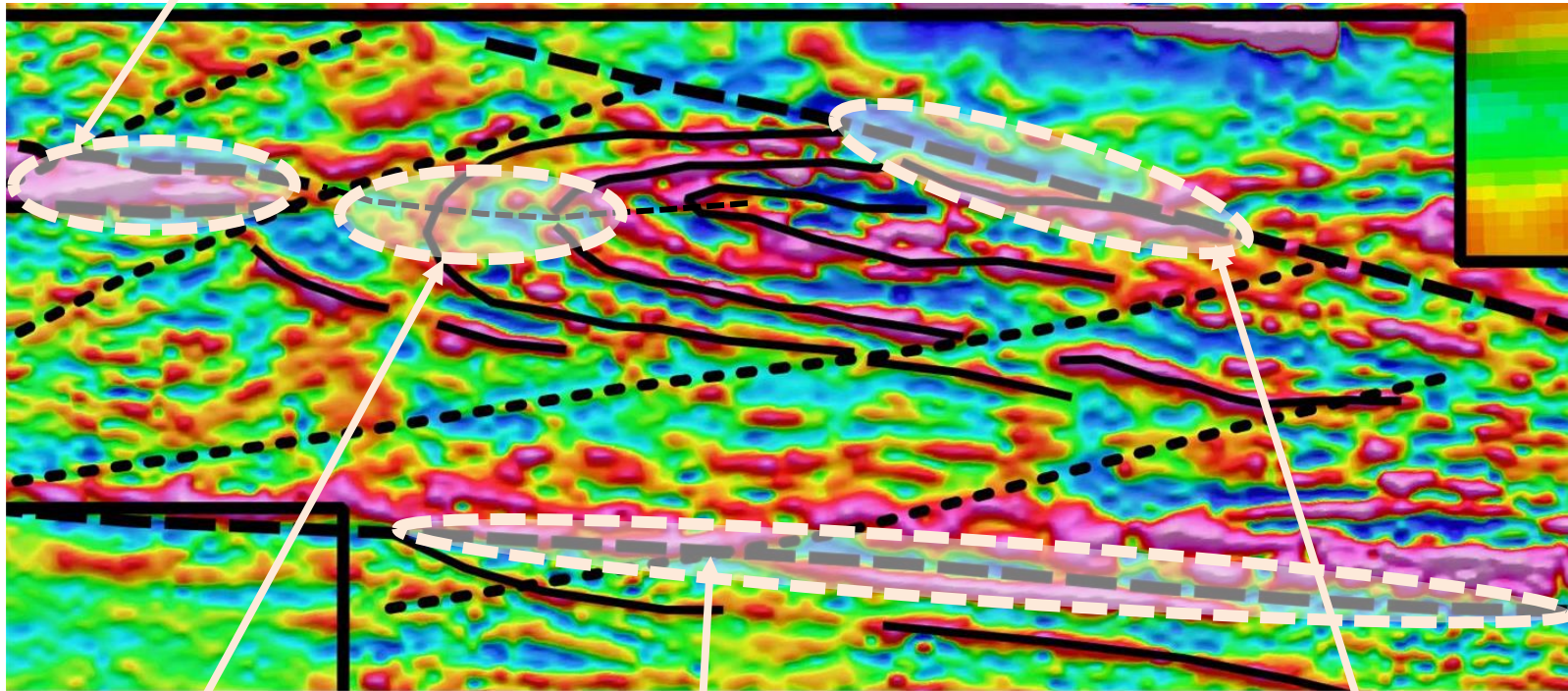
Orogenic gold target #1

Orogenic gold target #2

Orogenic gold target #3:
possible zone of shearing
along south flank of an
interpreted mafic intrusion

7- Potential Targets: Western Portion

Orogenic gold target #4: Mafic intrusion with possibly sheared margins along strike from the Desmazures occurrence (1.5 km to the W.)

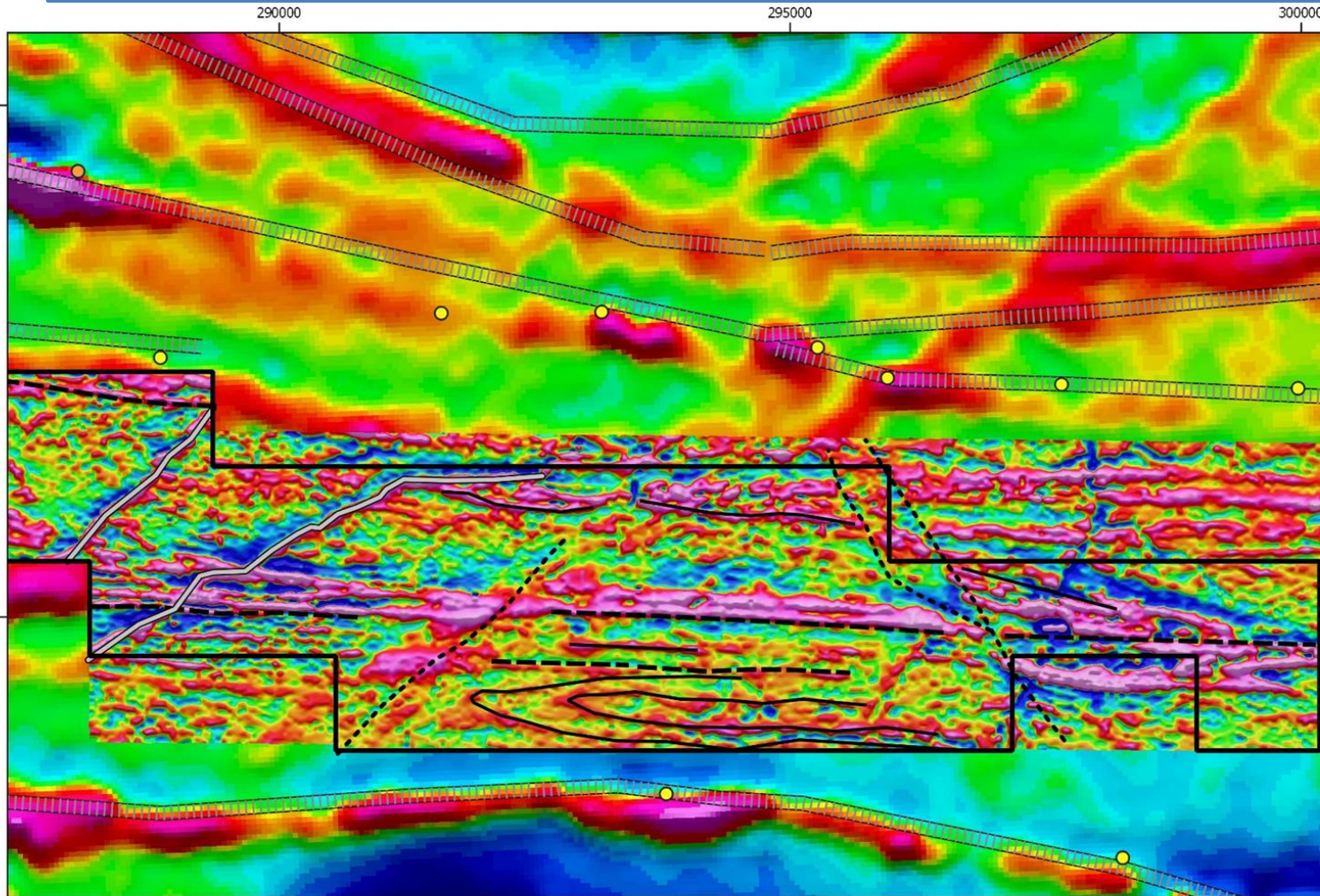


Orogenic gold target #1

Orogenic gold target #3

Orogenic gold target #2

7- Potential Targets: Eastern Portion



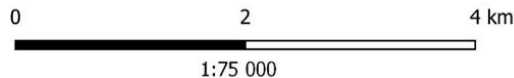
Mineral deposit / occurrence

- Ag +/- Zn +/- Cu
- Au
- Cu > Zn +/- Au, Ag
- Zn > Cu +/- Au, Ag
- ▭ Property outline

Interpreted faults and folds

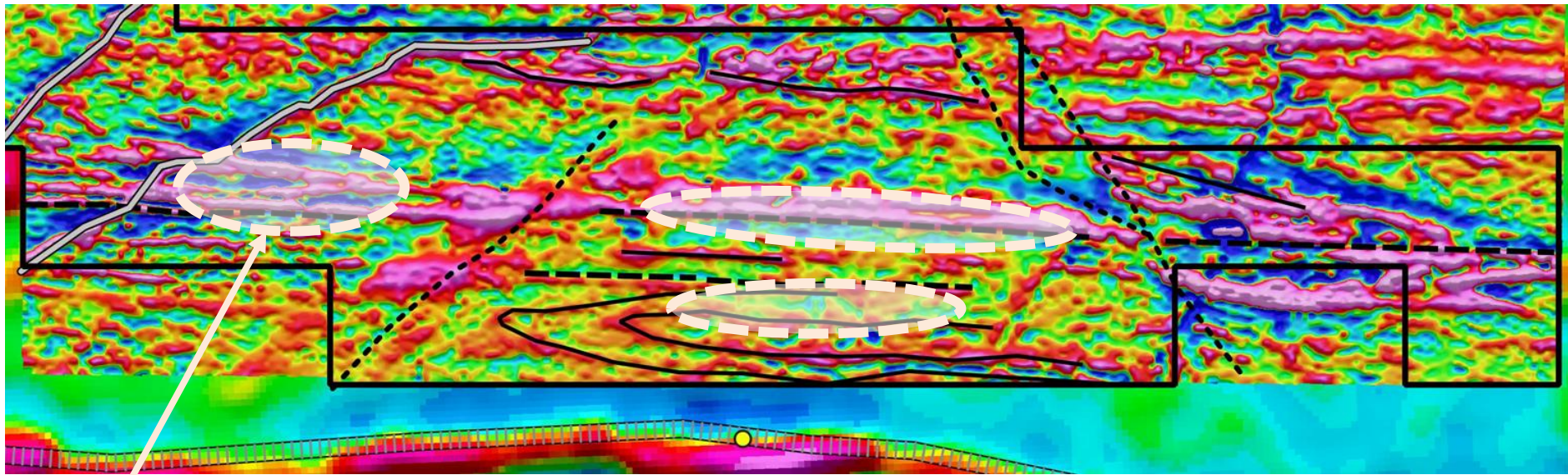
- ▨ Deformation corridors
- - Late brittle NE trending faults
- E to SE shears
- Formational trends
- ▬ Proterozoic mafic dike

East part of Property Route 109: first vertical derivative of the magnetic gradient from recent property airborne survey and lineament interpretation, regional 1VD mag.



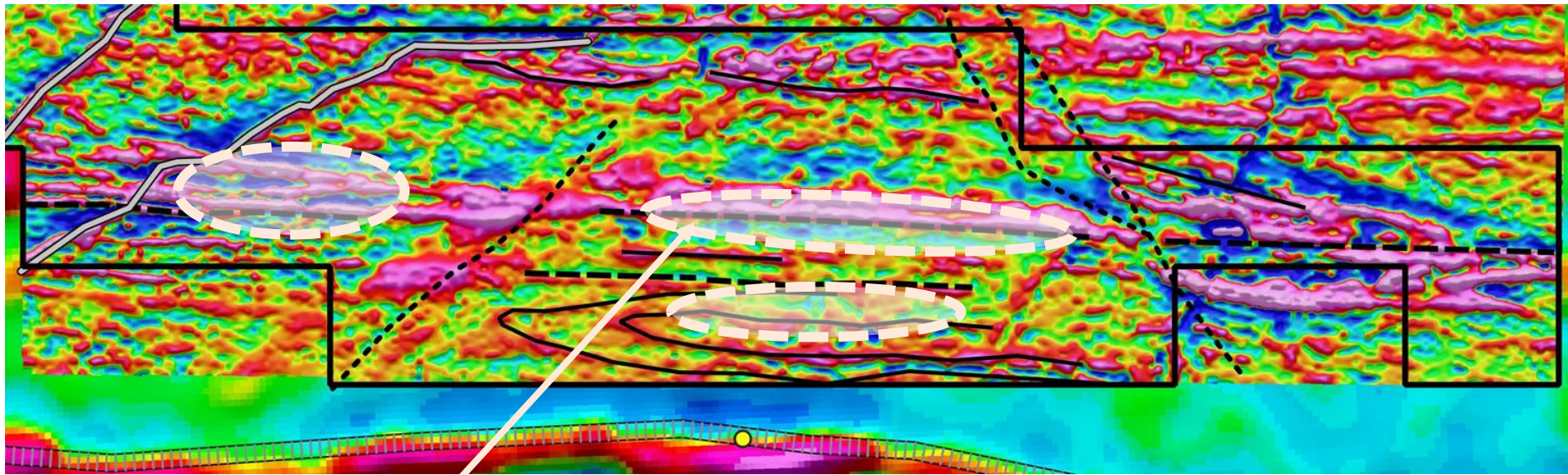
January 2020,
Projected in NAD 83, Zone 18

7- Potential Targets: Eastern Portion



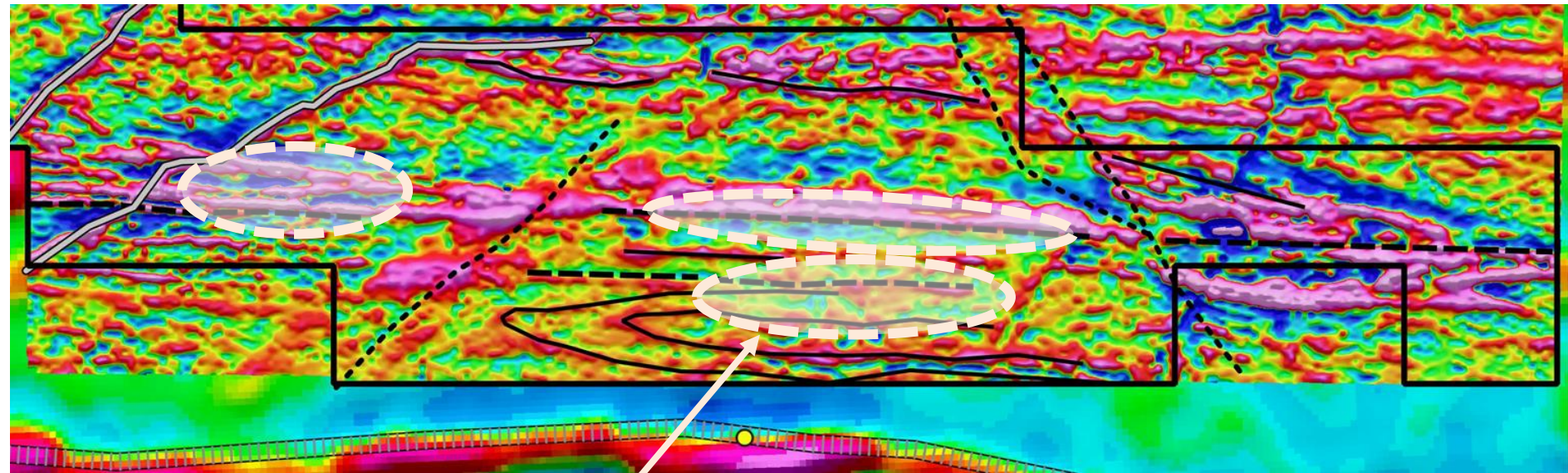
Orogenic gold target #5: Possible sheared flank of a mafic intrusion, zone of thickening.

7- Potential Targets: Eastern Portion



Orogenic gold target #6: Possible sheared flank of a mafic intrusion

7- Potential Targets: Eastern Portion



Orogenic gold target #7: sheared limb on isoclinal fold outlined by formational marker



8 - Recommendations

Prioritize targets:

- 1) Review and compile interpreted/drilled shear zones, faults, iron formation and mafic intrusion within the property and a 500 m buffer using assessment files.
- 2) Conduct an IP survey to detect zones of disseminated sulfides

Following the above recommendations, the targets should be ranked and we recommend drilling of the most promising targets, according to established budget.

9 - Summary: Exploration Targets

The following features are interpreted as favorable setting for emplacement of orogenic gold mineralization and represent good exploration targets:

- 1) Margins of mafic intrusions
- 2) Faulted fold noses in formational magnetic marker
- 3) Truncated/ sheared limbs of formational isoclinal folds