Dobroyde Project Overview

Glen Diemar CEO, Sept 2017

Kyle Hughes GSNSW

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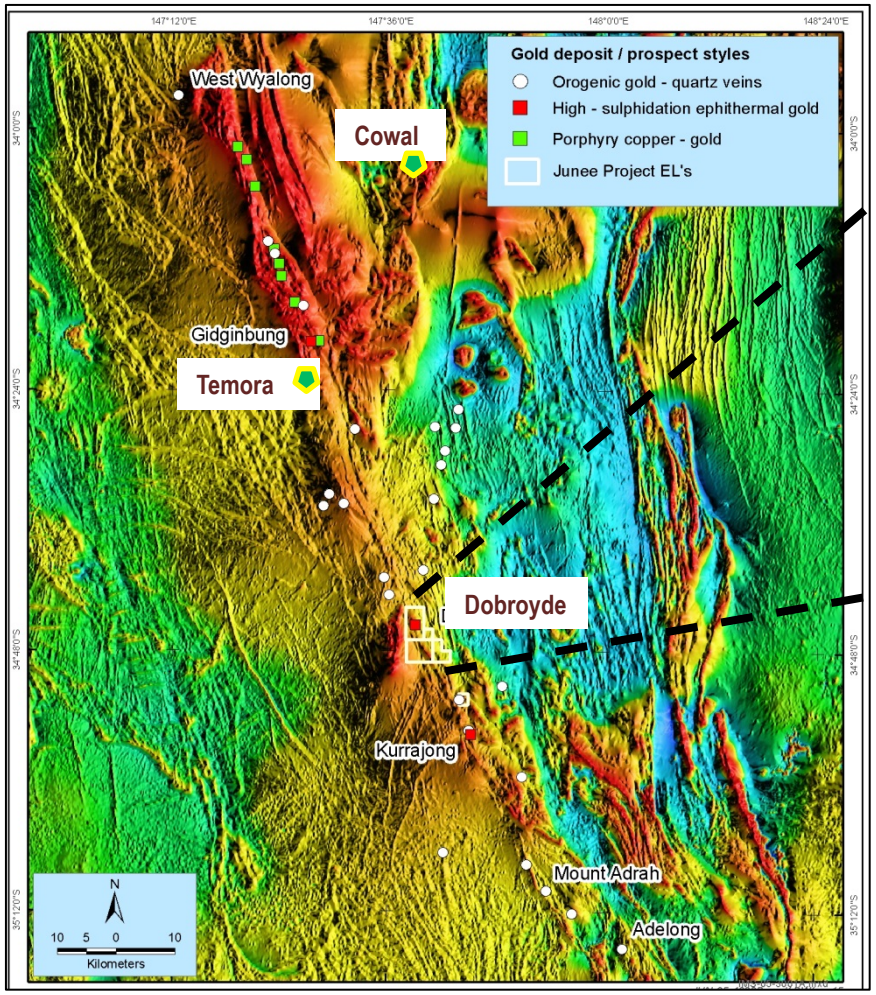
Regional Setting

Targeting offsets to large structures in the least explored but highly endowed belt of the Lachlan Fold Belt

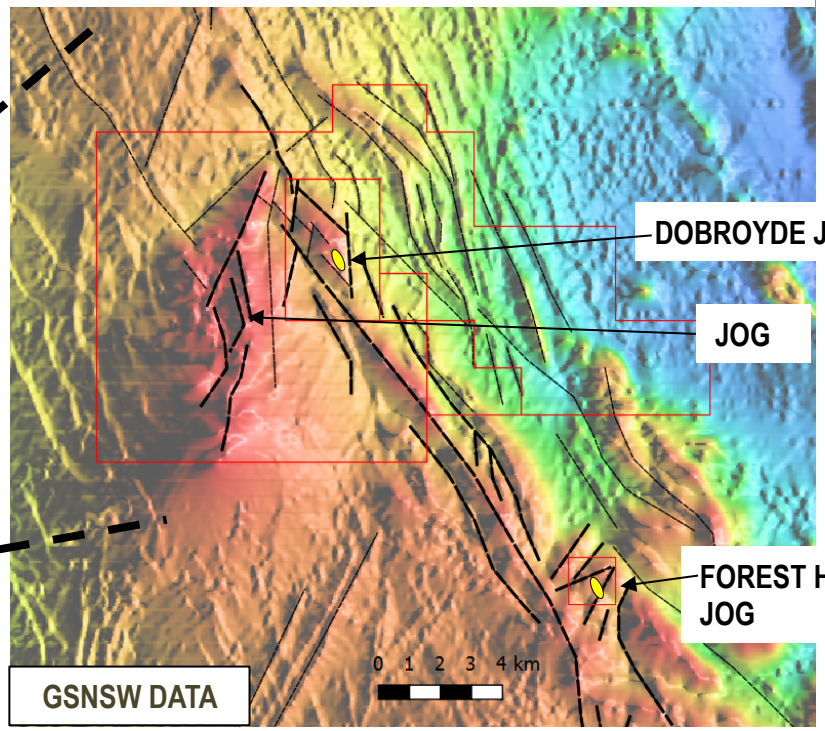
NEW SOUTH RESOURCES

Regional Magnetics and Structural Setting
Gilmore Fault Zone Jog Sites - Dobroyde & Forest Hill



GSNSW REGIONAL TMI_TRP MAGNETICS IMAGE HIGHLIGHTS THE GILMORE FAULT ZONE RUNNING 200KM FROM WEST WYALONG TO ADELONG

The license boasts three km scale Jogs along the Gilmore FZ



DOBROYDE HILL - HIGHLY ALTERED 'FERTILE' ANDESITE PORPHYRY
distinctive high Sr/Y & spoon-shaped REE patterns
(Crawford 2014, sample 2090)

Local Setting

Geology, Dobroyde High Sulphidation Deposit & Associated Alteration Footprint

NEW SOUTH RESOURCES

Dobroyde Hill Deposit Models
Terry Leach 1988 and Allibone 1993

PETROLOGY REPORT

PETROLOGICAL EVALUATION OF CORES FROM THE DOBROYDE GOLD DEPOSIT, NSW

for
LITTLE RIVER GOLDFIELDS NL

prepared by
Terry M. Leach

October 1987

VI COMMENTS AND DISCUSSIONS :

i) Characteristics of the Dobroyde Deposit :

The Dobrodye deposit may be classified as a high sulphur, epithermal enargite gold deposit (Bonham 1986) with the following characteristics :

i) high sulphur mineralogy (barite, pyrite, enargite)

ii) acid / advanced argillic alteration having a distinct zonation in assemblages, grading out to peripheral propylitic or sub-propylitic mineralogy.

iii) gold mineralisation occurs in the silicic core zones associated with the the acidic mineralogy.

iv) intense brecciation, some hydrothermally related.

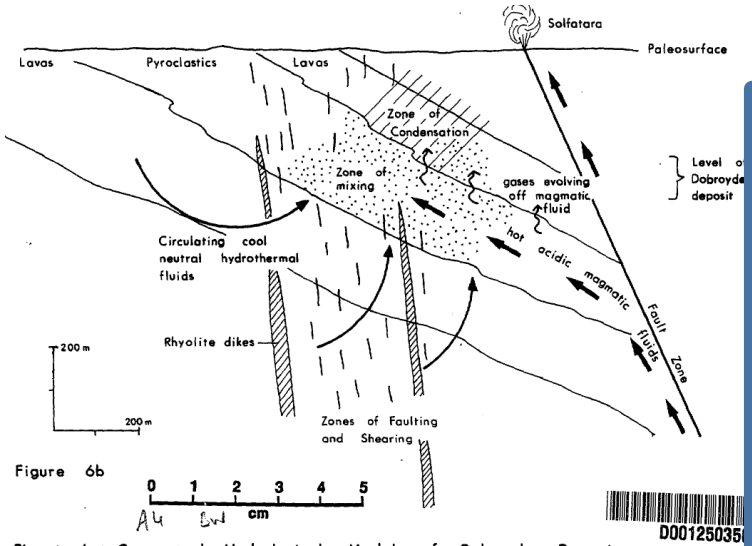
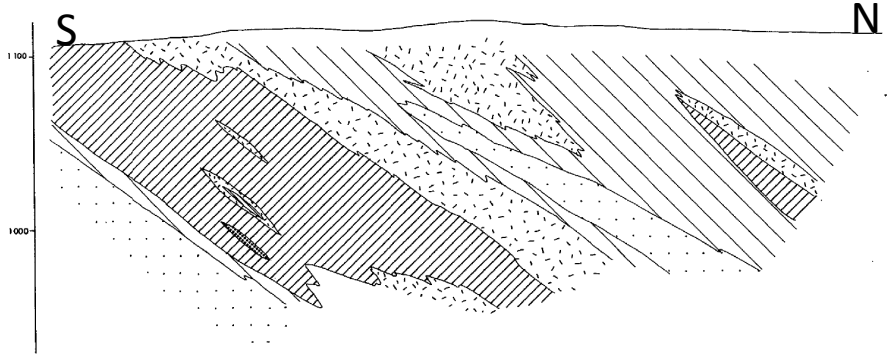


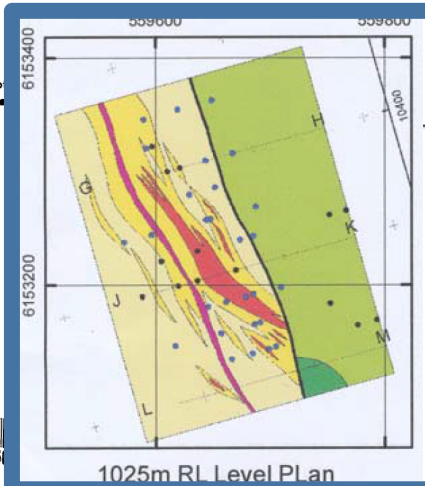
Figure 6b

Figure 6 : Conceptual Hydrological Model of Dobroyde Deposit

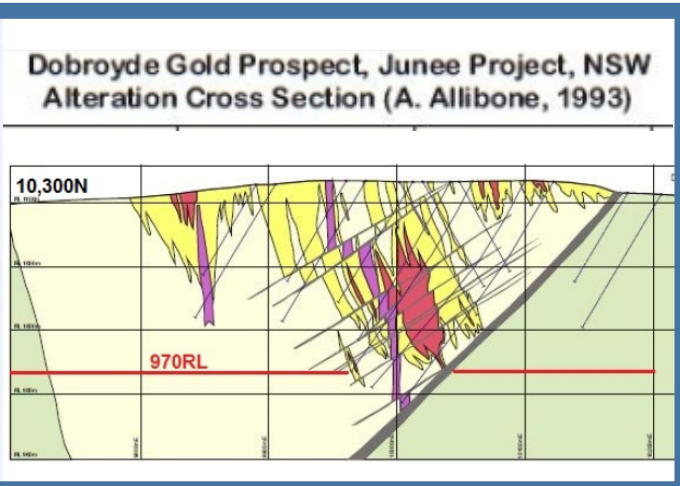


Mt Kasi, Fiji - Similarities and Differences

absence of alunite, and the presence of abundant barite is also characteristic of the Mt.Kasi high sulphur gold deposit in Fiji (Turner 1986). This absence of alunite may be due to :

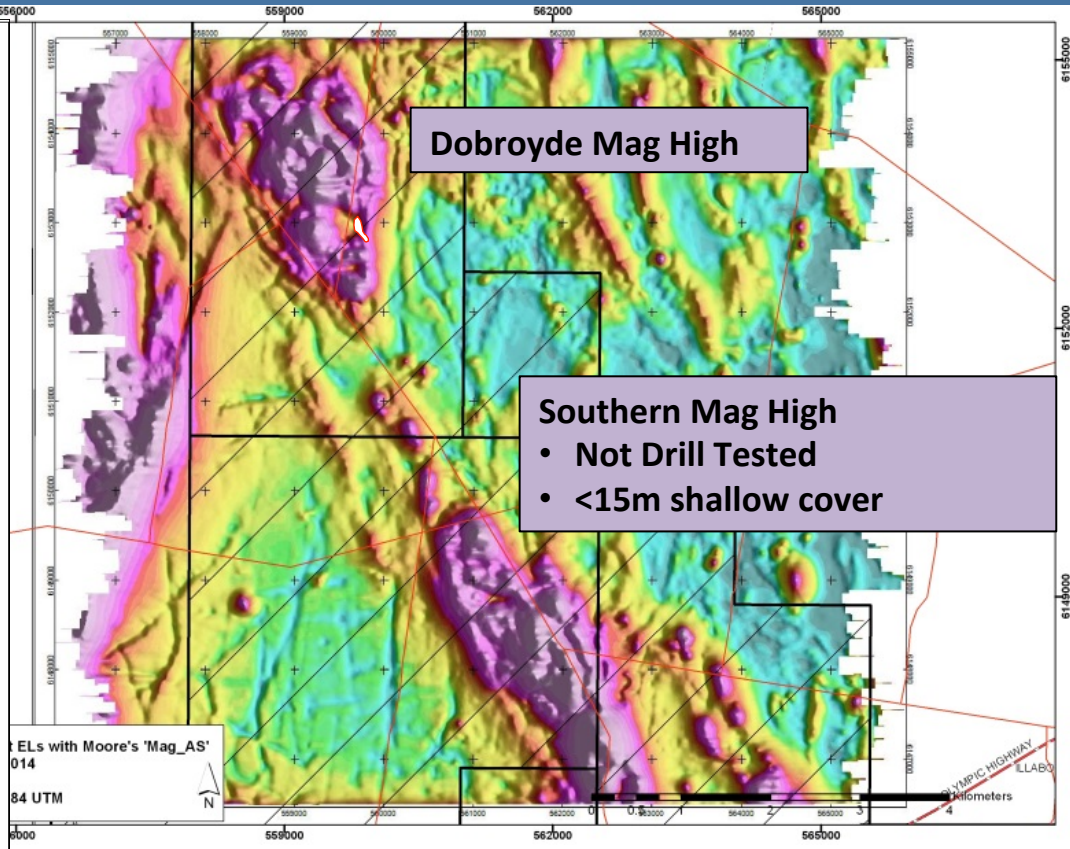


1025m RL Level PLan

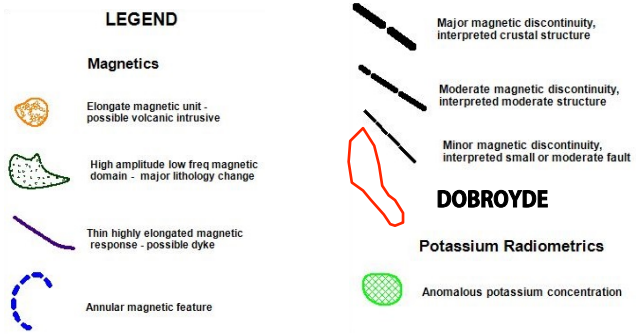


DOBROYDE Optimism for Something Bigger

Dobroyde Volcanic Complex - First Priority Structures

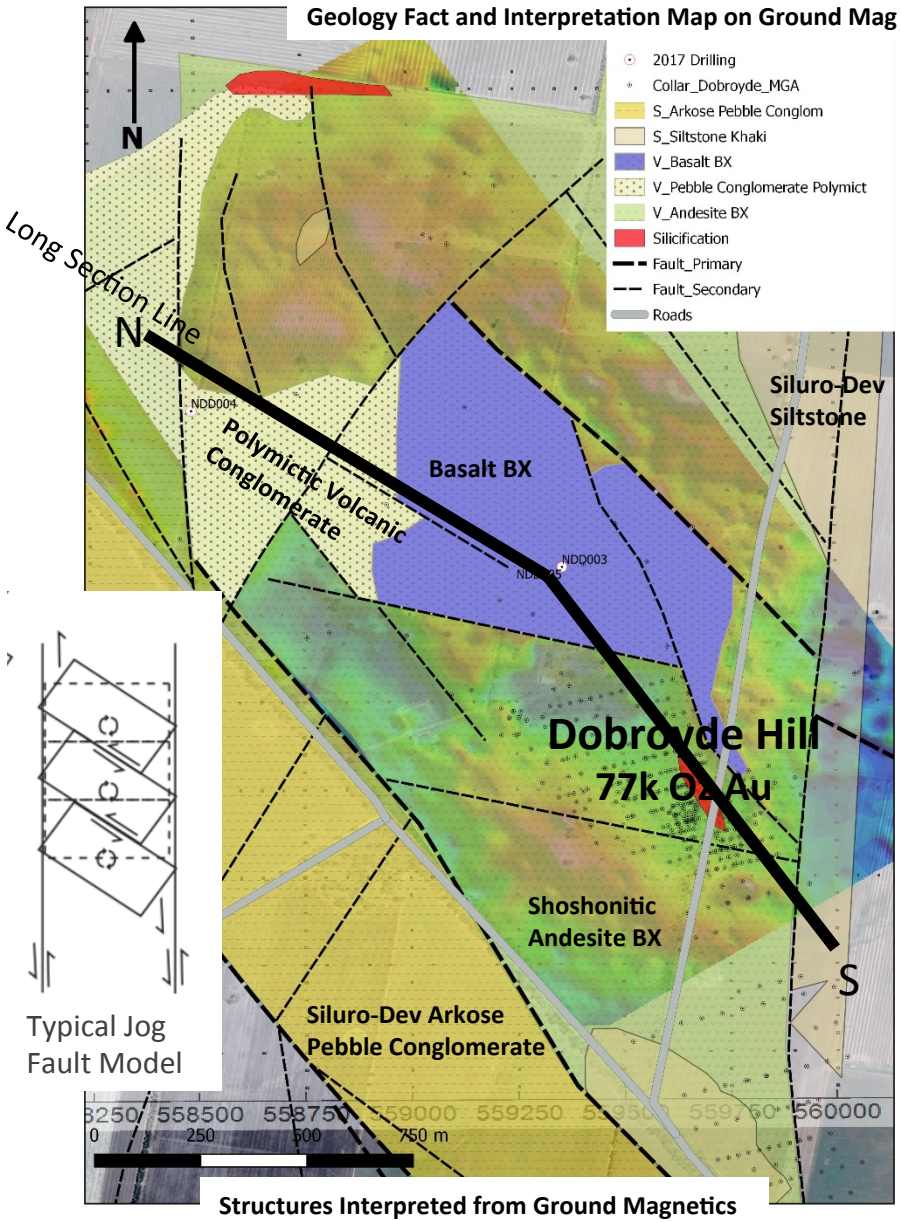


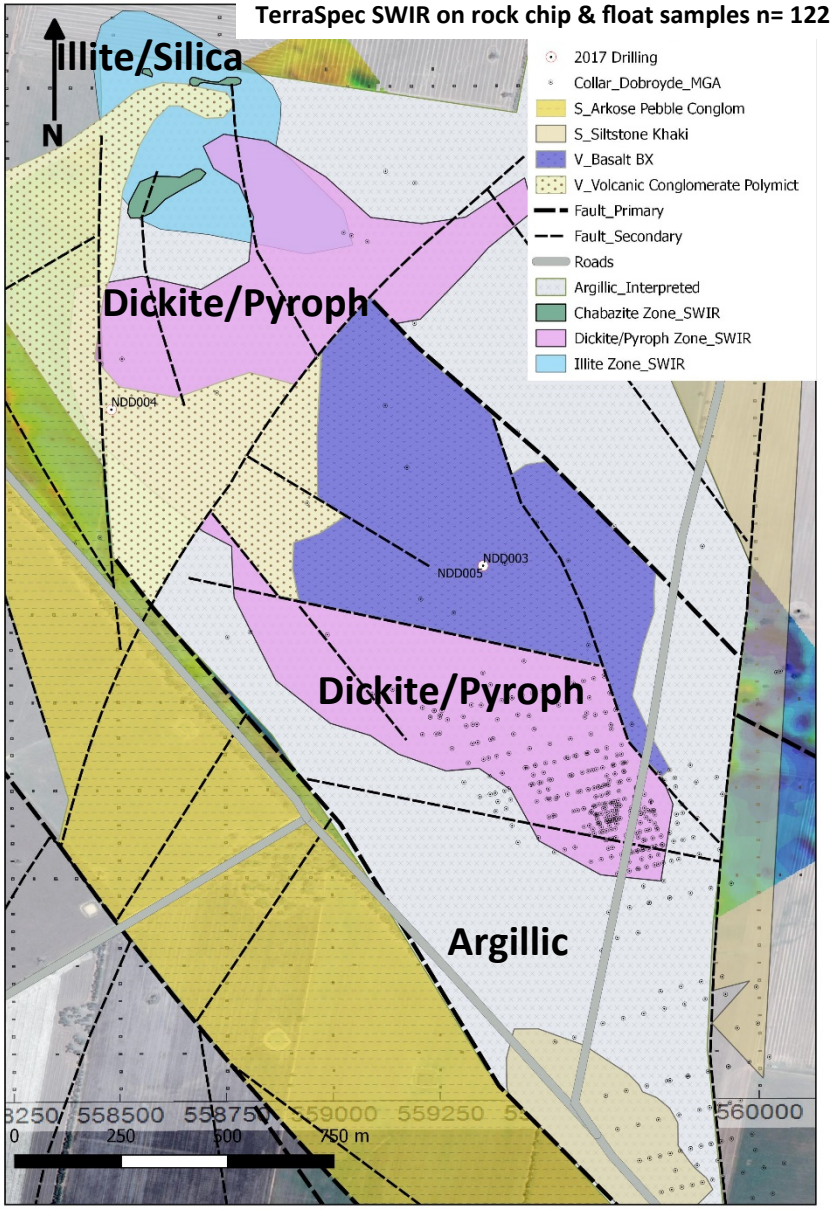
Magnetics Analytical Signal showing Dobroyde and Southern Mag Target



Surface Geology & Structural Interpretation Map (Left)
TerraSpec Alteration Fact Map (Right)

4+km Strike

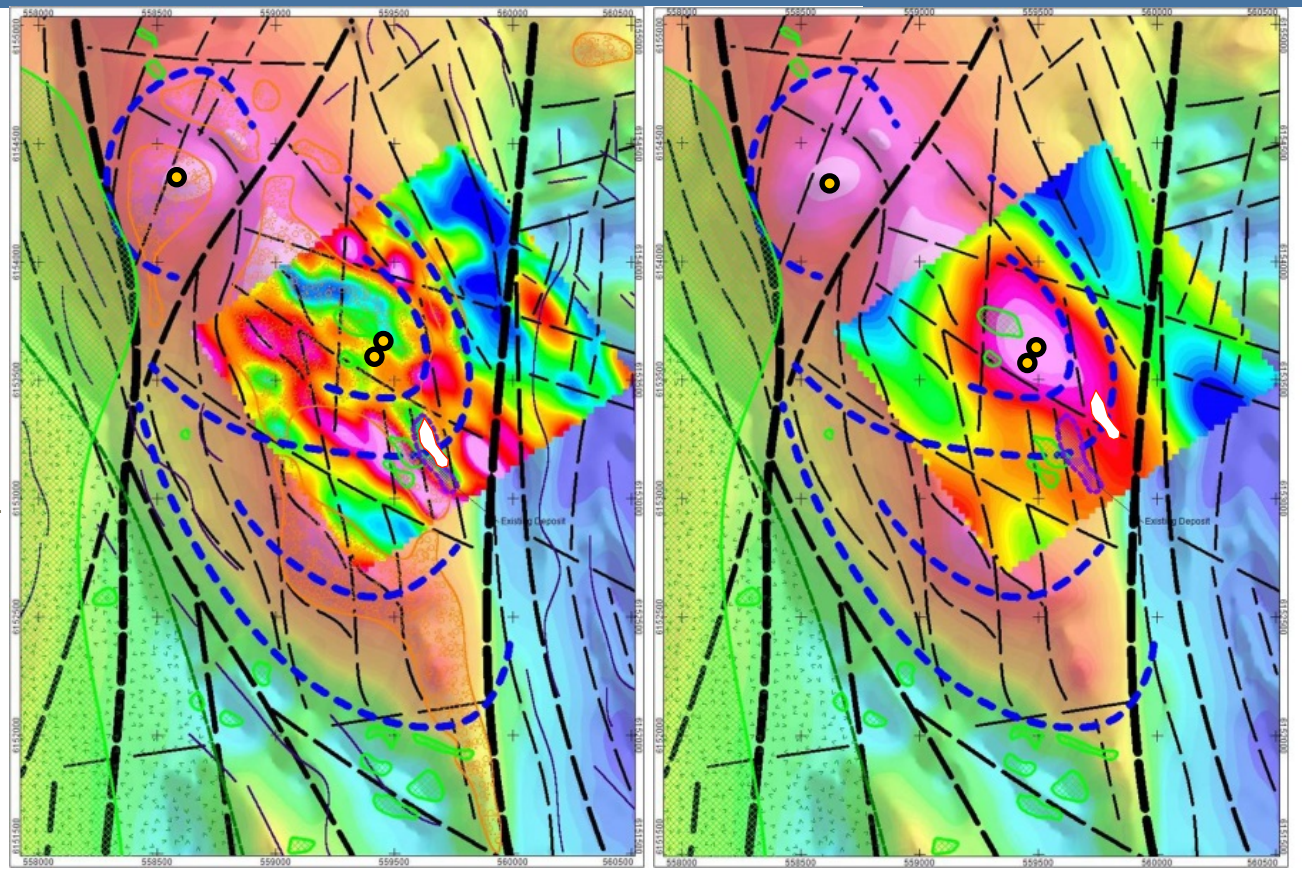




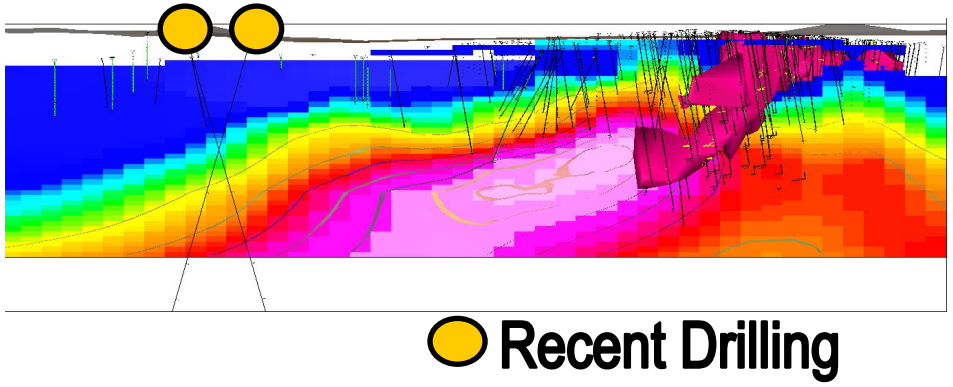
Geophysical Targeting Led to Recent NSW Gov. Supported Drilling

Dobroyde gold deposit outline & structural interp/annular features

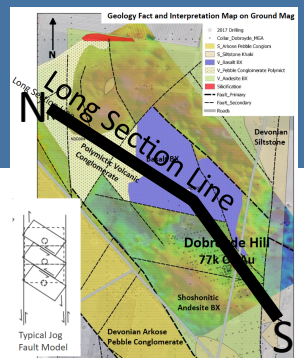
Elevated chargeability (left) & elevated resistivity (right) at 100m RL on RTP magnetics background



Dobroyde gold deposit & two recent drill holes
Resistivity inversion model N-S Long Section (Looking East) showing gold resource shell (dark magenta) & overlapping high resistivity (light magenta) with open shallow-moderate plunge to the NNW beneath historic drilling



2017 DRILLING LONG SECTION (NDD003-NDD005)



NSW Government collaboratively funded three NQ diamond holes on the technical merits of the project.
1,509 m were drilled between November 2016 and January 2017
NDD003 323.8m (Tested a dipole IP chargeability anomaly)
NDD004 440.8m (Tested a magnetic and +1000ppm Barium high)
NDD005 744.2m (Tested 700m down plunge of the Dobroyde Hill Ind/Inf Gold Resource)

400RL
200RL
0RL
-200RL
-400RL
N
S
NDD004
NDD003
NDD005
6154200N
6154000N
6153800N
6153600N
6153400N
6153200N
6153000N
Polymitic Volcano-Sedementary BX
Calc-Alkalic Barren Basalt BX
Shoshonitic Andesite BX
Dobroyde Hill
77kOz JORC 2012
Indicated and inferred resource
Dickite pyrophyllite kaolinite illite pyrite
High Sulphidation Epithermal TARGET ZONE
Carbonate Base-Metal Epithermal Gold TARGET ZONE
Sharp Nonconformble Contact
Faulted Contact
?
324 m
441 m
744 m
Au Intercept
43m @ 0.36g/t
inc 18m @ 0.61g/t
or 7m @ 1.15g/t
inc 3m @ 2.1g/t
and 1m @ 3.65g/t
Ag Intercept
54m @ 0.61g/t
Ag Intercept
73.5m @ 0.46g/t
inc 1m @ 6.26g/t
and 1m @ 4.34g/t
Au Intercept
20.6m @ 0.6g/t
inc 1m @ 9.46g/t
and 1m @ 1.23g/t
Au Intercept
27.4m @ 0.42g/t
inc 19m @ 0.51g/t
and 1m @ 5.68g/t
and 1m @ 3.27g/t
Ag Intercept
17m @ 0.82g/t
inc 1m @ 8.91g/t
Legend
>0.3 g/t Au
Ore body >0.5 g/t Au
Intense alteration
Barren basalt
Drill hole trace
0
100
200 m
August 2017
NEW SOUTH RESOURCES

Phase 2 Macq Arc: Med-K Calc-Alkaline Basaltic-Andesite, *ca* 465-455 Ma

Field observations and Crawford T. Petrology 2014 & 2017

***Bloody Basalt*: Med-K Calc-Alkaline Basaltic-Andesite**

Polymict and monomict plag + olivine + augite phyric angular volcanic lava breccias, sandy to silty matrix of altered vitroclastic debris and phenocryst fragments.

Rare limestone clasts (drill hole NDD003)

Orientation

Faulted lower contact with andesite.

Disconformable upper contact with NDD004 volcanic-volcaniciclastic conglomerate

Ground mag, mapping and drilling show a thickness of *ca*400-600m and 30° dip to the NW.

Alteration

Numerous wide zones of moderately west-dipping calc-epidote parallel veining.

Prehnite-pumpellyite metamorphic burial alteration

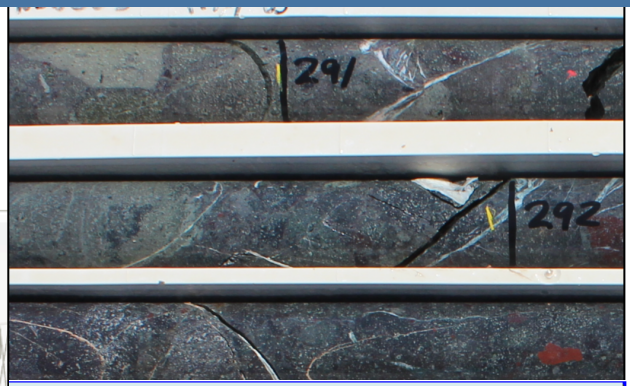
Age Estimate

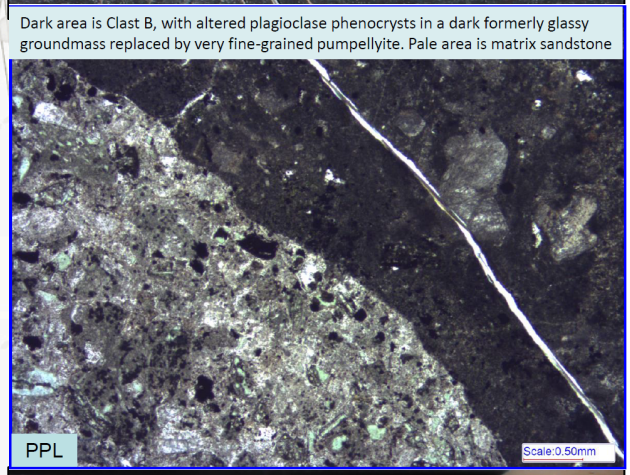
465-455 Ma from petrology (Crawford 2014 & 2017)

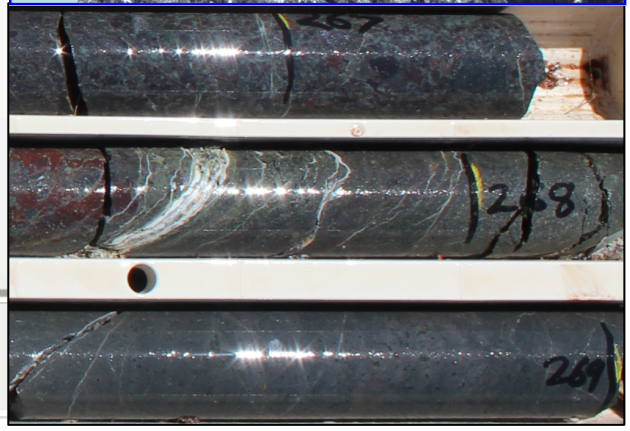
Correlation

Strong petrographic correlation to the 460Ma Basal Goonumbla Volcanics, Parkes District

Phase 2 (Eastonian) top of Fairbridge volcanics and upper part of the upper Blayney volcanics







Phase 4 Macq Arc: Volcanic-Volcaniclastic Clast Supported Conglomerate

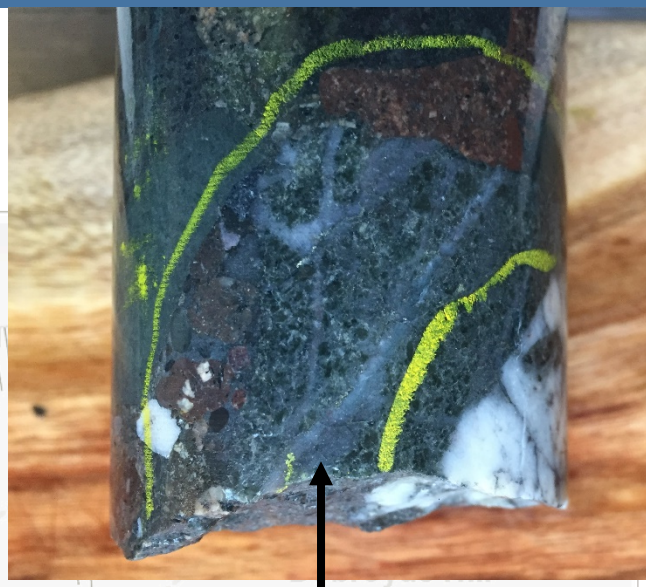
Field observations and Crawford T. Petrology 2017

***Volcaniclastic Conglomerate/Breccia*:**

Pebble clasts include Plag + hornblende phric monzonites, Limestones, Qtz arenite, red siltstone, tuff breccia, oxidised horizons

Sand matrix cemented by sericite, carbonate, pyrite, barite <2000ppm Ba

Small outcrop of volcanic conglomerate on a hill 2.2km north of Dobroyde Hill



Orientation

Conformable lower contact with NDD004 medium-K basalt (Turner S., pers comm 2017)

Bedding 70° dip to the W.

Alteration

Sericite, epidote, carbonate, pyrite

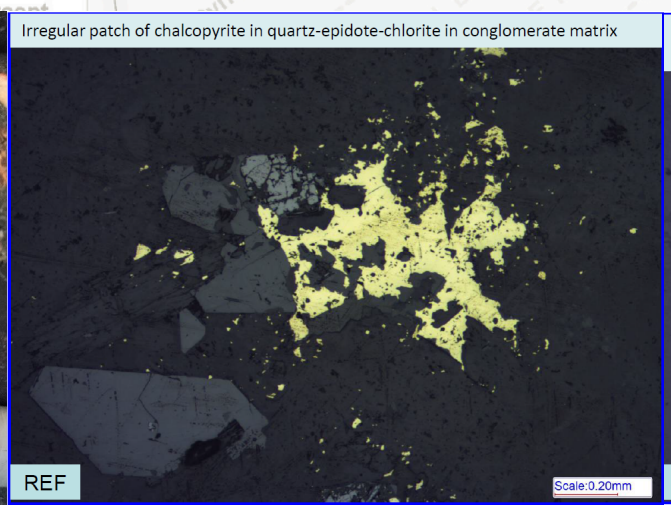
Minor lowest greenschist alteration

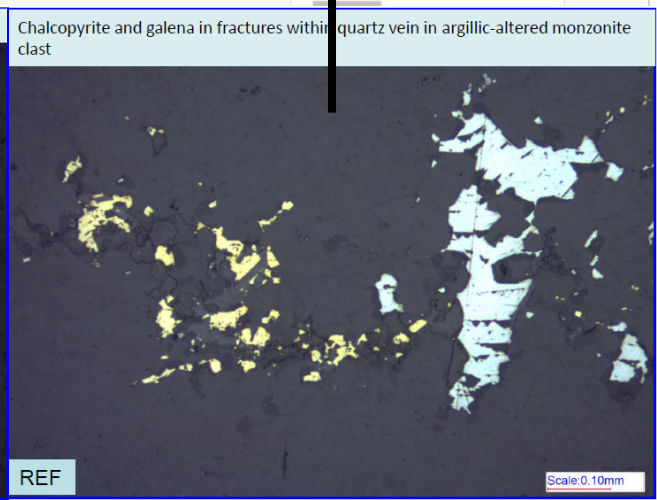
Age Estimate from Petrology

Phase 3 455-445Ma Copper Hill suite volcanics. Uplifted, eroded and redeposited as volcanosedimentary conglomerates during Phase 4 btw 437-435Ma (Crawford 2017).

Correlation

The Gidginbung polymict pebble conglomerate





Phase 4 Macq Arc: Altered & Mineralised Shoshonitic Andesite 437-435Ma

Field observations and Crawford T. 2017 Petrology

***Andesite Host to Alteration & Mineralisation*: 435 Ma (U-Pb SHRIMP, Geoscience Aust., in prep)**

Shoshonitic plag and plag + hornblende phyric glassy quenched lavas, breccias and pyroclastics, dykes and sills and associated volcano-sedimentary facies.

Abundant hornblende phyric shoshonitic lava

Oxidised facies present

Large zircons + apatite phenocrysts

Inc monzonite and monzodiorite clasts (likely Phase 3 - Copper Hill Suite Macq Arc 450-445Ma)

Alteration

1. Argillic – sericite/illite silica (Na, Ca, K initial removal)
2. Advanced argillic – Kaolinite group (Na, Ca, K complete removal), silica, pyrophyllite
3. Deeper level - Carbonate silica

No Limestones observed

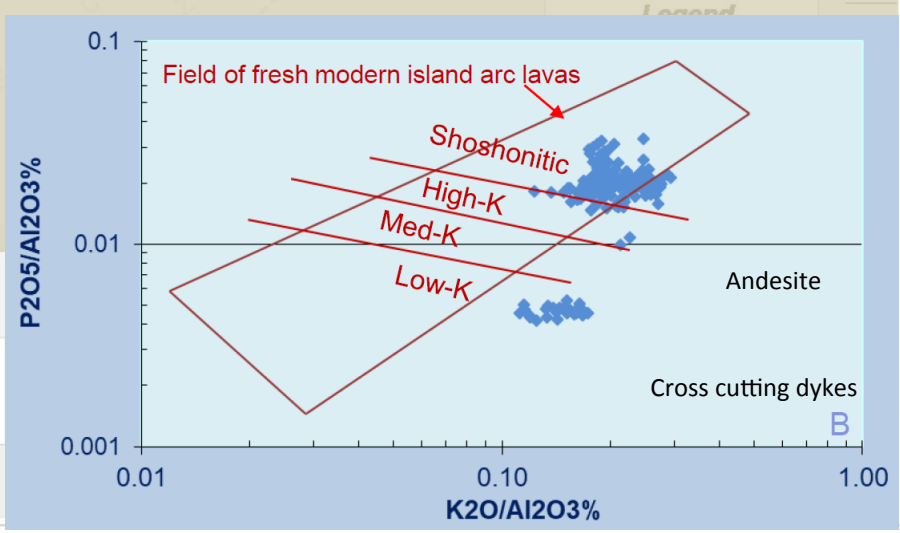
No metamorphism observed

Correlation

Nash Hill and Bushman volcanics, Parkes district

Interpretation

Represent the terminal phase of the Arc

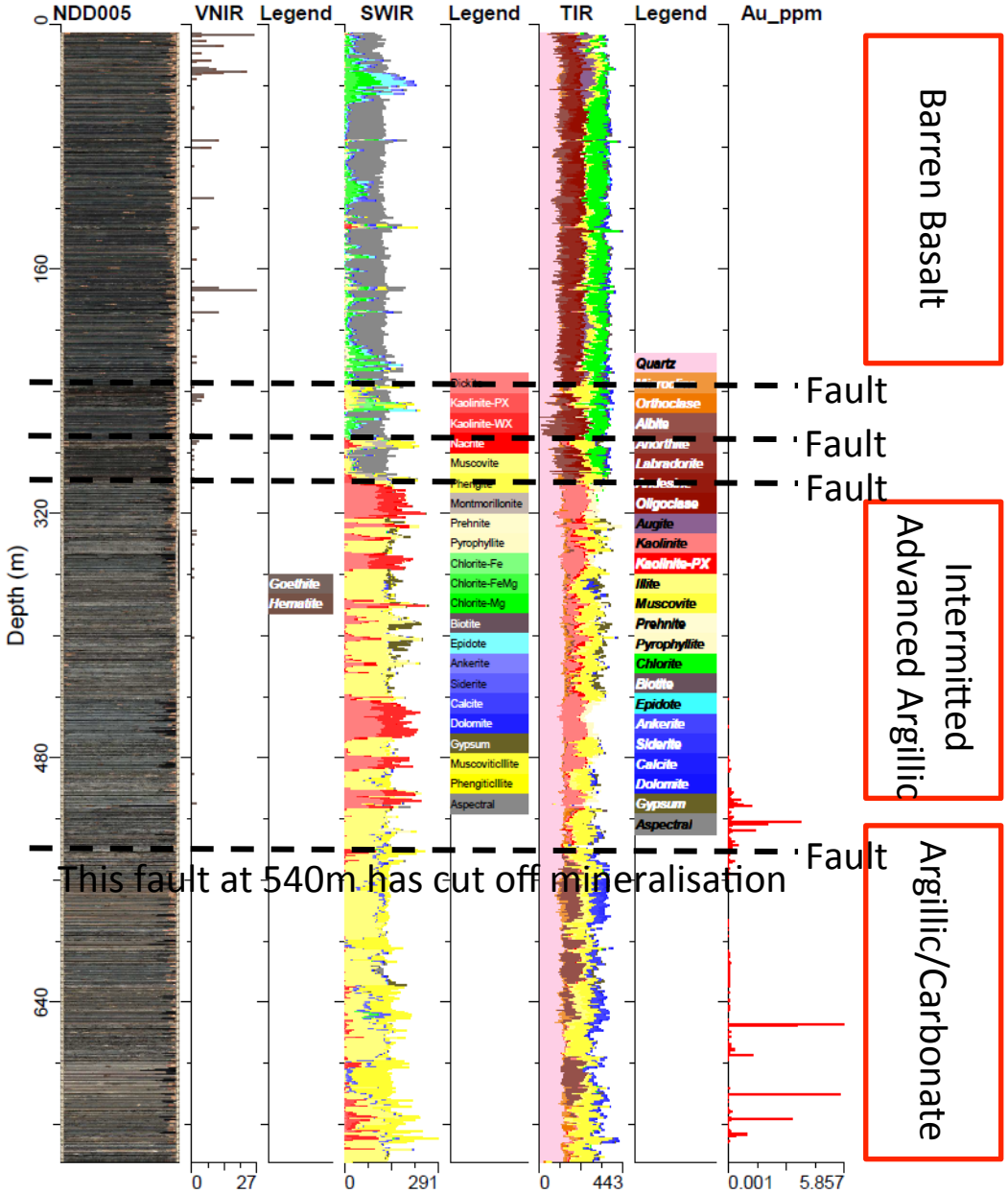


Alteration

Advanced Argillic (Dickite, Pyrophyllite, Kaolinite, Silica, Pyrite)
Argillic (Illite, Muscovite, Silica, Pyrite)
Carbonate (Ankerite, Siderite, Muscovite, Illite)

NEW SOUTH RESOURCES

NDD005 GSNSW Hylogger – Advanced Argillic to Argillic Carbonate



Hylogger (July 2017) by NSW Geological Survey
Due to the significance of NDD005 the NSW Geological Survey agreed to Hylogg the entire 744.2m hole.

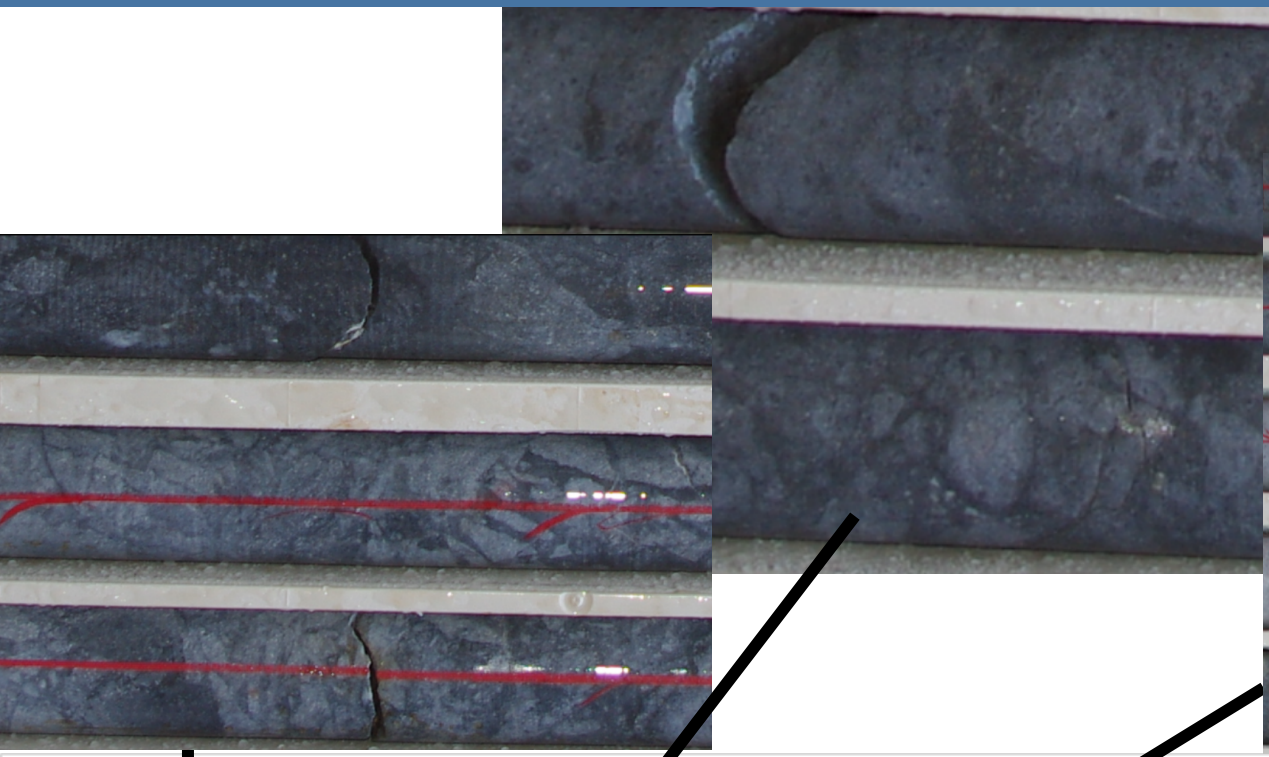
Key Findings:

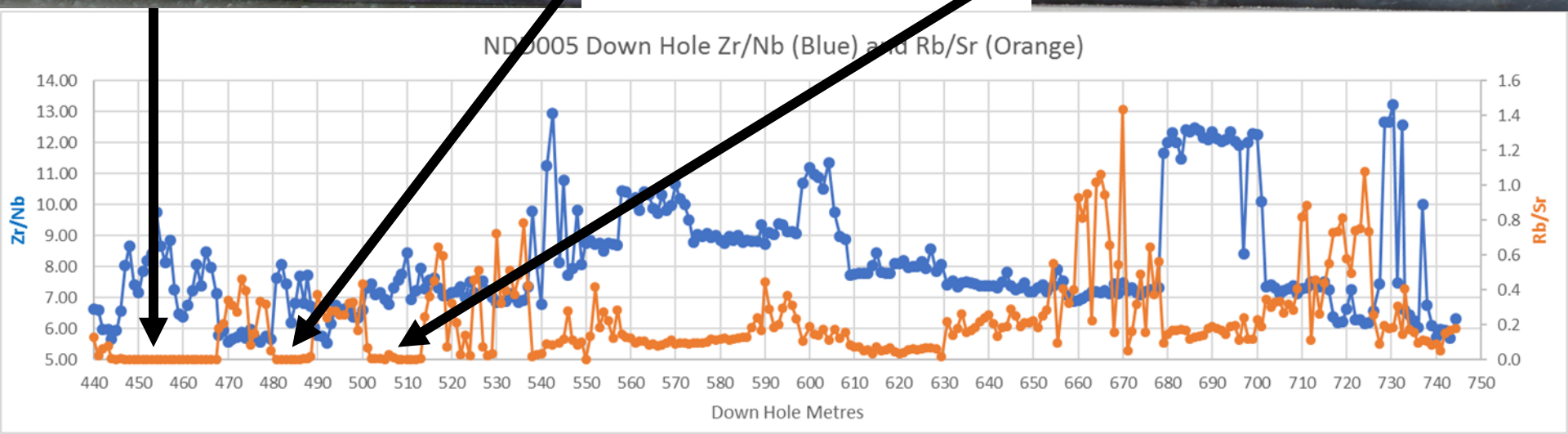
Alternating Zones of Advanced Argillic and Argillic
- High Li and very high Sr,
- Other clay cations stripped out
- Dickite, Pyrophyllite, Kaolinite alteration assemblage

Argillic/Carbonate Zone
- Low Li and Sr
- Muscovite, carbonate alteration assemblage
- Higher gold and silver grades
- Carbonate shown in Blue on TIR graph

Thank you to David, Peter, Troy, Mark and Mike from GSNSW Londonderry

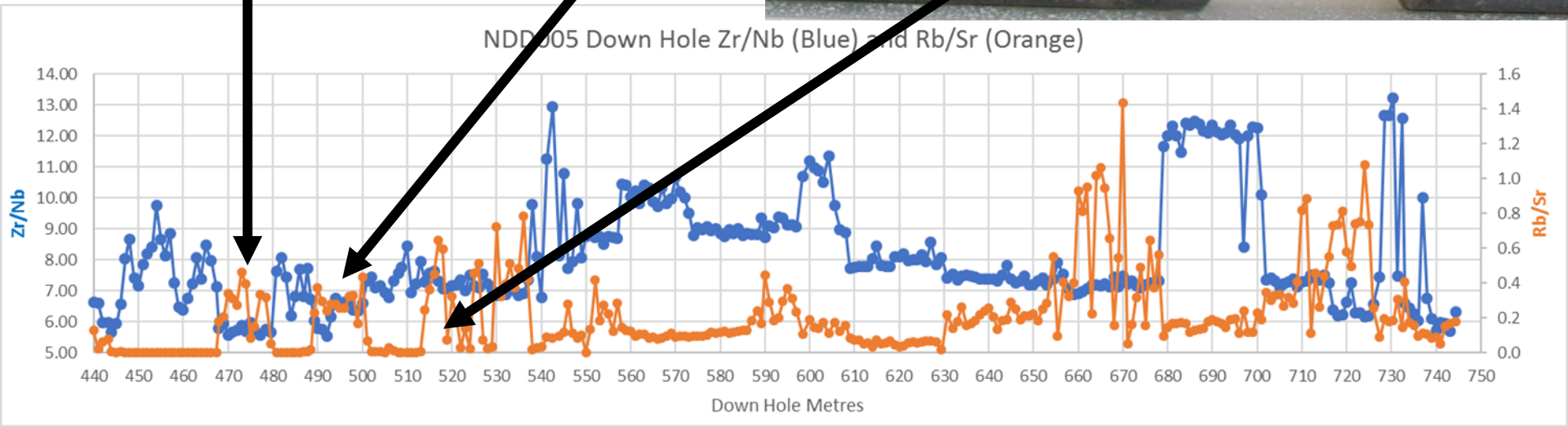
Advanced Argillic - Glassy Lava Breccias (Hyaloclastites)



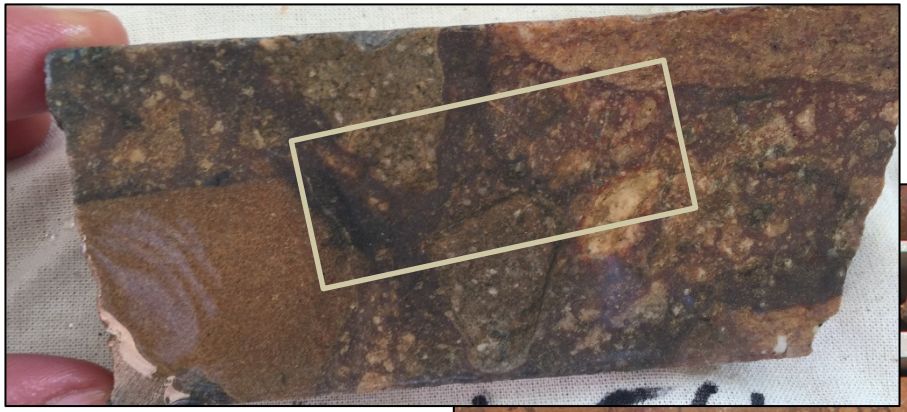


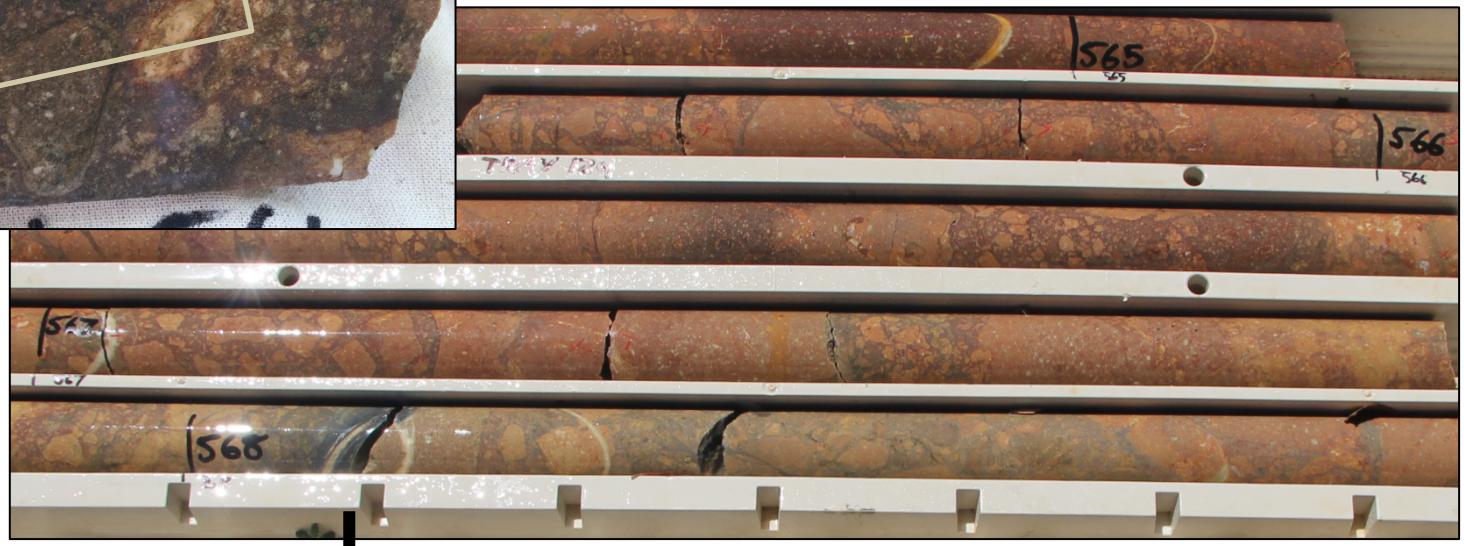
Argillic - Glassy Lava Breccias (Hyaloclastites)

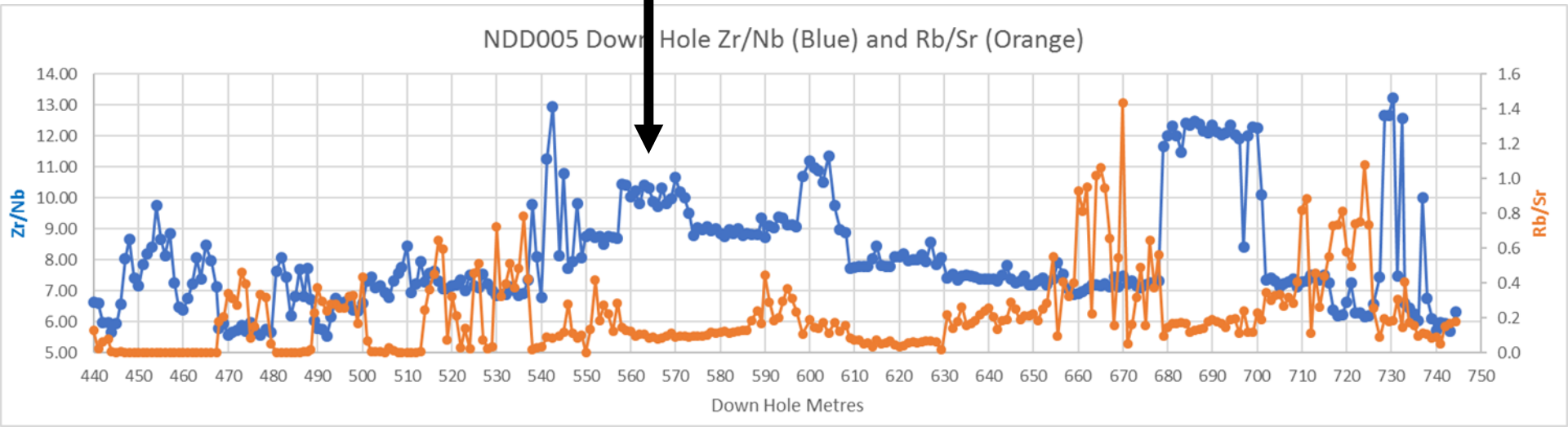
Elevated Gold to 3.65g/t



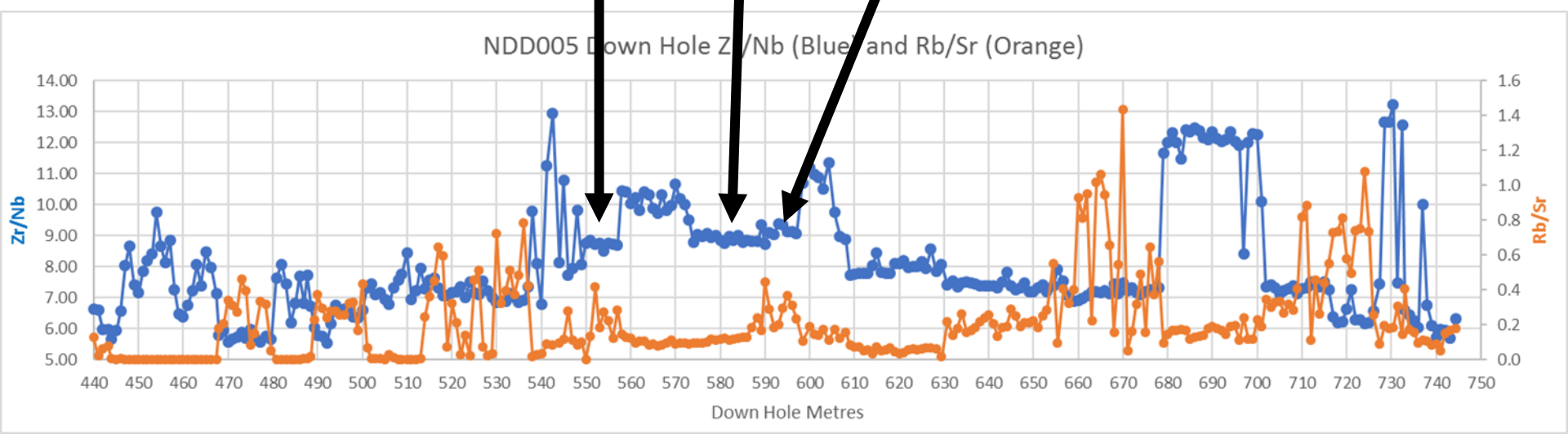
Carbonate/Argillic Alt. Volcaniclastic Polymict Cobble Breccias (inc Monz. Clasts)



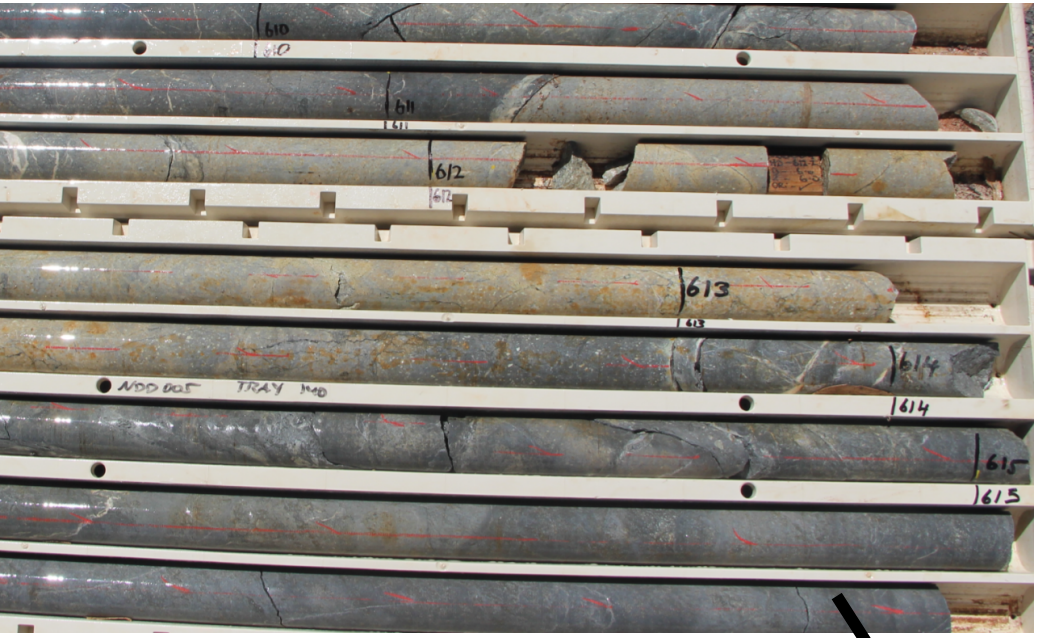


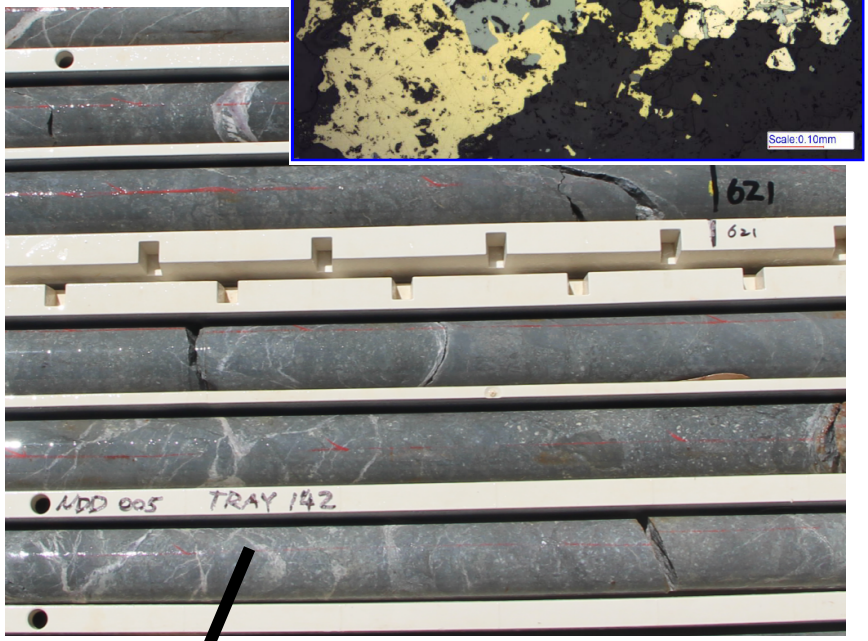


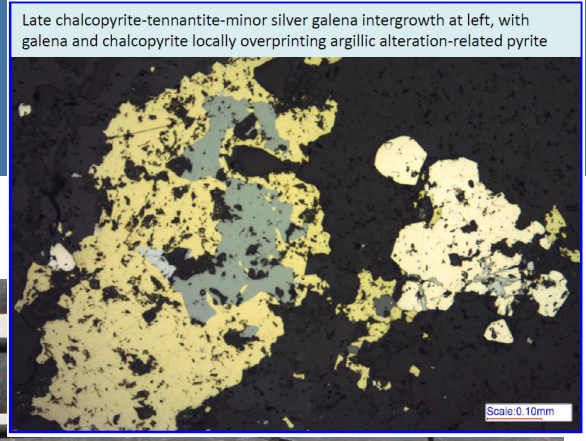
Carbonate/Argillic Altered Volcaniclastic Cobble Breccias

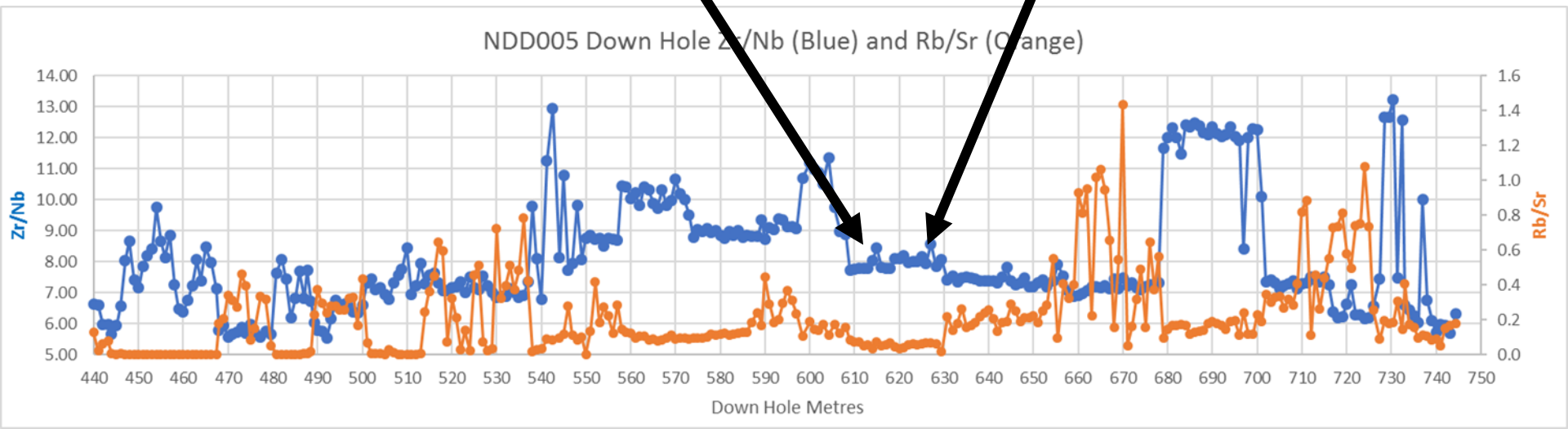


Carbonate /Argillic Altered Volcaniclastic Sandstones & Polymict Breccias (inc Monz. Clasts)

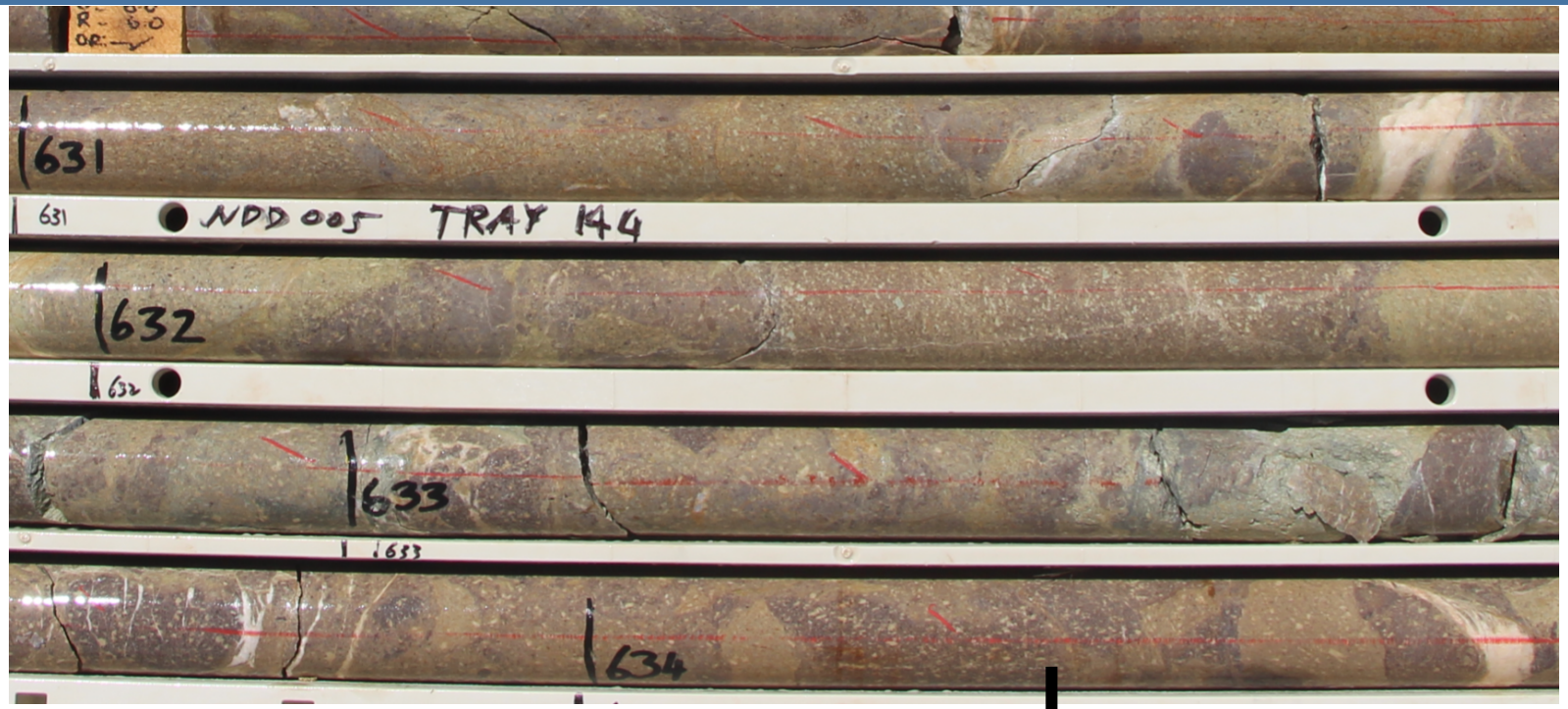


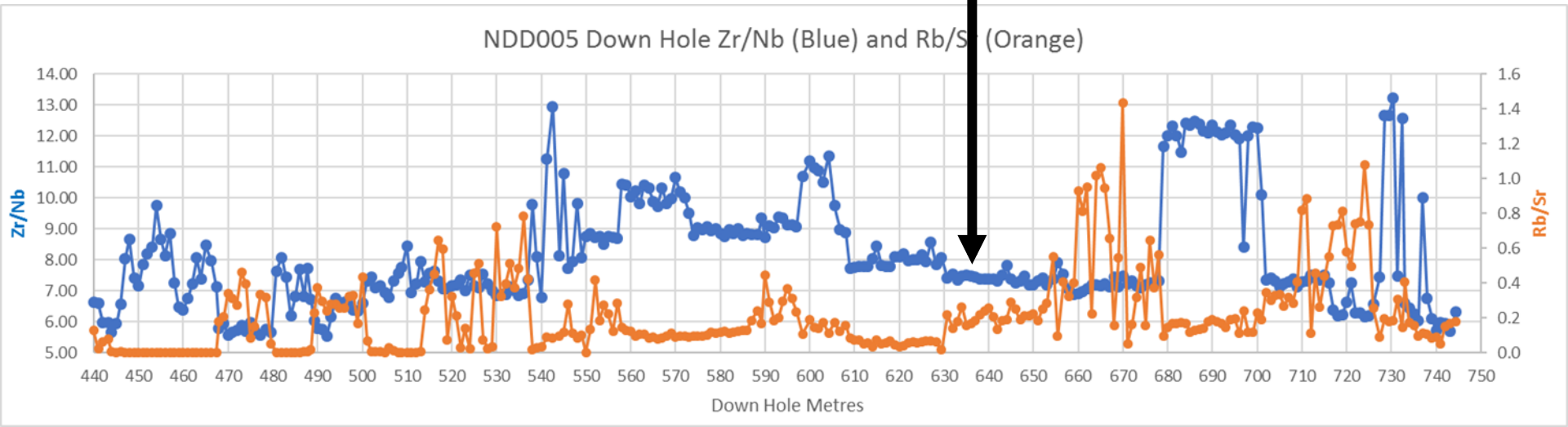




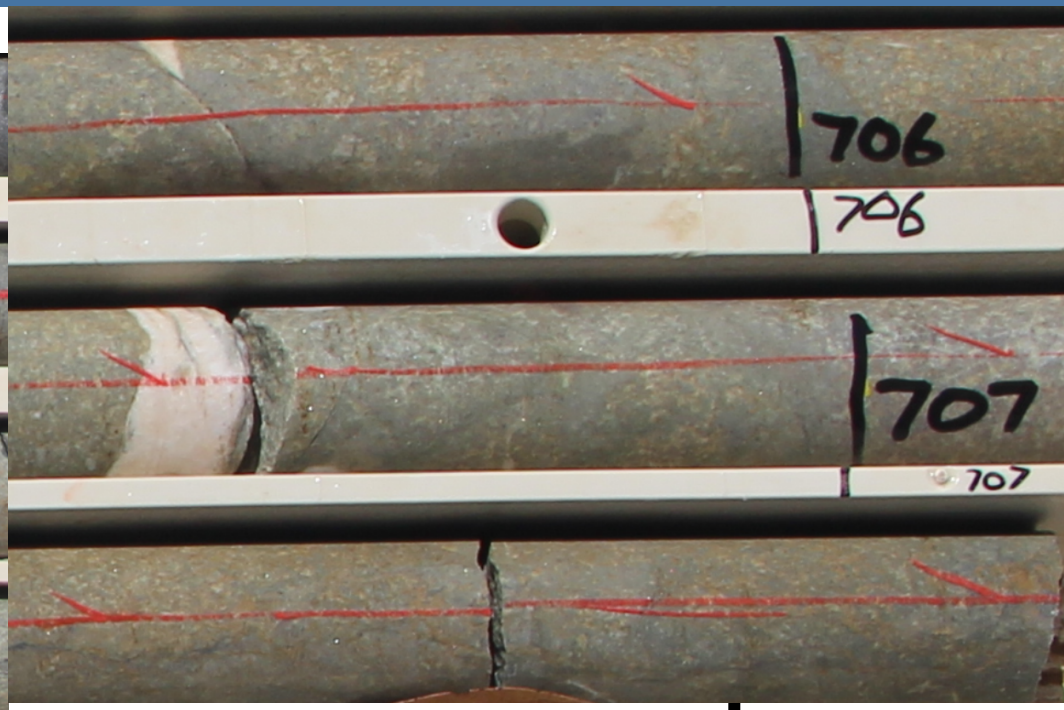


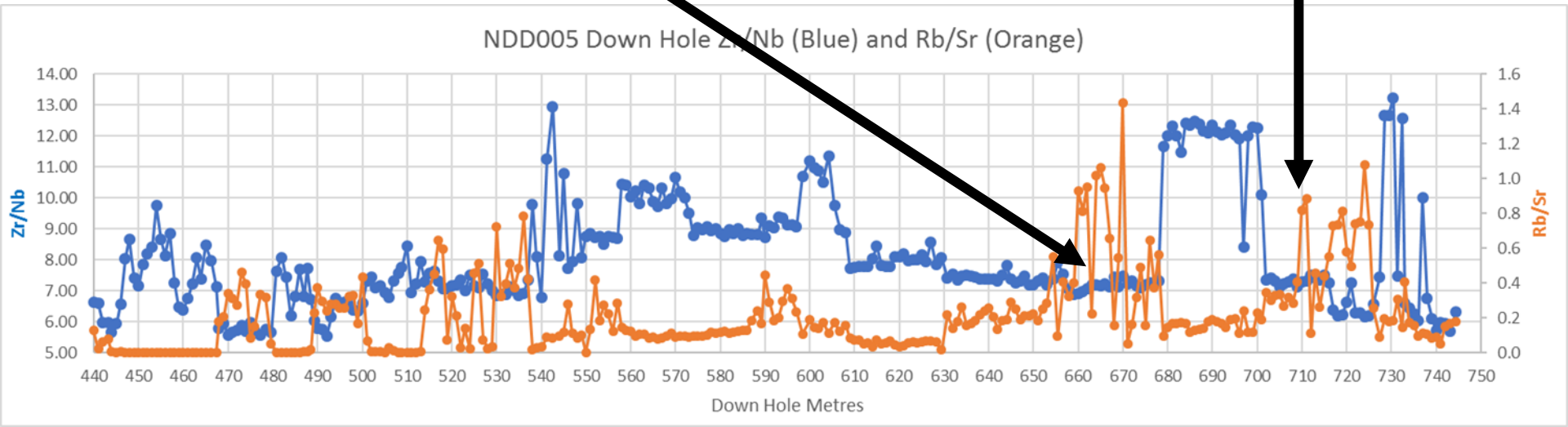
Carbonate/Argillic Altered Andesitic Lava





Carbonate/Argillic Andesite Lava Polymict Breccias (inc Monz. Clasts)



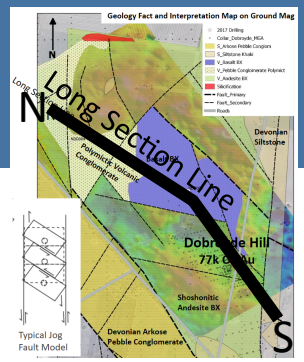


Mineralisation

Down Plunge Opportunity From Dobroyde Hill

NEW SOUTH RESOURCES

DOBROYDE DRILLING LONG SECTION



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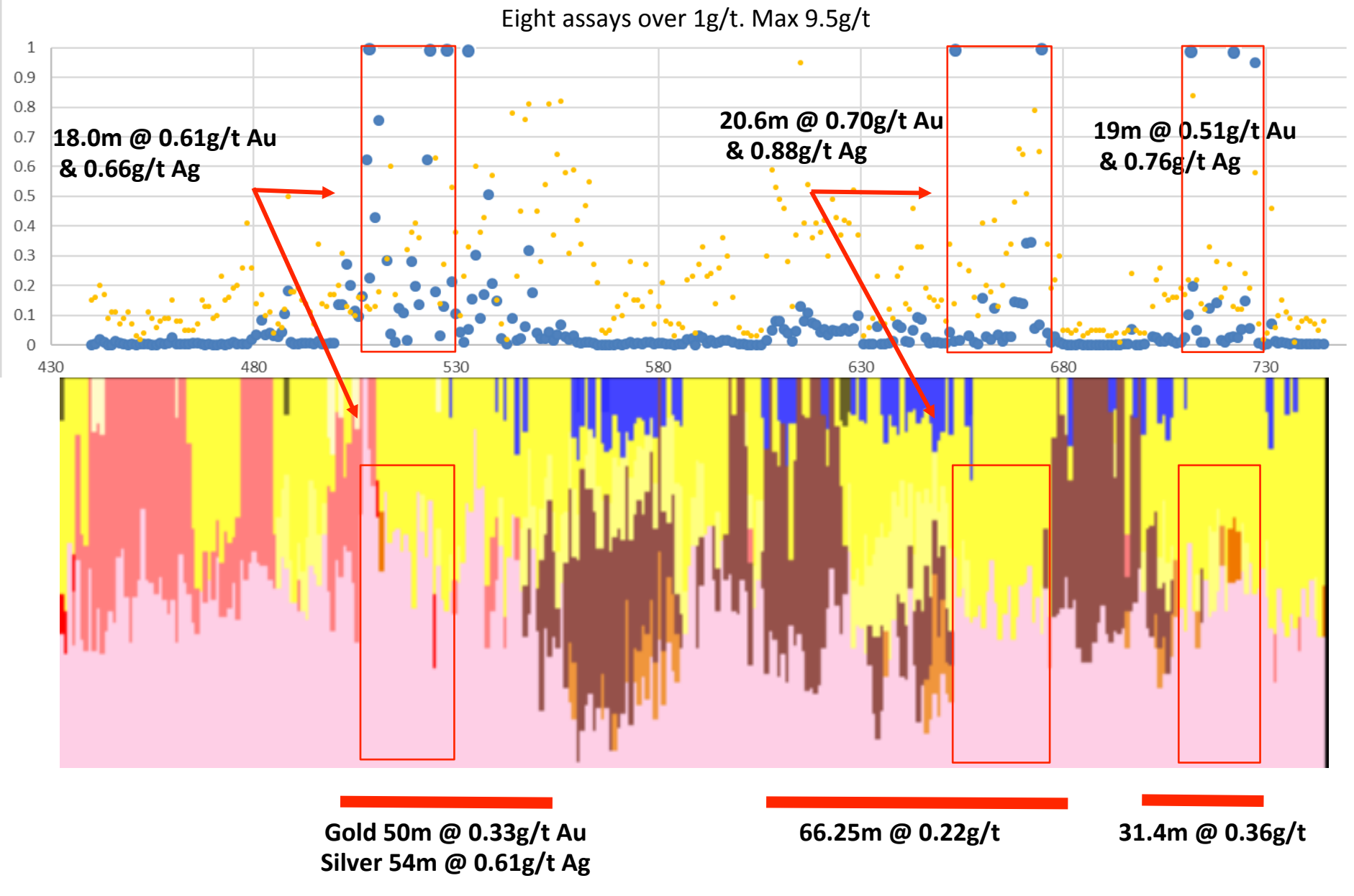
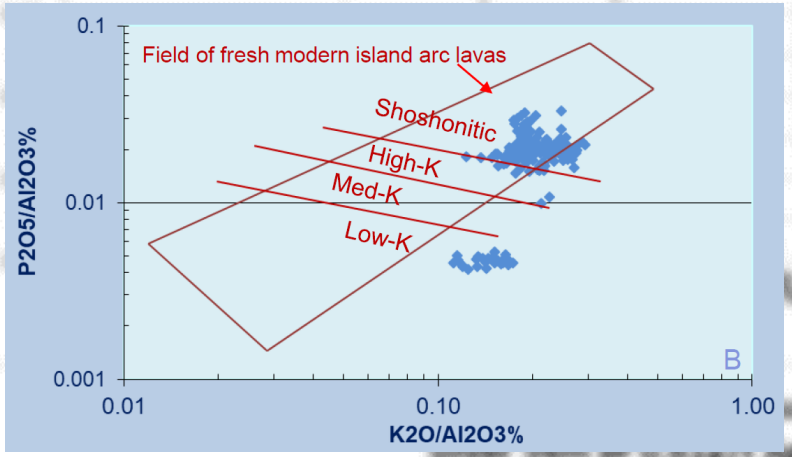
6153200N
6153000N
-400RL

NDD005 Down Hole Hylogger Alteration vs Gold (Blue) and Silver (Orange)



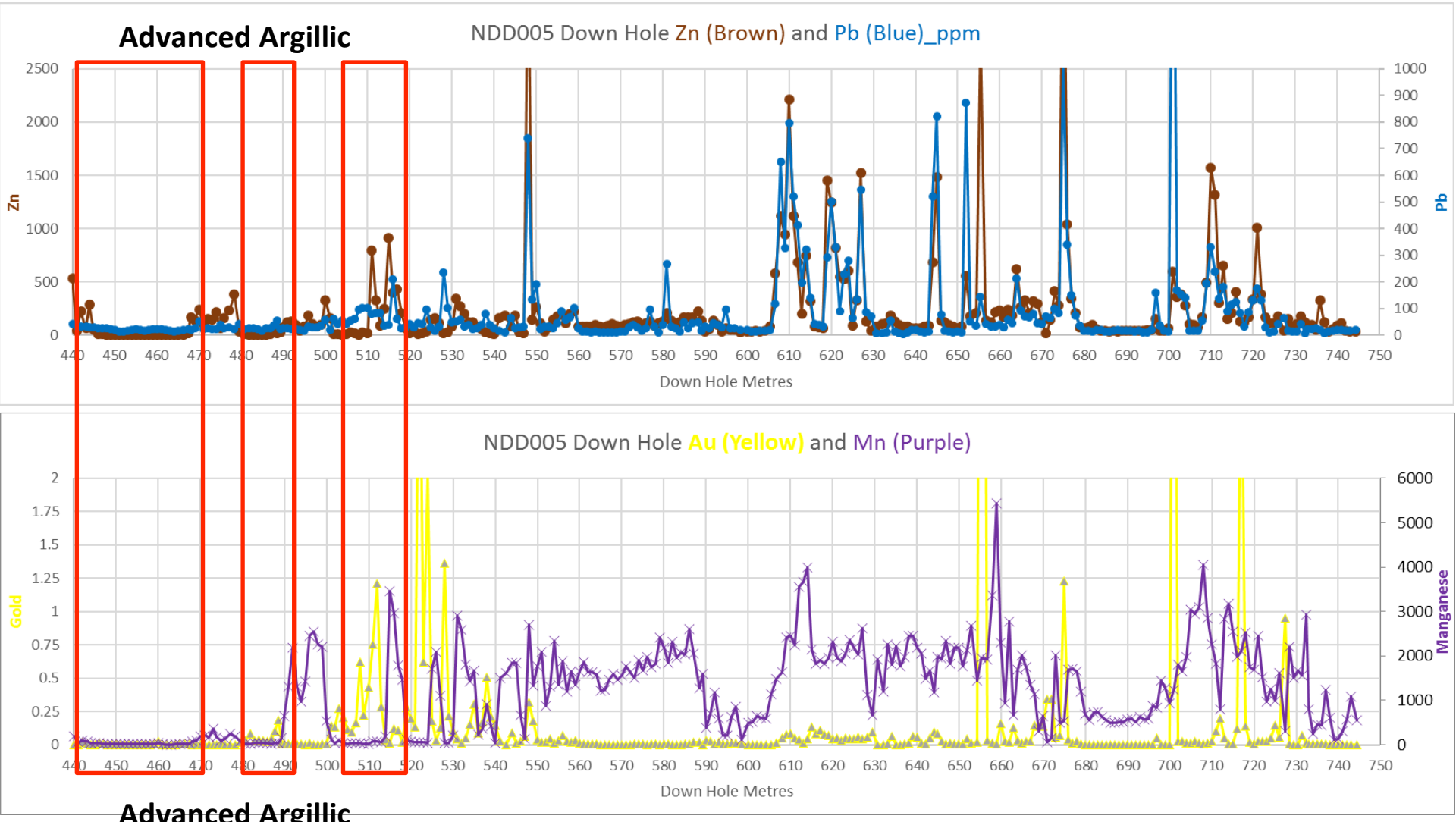
NDD005 Late Barren Dykes – Carbonate altered
Showing all rock has anomalous Silver except two late dykes



Only True Barren Zones
Late Plag + Hnb Phyric Dykes

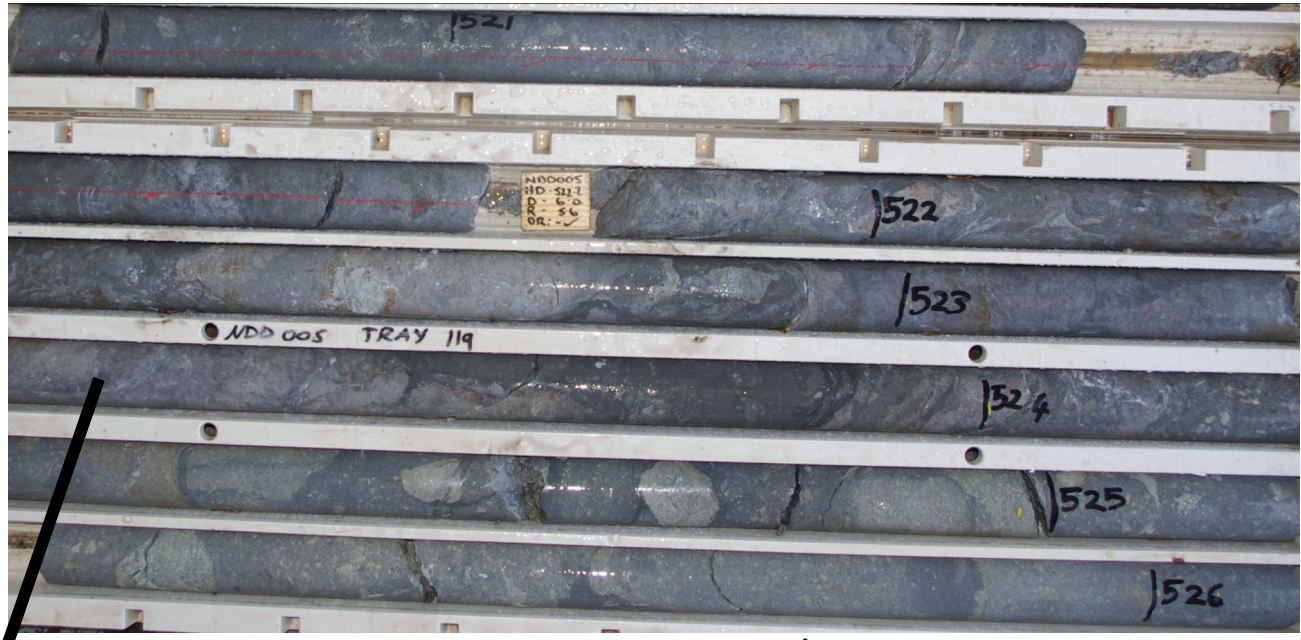
Carbonate Muscovite Illite

NDD005 Manganese Carbonate (Ankerite) with Base-Metals and Gold

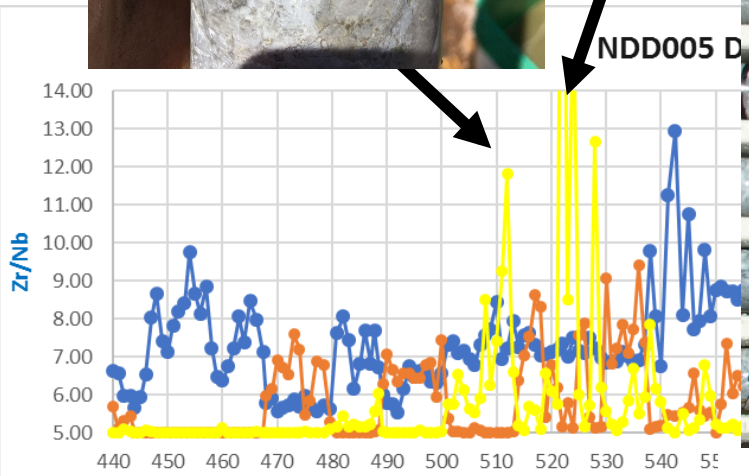


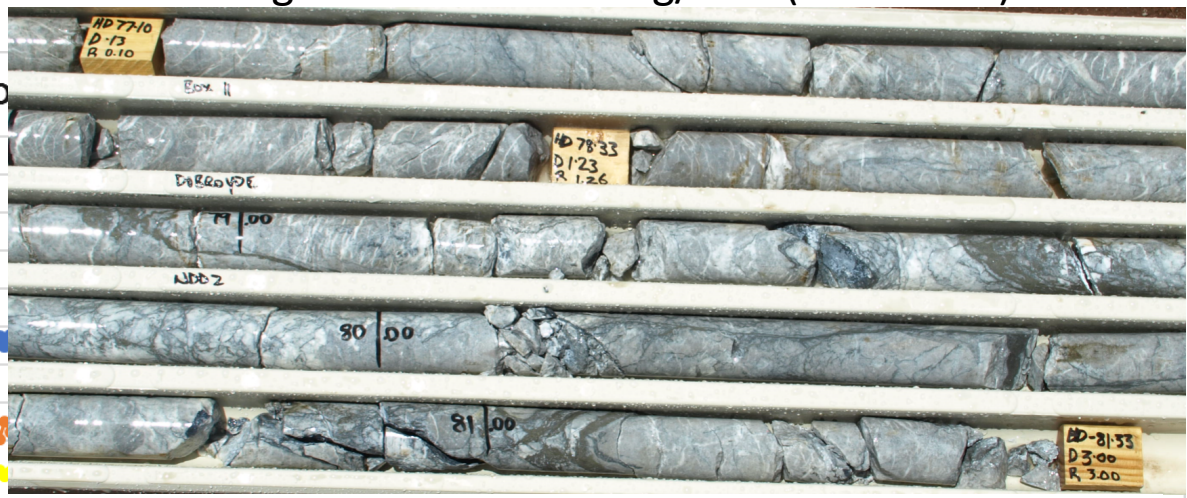
NDD005 High Sulphidation Mineralisation, Similar to NDD2 Dobroyde Hill

510m Vuggy Qtz, enargite, py 1.2g/t Au



Above: Argillic hosted to 3.65g/t Au (521-522m)



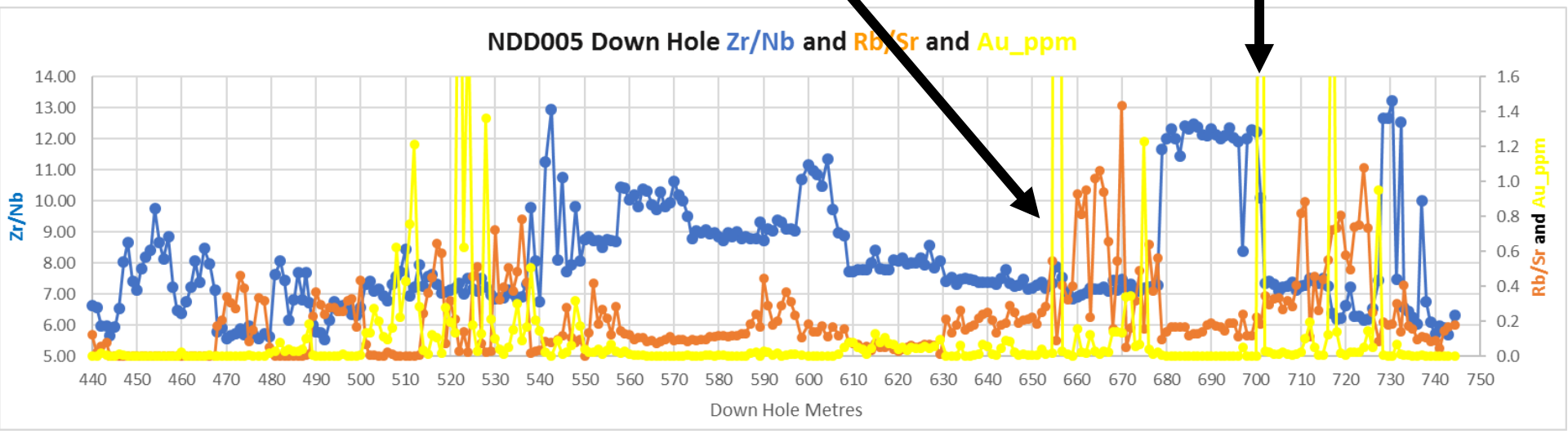


Above: Dobroyde Hill NDD2 to 39.1g/t Au (80-81m)

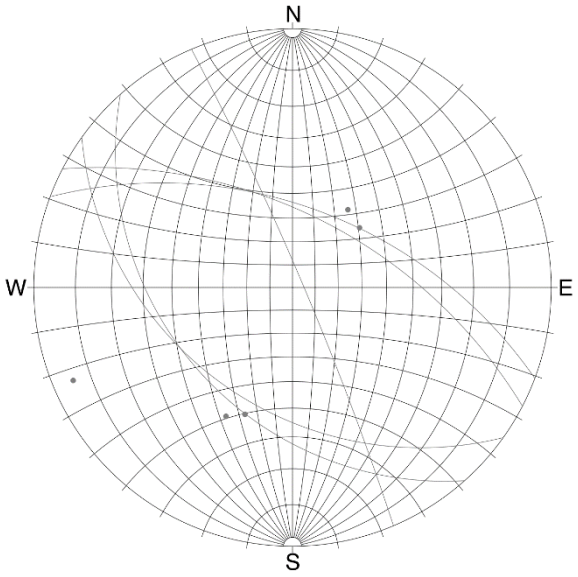
NDD005 High Grade Gold Veins in Carbonate Illite Alteration

Fault hosted 9.46g/t Au

Quartz, carbonate, py, cpy, galena 5.68g/t Au



NDD005 High Grade Gold Veins in Carbonate Illite Alteration Petrology by Crawford, 2017



NDD005 Stereonet for Quartz-Carbonate-Base-Metal Veins from 500m to EOH. Mineralised veins strike NW. More data points required to make better interpretation.

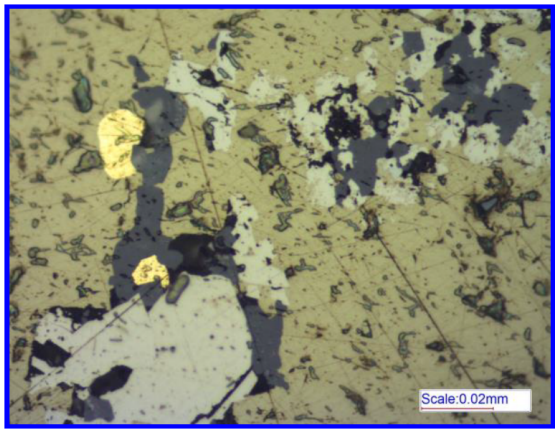
NDD005: 700.7m Quartz-Carb-Chalco-Galena Vein. The 1m interval grades 5.68g/t.

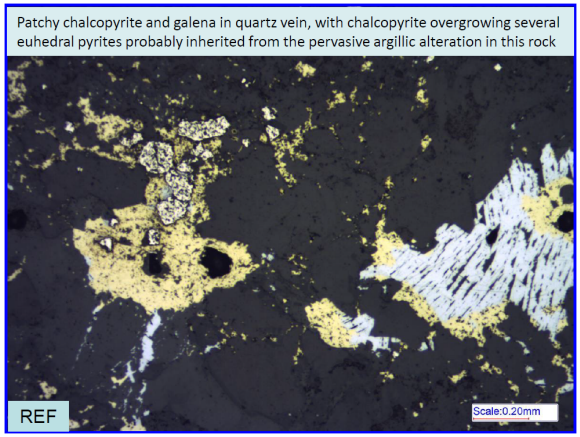
NDD005: Above 509.7m Chalcopyrite quartz carb vein.

NDD005: 700.7m Crawford 2017

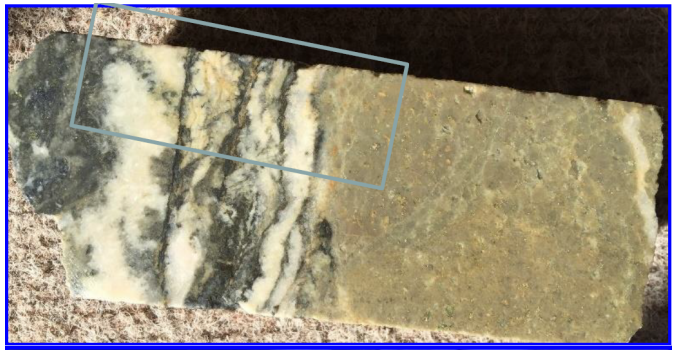
A formerly glassy, sparsely plagioclase-phyric lava, probably from the same lithological unit as the preceding sample, with strong argillic alteration (quartz-sericite-pyrite), cut by a complex quartz vein containing patches of pale brown carbonate and patches of chalcopyrite hosting common galena spots and rare sphalerite. One chalcopyrite patch hosts a few spots of dark sphalerite adjacent to which are two spots of gold (one ~10μm, one 5μm).

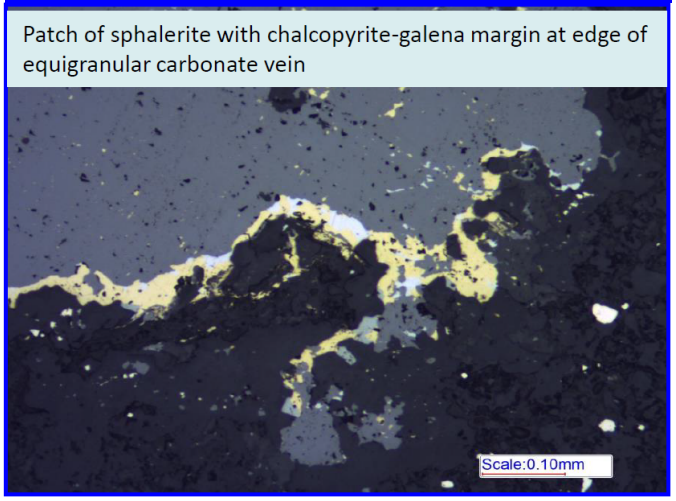
Two grains of gold within and adjacent to a patch of dark, Fe-poor sphalerite growing around reacted pyrite, all enclosed in large chalcopyrite patch in quartz-carbonate veins.





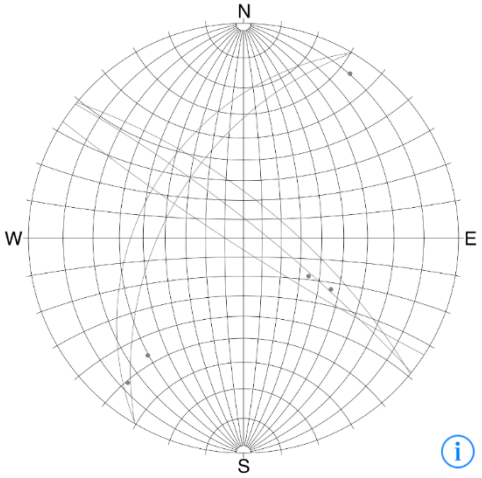
NDD005 Late, Low Grade, Laminated Carbonate-Base Metal Veins
Petrology by Crawford, 2017

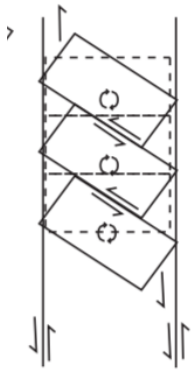




NDD005 700.5m Late multistage laminated Carbonate-Base-Metal Veins. Dark seams contain crushed pyrite and Fe-poor Sphalerite and minor galena (Crawford 2017)

Above: NDD005 440.3m Late multistage laminated Carbonate-Base-Metal Veins
Below: NDD005 Orientations recorded for laminated carbonate veins adhering to the interpreted jog





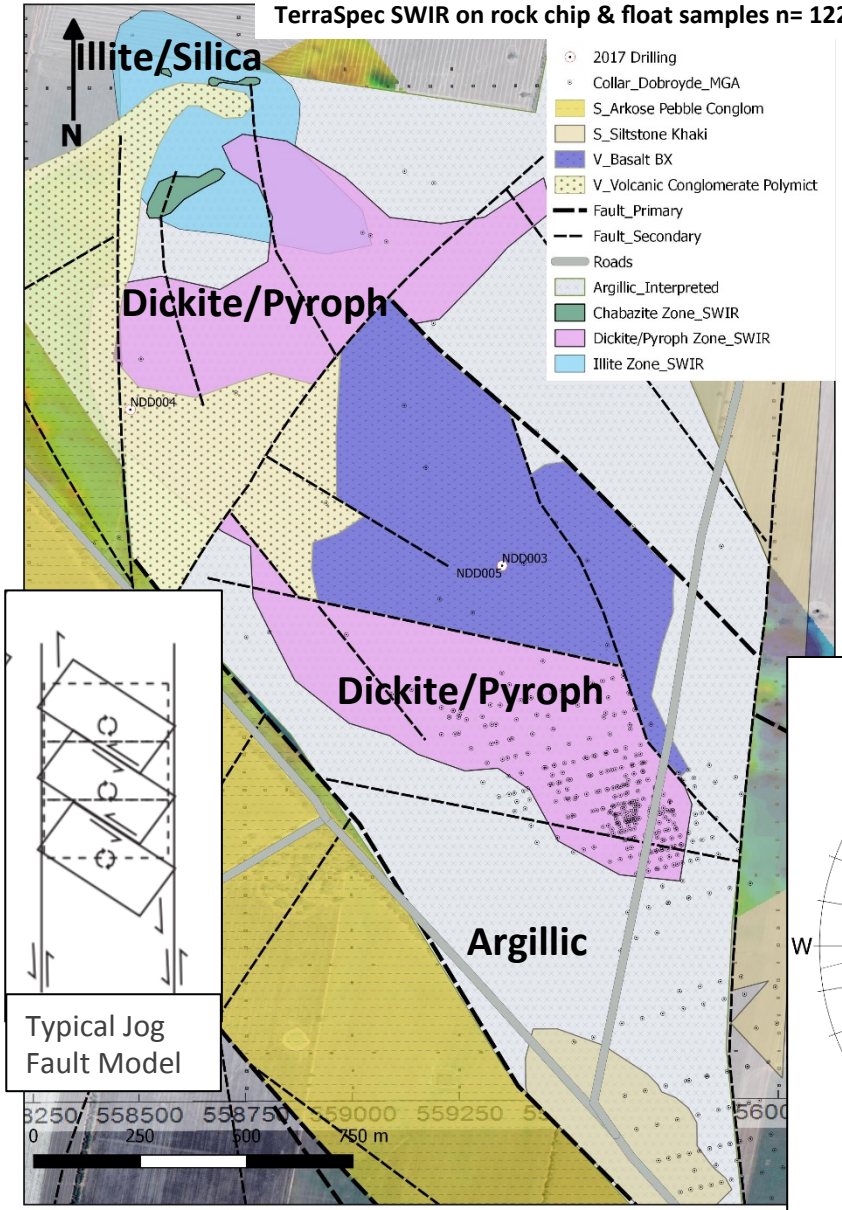
Typical Jog Fault Model

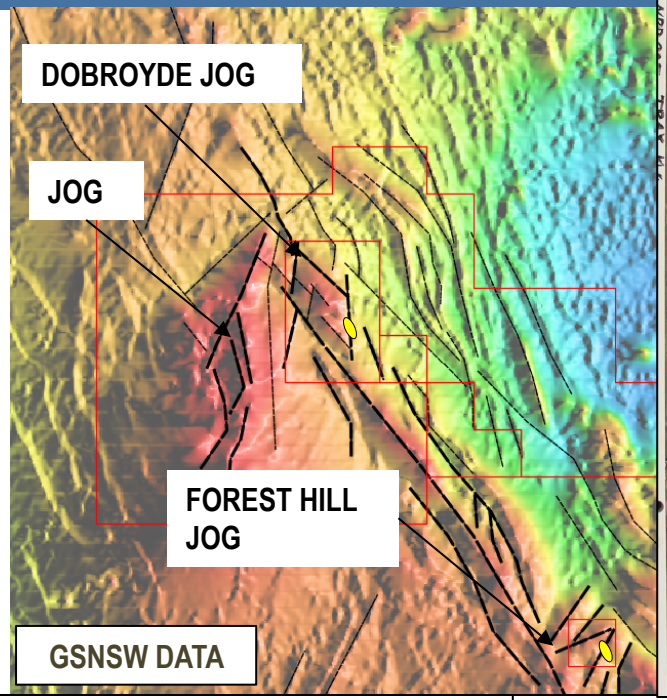
Structural Settings

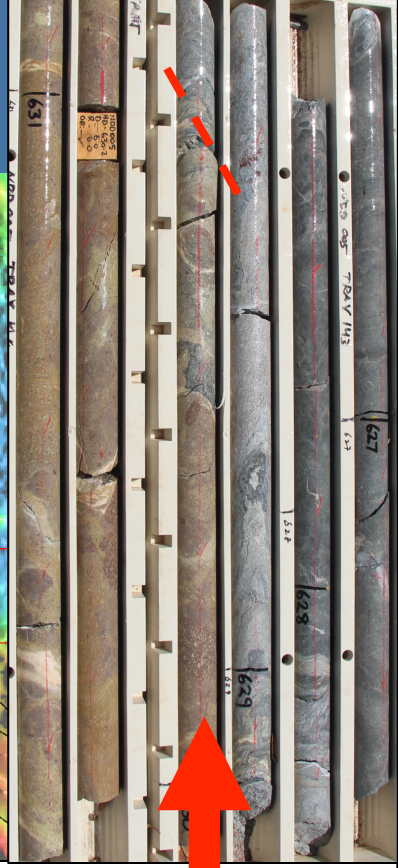
Understanding the Post Mineral Fault Regime

NEW SOUTH RESOURCES

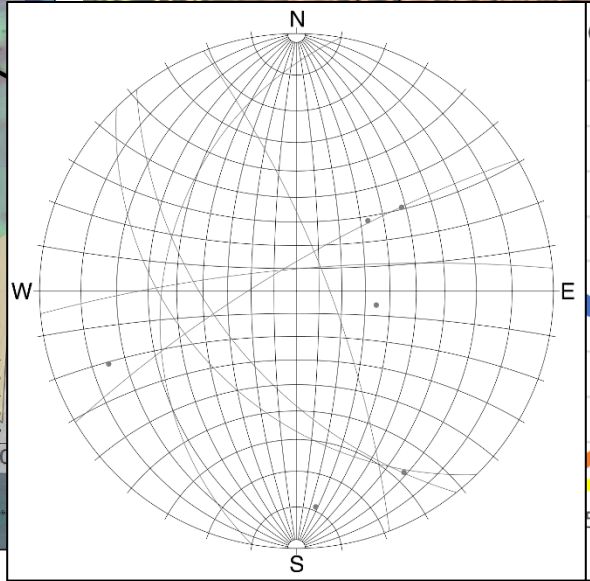
Structural Setting Interpretation
Dextral Jog with Rotated Blocks make NE and W Faults

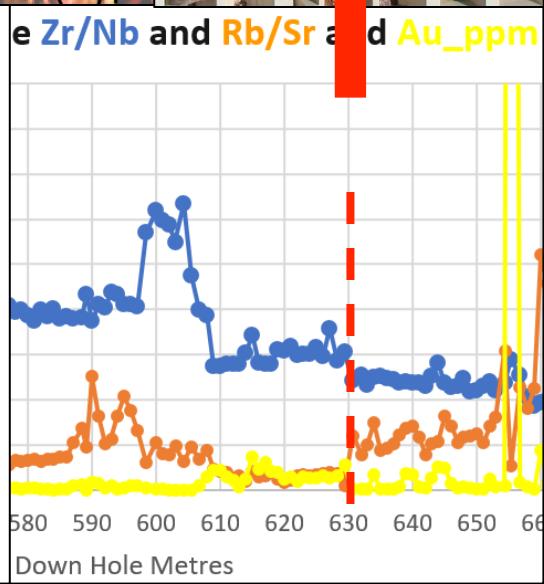






Typical Jog Fault Model





West Dipping Fault on Hanging Wall Contact

NDD005 Late dyke contact 678m: Dips 35° to the West

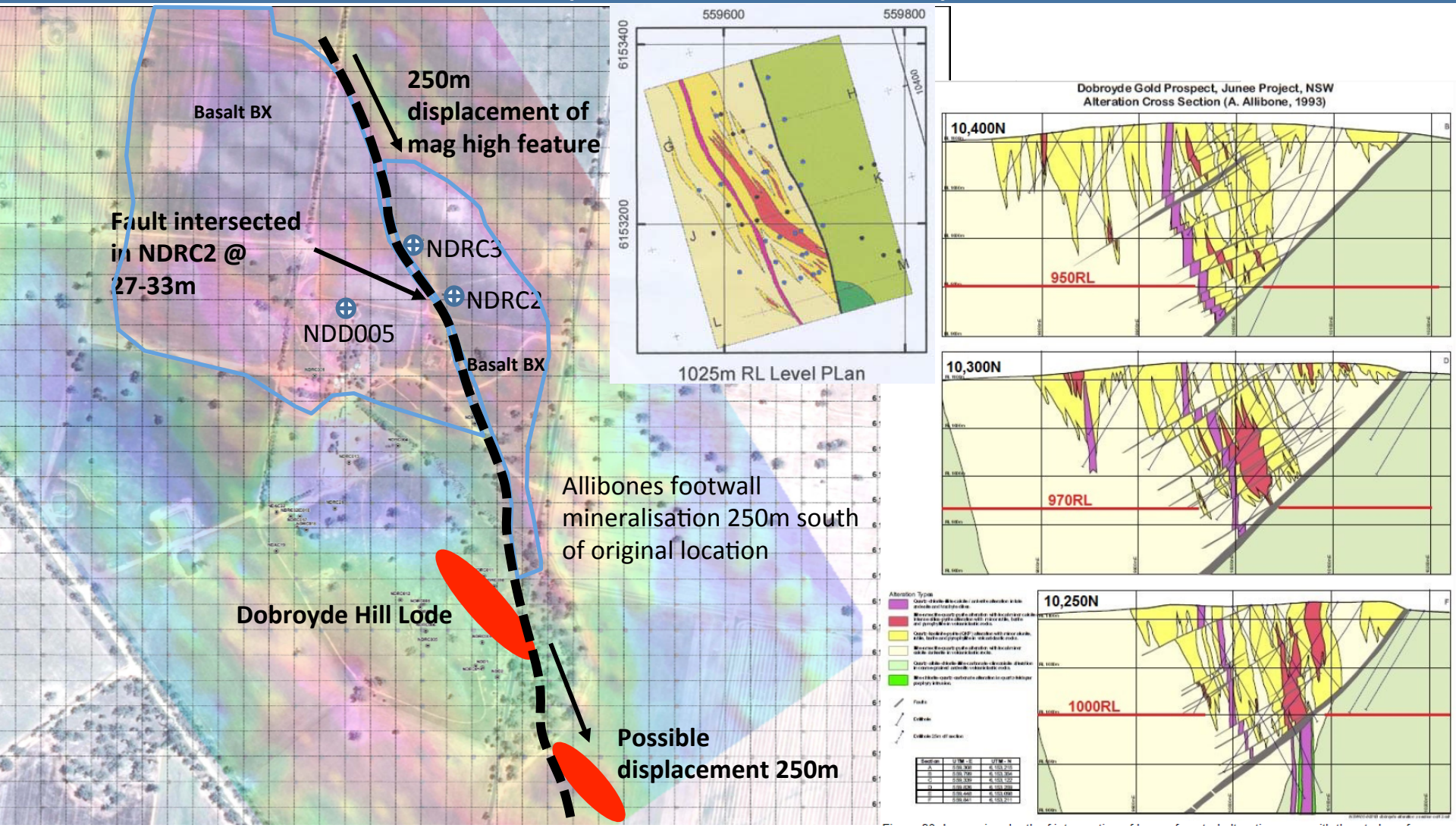
HW: Andesitic breccia: pyrite, silica, clay, seri, chl, epi,

FW: Late feld phyric dyke: seri, silica, carb

Photo looking North, hole drilled to 240° Az and 70° Dip

North trending fault described by Allibone 1993; Interpreted in Ground Magnetics

Displacement of Basalt BX mag high by 250m is evidence for the Dob Hill footwall fault described in Allibone's thesis. This is described to have faulted off the bottom of the epithermal. Is the bottom of the epithermal 250m to the south?



Dobroyde Ground Magnetics showing multiple mag destruction anomalies of which none are properly drill tested

Structural Takeaways from NDD005

- ✓ Strong evidence for a preserved system
- ✓ Most dykes, carbonate veins and mineralised veins dipping 45^{o} to sub-vertical towards 245-270^{o} SW
- ✓ Post mineral thrust faulting is ~45^{o} west dipping, thrusting towards the east
- ✓ Weak foliation cleavage strikes 330^{o} and dips sub-vertically (75-90^{o}) towards 35^{o} NE
- ✓ <u>Next drill program azimuths should be East to North East</u>

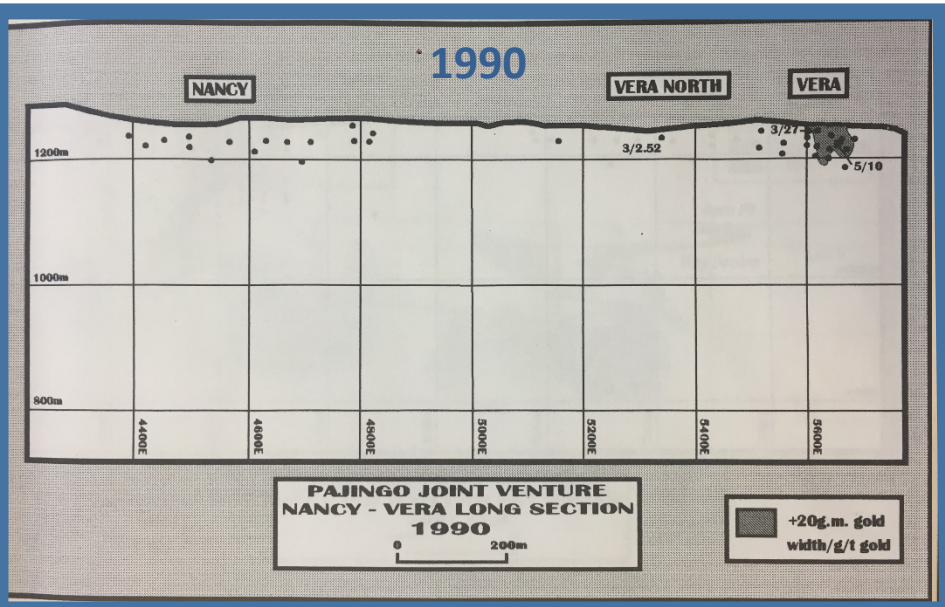
Mineralised Vein at 700.5m dips 45^{o} to the West. Photo looking South

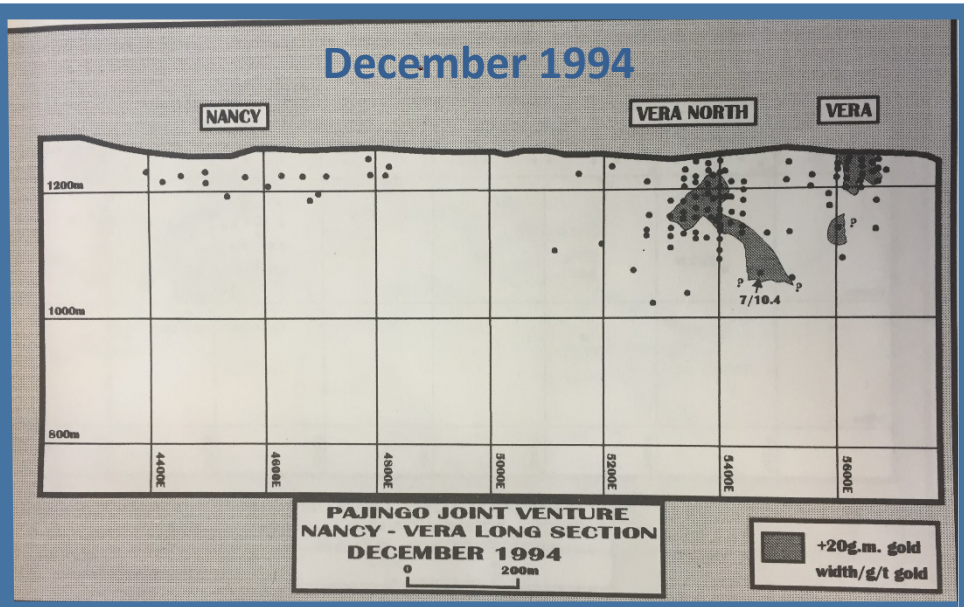
Exploration Target

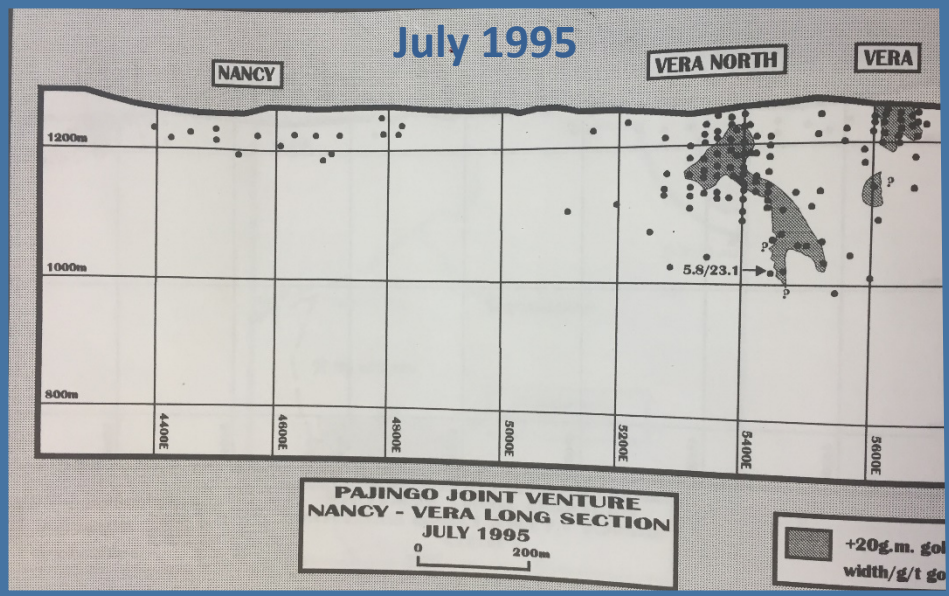
A High Sulphidation and Carbonate-Base-Metal Epithermal Gold System

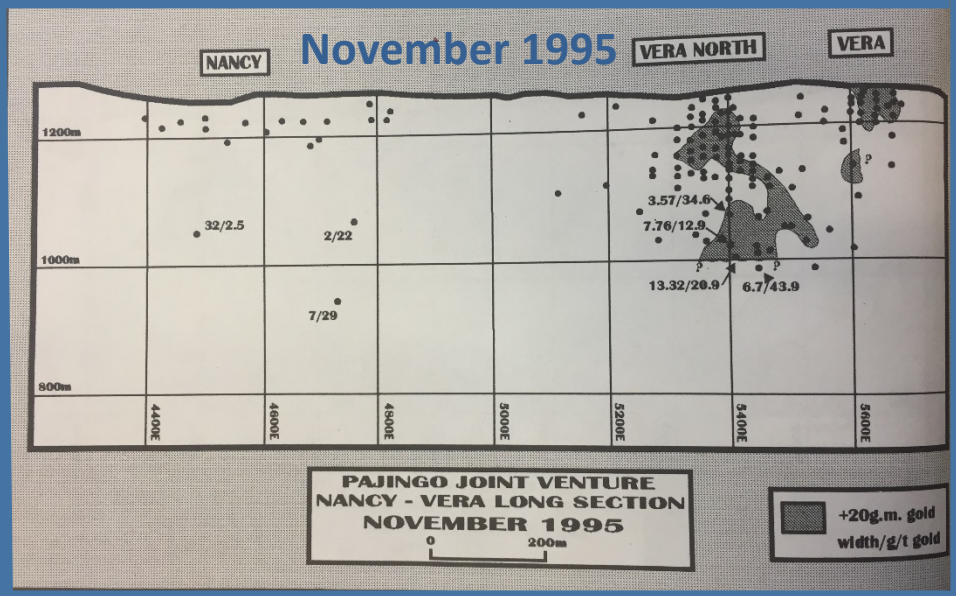
NEW SOUTH RESOURCES

Patience, Persistence & Drilling
Pajingo (Vera Nancy) Discovery Case Study (Kay & McKay; NewGenGold 1997)

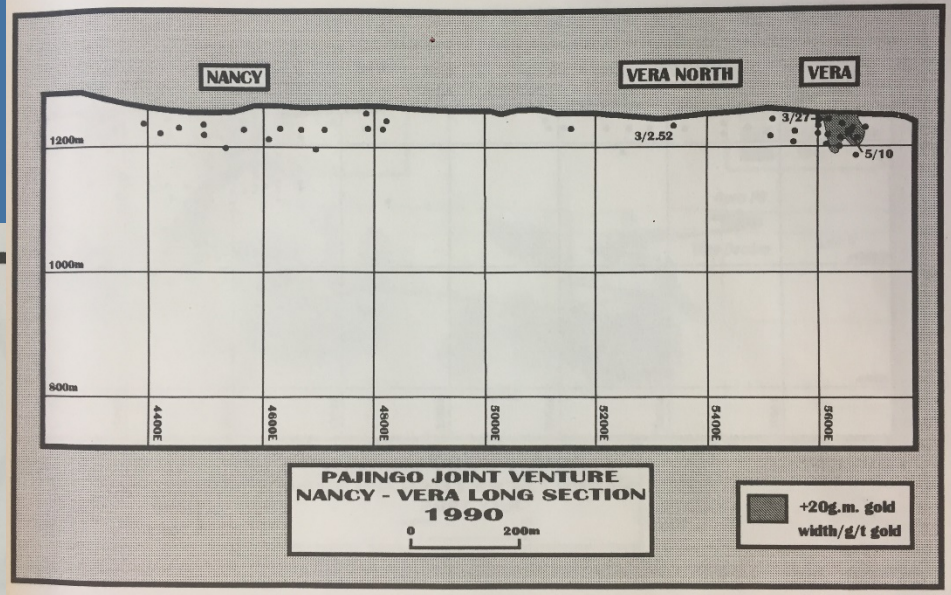




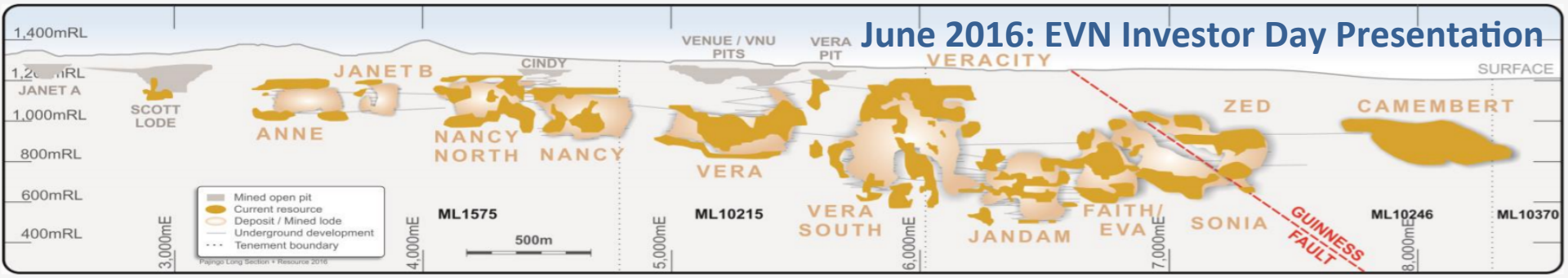




Pajingo (Vera Nancy) Discovery
Patience, Persistence & Drilling

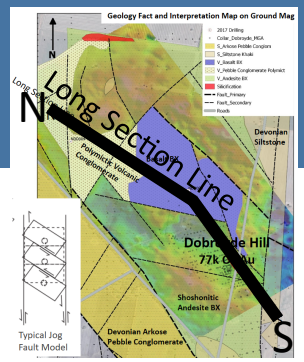


Small High Grade Ore Shoots



Jackson Pollock

DOBROYDE DRILLING LONG SECTION

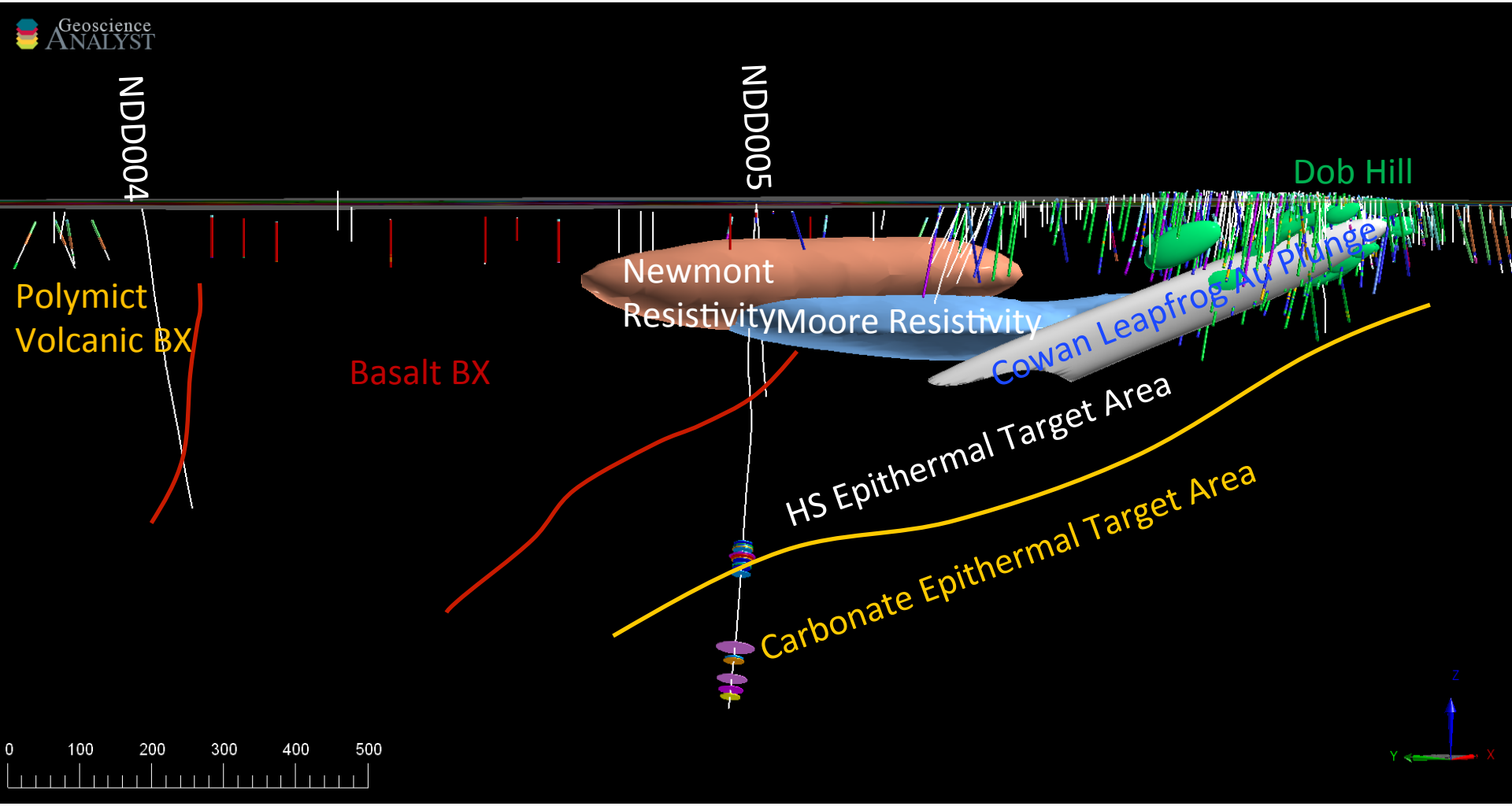


Small High Grade Ore Shoot

400RL
200RL
0RL
-200RL
-400RL
N
S
NDD004
NDD005
NDD003
6154200N
6154000N
6153800N
6153600N
6153400N
6153200N
6153000N
Polymitic Volcano-Sedementary BX
Calc-Alkalic Barren Basalt BX
Shoshonitic Andesite BX
Dobroyde Hill
77kOz JORC 2012
Indicated and inferred resource
Dickite pyrophyllite kaolinite illite pyrite
High Sulphidation Epithermal TARGET ZONE
Carbonate Base-Metal Epithermal Gold TARGET ZONE
Sharp Nonconformble Contact
Faulted Contact
?
324 m
441 m
744 m
Au Intercept
43m @ 0.36g/t
inc 18m @ 0.61g/t
or 7m @ 1.15g/t
inc 3m @ 2.1g/t
and 1m @ 3.65g/t
Ag Intercept
54m @ 0.61g/t
Au Intercept
20.6m @ 0.6g/t
inc 1m @ 9.46g/t
and 1m @ 1.23g/t
Ag Intercept
73.5m @ 0.46g/t
inc 1m @ 6.26g/t
and 1m @ 4.34g/t
Au Intercept
27.4m @ 0.42g/t
inc 19m @ 0.51g/t
and 1m @ 5.68g/t
and 1m @ 3.27g/t
Ag Intercept
17m @ 0.82g/t
inc 1m @ 8.91g/t
Legend
>0.3 g/t Au
Ore body >0.5 g/t Au
Intense alteration
Barren basalt
Drill hole trace
0 100 200 m
August 2017
NEW SOUTH RESOURCES

Simplified 3D Model – Large Exploration Target down plunge from Dobroyde Hill and underneath Resistor (Looking North-East)

A large exploration target exists underneath the main resistor. Arsenic tends to increases with depth.
Also repeated structures on the southern slope of Dobroyde Hill could be drill tested.

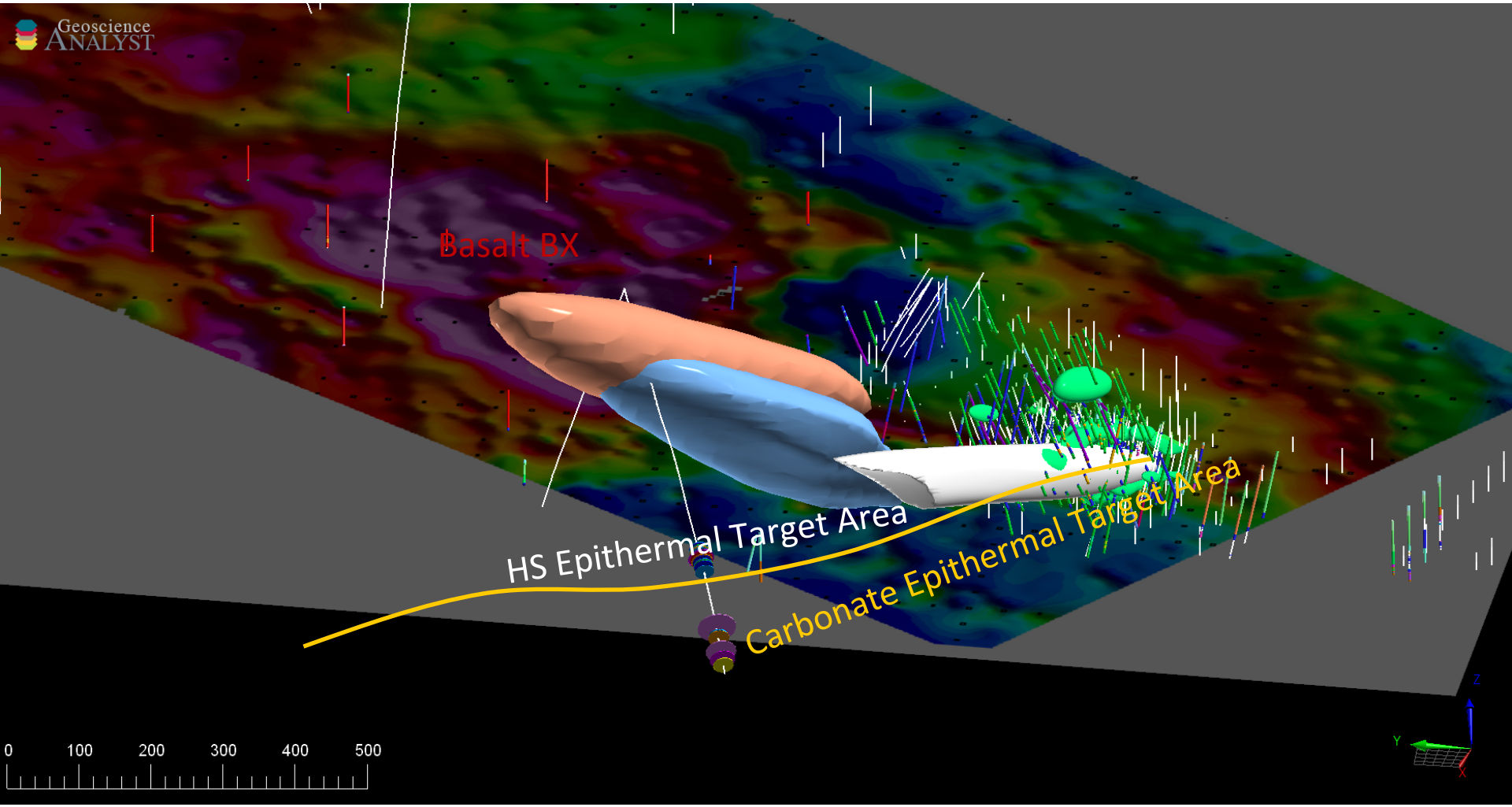


Drill holes filtered on Lithology
Except NDD005 which is filtered on Gold

Simplified 3D Model – Large Exploration Target

Looking up from below and towards the East

NDD005 is thought to have stepped over the top of the main mineralised envelope due to west dipping thrust faults offsetting the mineralisation towards the east i.e. at 540m. Holes should be collared on the western side and drilled towards the northeast.



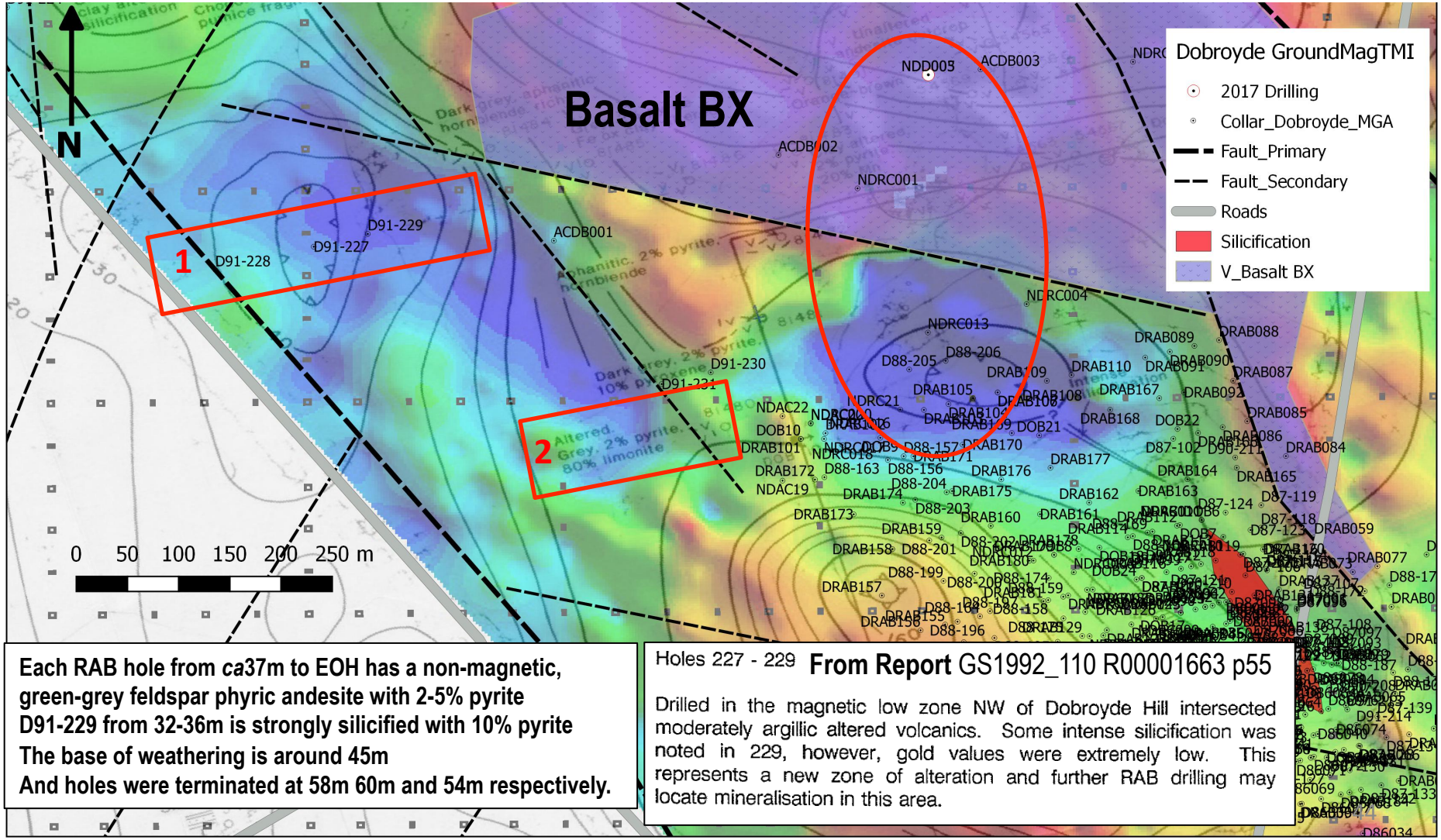
Surrounding Prospects

All Shallow and within Camp Scale

NEW SOUTH RESOURCES

Surrounding Prospects: Dobroyde West Prospect
Mag Low Target, Grey-Green Argillic Altered Andesite with 2-10% Pyrite

Three RAB holes (red box 1) by Little River Gold in 1992 tested the Western ground magnetic low. Similar features to the 500+m zone of grey pyritic argillic/adv. argillic shoshonitic andesite plunging under the basalt in holes NDRC13-21 & NDD005 (oval in red). The mag low is possibly less intense due to the 45m depth of cover. Red box 2 highlights drill similar results from Getty Oil.

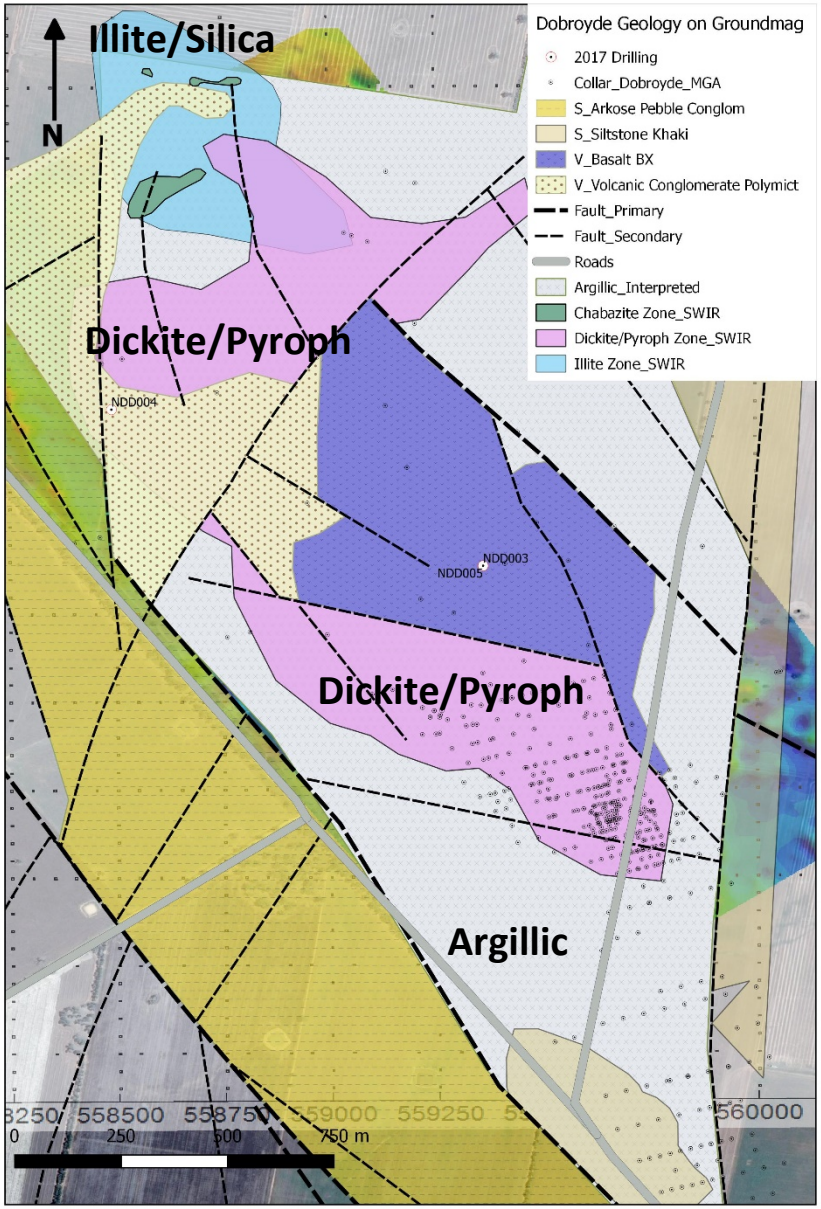


Each RAB hole from *ca*37m to EOH has a non-magnetic, green-grey feldspar phyric andesite with 2-5% pyrite
D91-229 from 32-36m is strongly silicified with 10% pyrite
The base of weathering is around 45m
And holes were terminated at 58m 60m and 54m respectively.

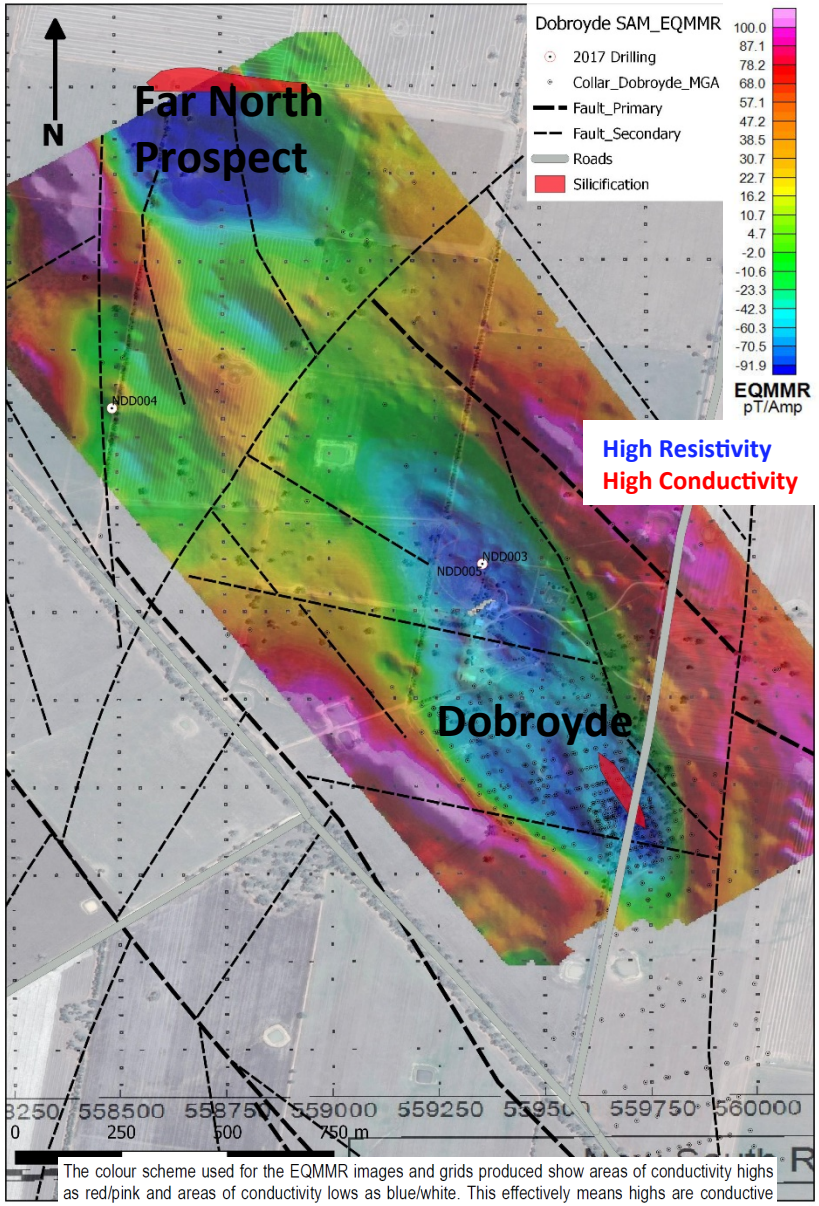
Holes 227 - 229 **From Report** GS1992_110 R00001663 p55

Drilled in the magnetic low zone NW of Dobroyde Hill intersected moderately argillic altered volcanics. Some intense silicification was noted in 229, however, gold values were extremely low. This represents a new zone of alteration and further RAB drilling may locate mineralisation in this area.

Surrounding Prospects: Dobroyde Far North Prospect
Low Sulphidation, Lower Temperature Epithermal Signature



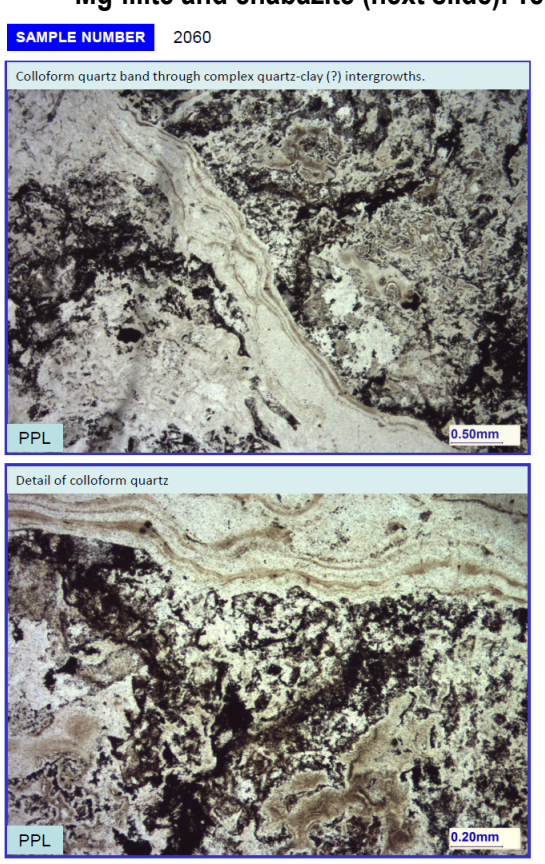
TerraSpec Spectra on rock chip & float samples n= 122

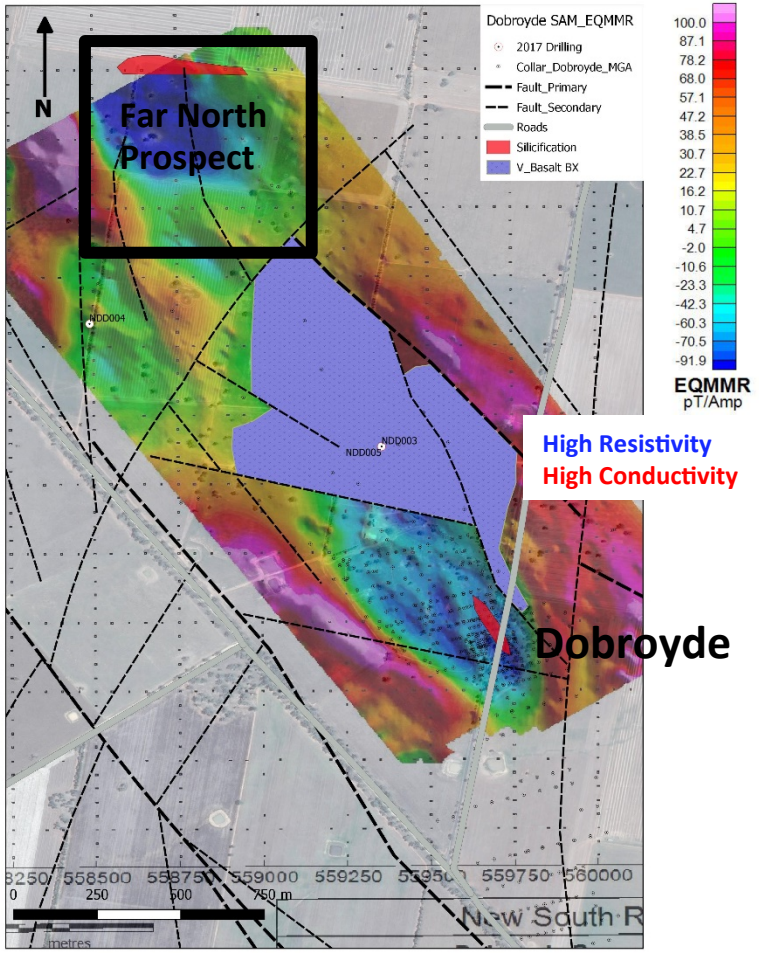


The colour scheme used for the EQMMR images and grids produced show areas of conductivity highs as red/pink and areas of conductivity lows as blue/white. This effectively means highs are conductive regions and lows as resistive regions.

Surrounding Prospects: Dobroyde Far North Prospect
Low Sulphidation, Lower Temperature Epithermal Signature

- The Far North Prospect is situated on a rise 2.3km north west along strike of Dobroyde Hill and demonstrates the Dobroyde hydrothermal footprint extends northward beyond the Basalt
- EQMMR image to the right shows the prospect has a similar resistive high surrounded by an annular chargeability high as Dobroyde Hill.
- Siliceous and gossanous boulders to 50cm diameter (described in the petrology) litter the area with float assays (n=6) from the Far North Prospect range up to 0.24g/t Au and 300-1400 Ba ppm.
- The alteration mineralogy in the prospect area is characterised by silica, K-illite, Mg-illite and chabazite (next slide). TerraSpec SWIR n=53





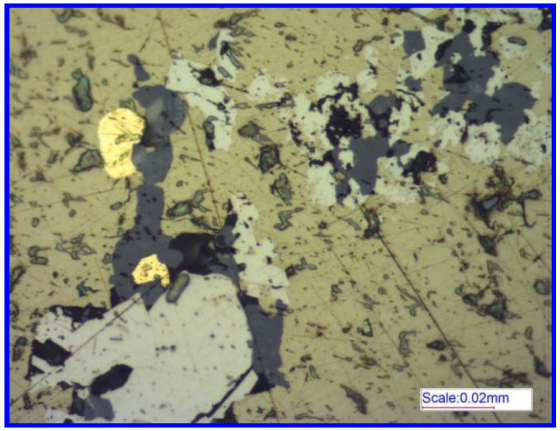
2060: *An intensely silica-metasomatized former hornblende+ plagioclase-phyric dacitic or andesitic lava breccia. Protolith textures are rarely preserved and the quartz shows complex and variable textures from chalcedonic to colloform, with patchy recrystallization. The rock lacks sulfides, and is likely linked to low-temperature silicification associated with a low sulfidation epithermal system.*

Crawford T., Petrology 2014

Dobroyde Project Overview

1) Tier One NSW Ordo-Silurian Volcanic Belt
2) 120km along strike of Cowal Gold Mine
3) Set in 5km Jog of the 2nd order Crustal Scale Gilmore Fault
4) Early Silurian shoshonitic andesite lava breccias
5) 4Km x 3km advanced argillic/argillic alteration footprint
6) Fertile system 77k Oz Ind/Inf high sulphidation gold resource
7) Strong Manganese-Carbonate-Base-Metal-Gold Association
8) Rail 11km, Water Pipeline 5km, 100k population within 1hour drive
9) Strong relationship with Landowners and pledged support from Local Council

10) Let's Go Discover



Two grains of gold within and adjacent to a patch of dark, Fe-poor sphalerite growing around reacted pyrite, all enclosed in large chalcopyrite patch in quartz-carbonate veins.

NEW SOUTH RESOURCES

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