Timmins Porcupine West Evaluation

Section 1) Geological Model

3D wire-frame solids and surfaces of bedrock topography, major lithologies, and faults digitized from section interpretations

Section 2) Geostatistical Evaluation

a) Univariate statistics of:

i) raw assay data

ii) sample interval lengths

iii) 1.5m equal length composites of assays cut to 30 gpt Au

iv) 1.5m equal length composites by rock type

v) total sulphide% & Qtz-Cb vein%

b) Linear & 3D Omni Directional Variography of 1.5m composites

Section 3) Large Block Dimension Models for Exploration

50x25x50m (x,y,z) block dimension models of:

- Au grade and total sulphide%

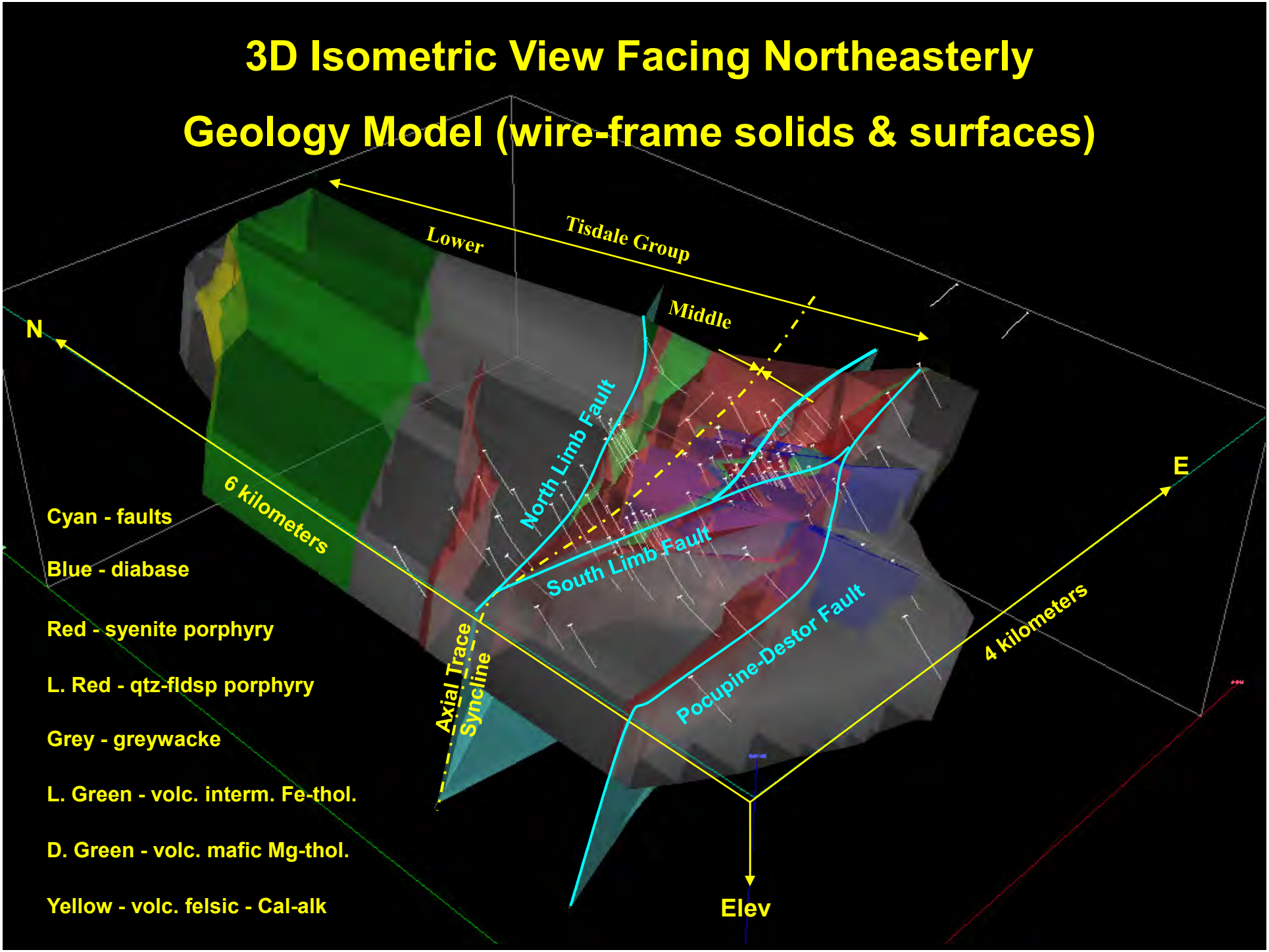
Section 4) Target Identification & Diamond Drill Program Design

Phase 1 - 6,500m diamond drilling

Phase 2 - additional 13,500m diamond drilling

Section 1

Geological Model


3D Isometric View Facing Northeasterly
Geology Model (wire-frame solids & surfaces)
Lower
Tisdale Group
Middle
N
E
6 kilometers
4 kilometers
North Limb Fault
South Limb Fault
Pocupine-Destor Fault
Axial Trace
Syncline
Elev
Cyan - faults
Blue - diabase
Red - syenite porphyry
L. Red - qtz-fldsp porphyry
Grey - greywacke
L. Green - volc. interm. Fe-thol.
D. Green - volc. mafic Mg-thol.
Yellow - volc. felsic - Cal-alk

Geological Synopsis

- The Bristol Property is located within the western portion of the Porcupine volcano-sedimentary geosyncline.
- The geosyncline dips steeply to the north with a probable easterly plunge towards the center of the Porcupine-Timmins camp.
- Rock formations present on the property include:
  - Kamiscotia Group? - calk-alkaline felsic metavolcanics and turbidite metasediments
  - Lower Tisdale Group - thick suquence of high Mg-tholeitic mafic metavolcanics overlain by a thick suquence of turbite metasediments
  - Middle Tisdale Group - high Mg-tholeitic mafic metavolcanics (minor), high Fe-tholeitic intermediate volcanics and turbidite metasediments
  - Felsic Intrusives - quartz-feldspar porphyritic granodiorite
    - feldspar porphyritic syenite
  - Mafic Intrusives - diabase dykes (NW trending Matachewan age)

Structural Setting & Interpretation

- The west extension of the Porcupine-Destor (PD) fault marks a metavolcano-sedimentary contact of the Middle Tisdale Group striking east-west along the south limb of the regional geosyncline.
- On the Bristol property, a quartz-feldspar porphyritic granodiorite intrudes the core of the geosyncline and the metavolcano-sedimentary contacts along each limb.
- A west trending fault (South Limb fault (SL)) occurs along a high Fe-tholeitic metavolcano-sediment contact on the south limb of the geosyncline eminating from a point where the PD fault flexes to a SW trend away from the contact.
- The SL fault follows the intruded metavolcano-sedimentary contact westward converging with a similar fault (North Limb fault (NL)) developed along the north limb contact.
- The flexure of the PD fault and development of the secondary SL and NL faults created dilatant zones where dykes and plugs of porphyritic syenite are intruded. The most dominant occurrence is the plug/sill intruding upwards along the intersection of the PD and SL faults.
- The flexure and zone of weaking are further pronounced by a swarm diabase dykes that cross-cut the geosyncline in this area. These dykes may have intruded an earlier conjugate set of faults developed between the PD, SL and NL faults.

Section 2

Geostatistical Evaluation

Section 2a-i

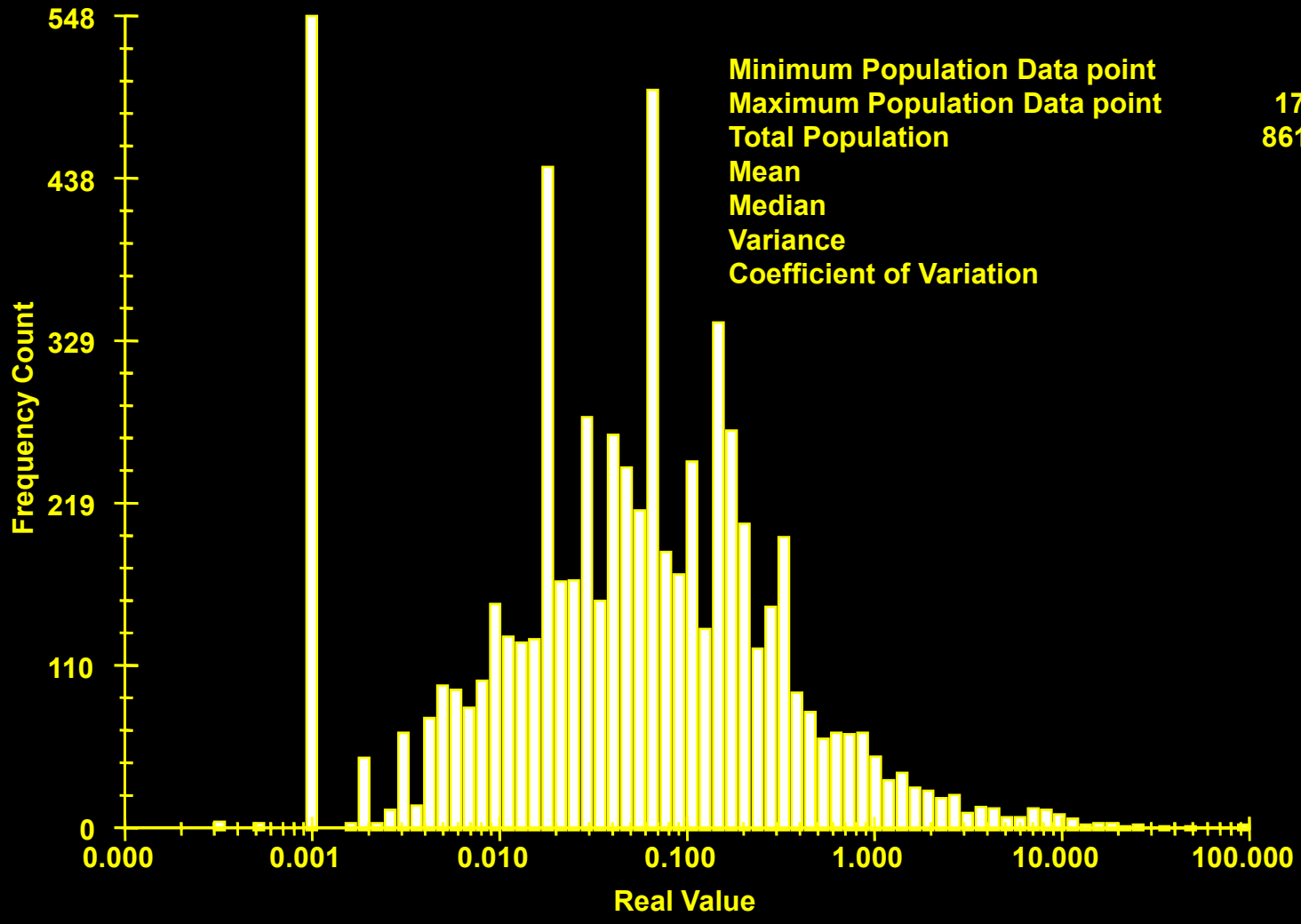
Univariate Statistics

Raw Gold Assays

(uncut)

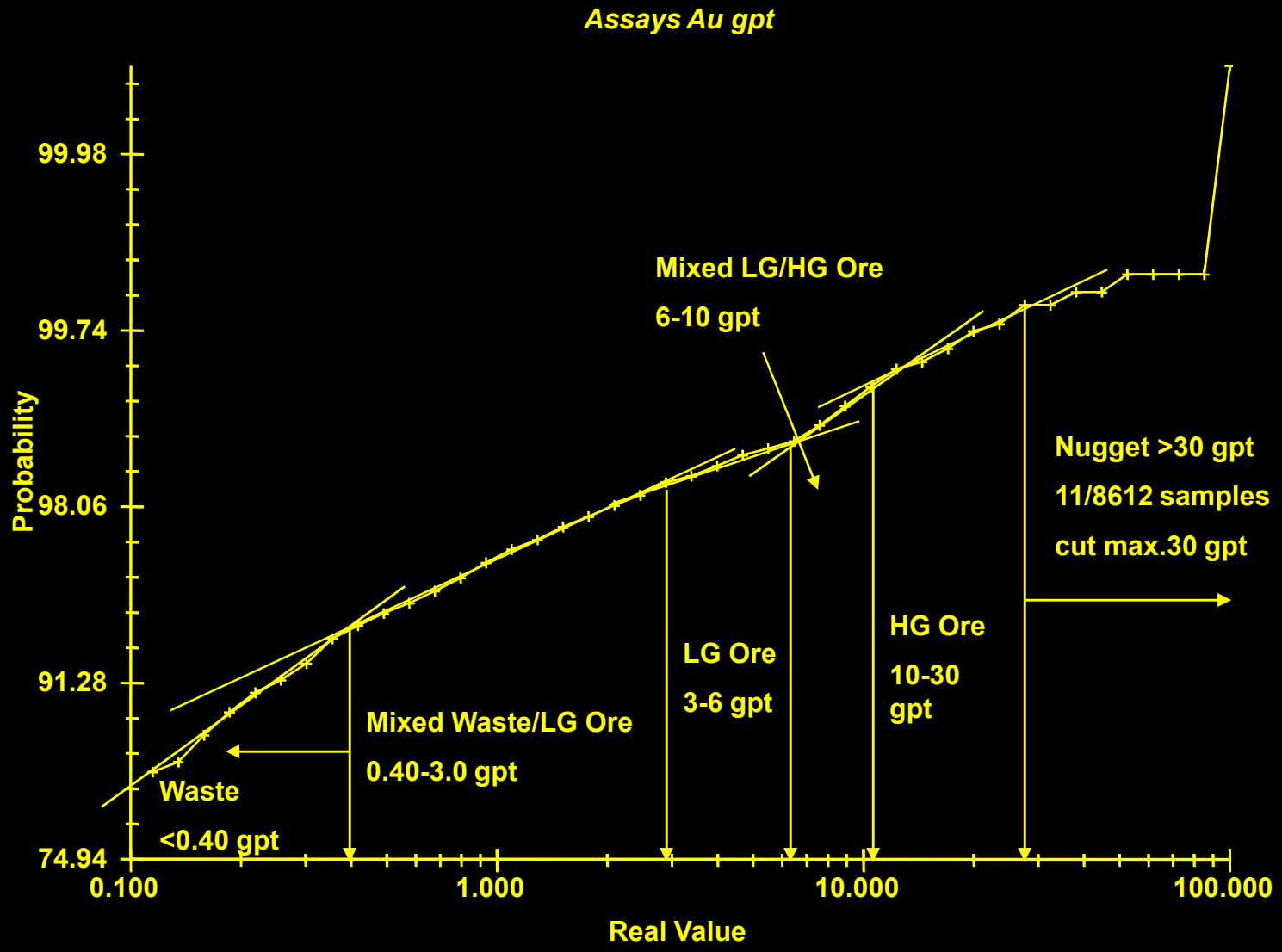
LOG Normal Histogram

Assays Au gpt



Minimum Population Data point	0.0
Maximum Population Data point	175.077
Total Population	8612
Mean	0.65
Median	0.517
Variance	5.578
Coefficient of Variation	3.633

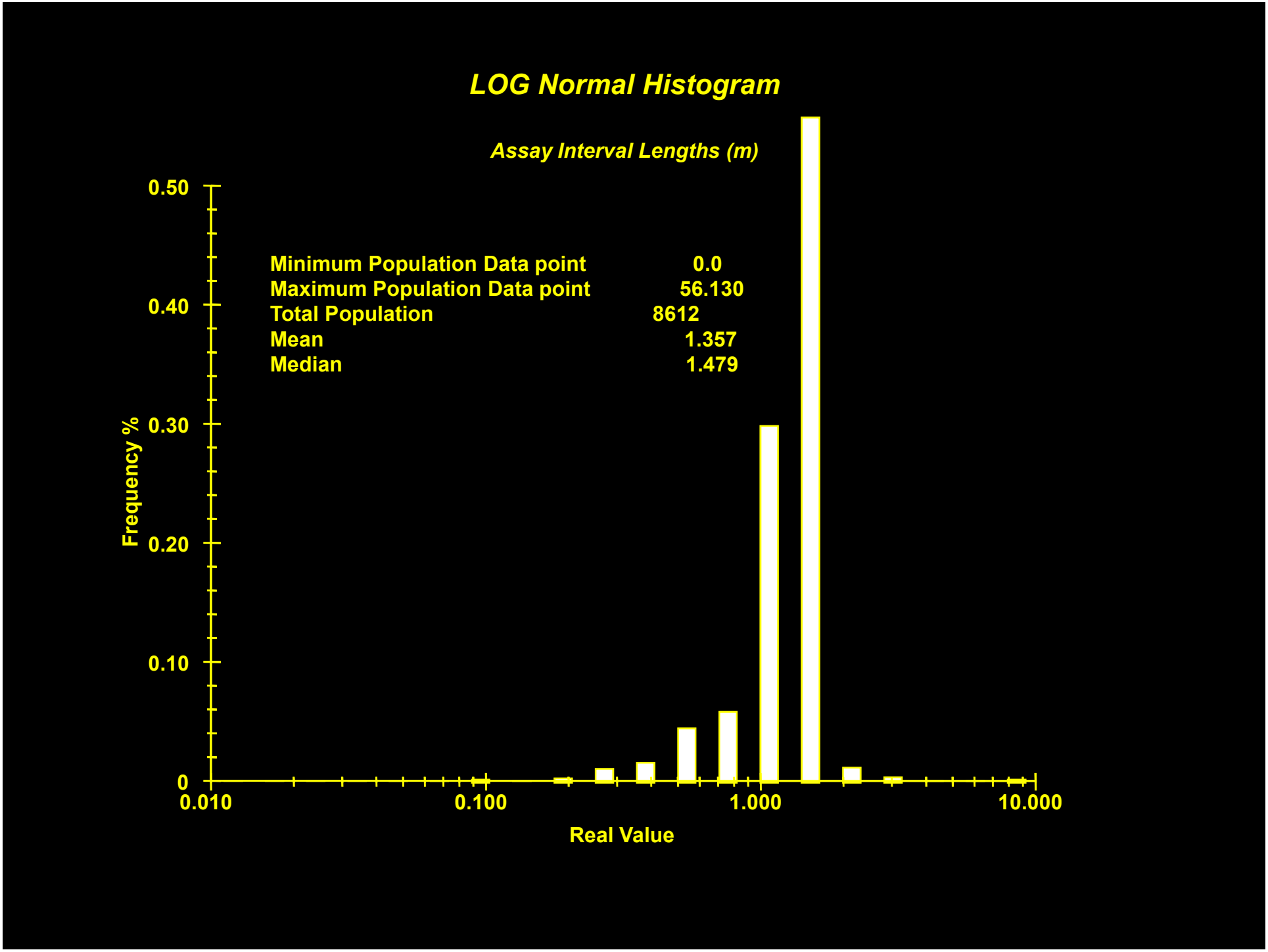
LOG Normal Probability Plot



Section 2a-ii

Univariate Statistics

Sample Interval Lengths


LOG Normal Histogram
Assay Interval Lengths (m)
Minimum Population Data point 0.0
Maximum Population Data point 56.130
Total Population 8612
Mean 1.357
Median 1.479
Frequency %
0.50
0.40
0.30
0.20
0.10
0
0.010
0.100
1.000
10.000
Real Value

Conclusions from Univariate Statistics of Raw Assay Data

- The log-normal probability plot demonstrates that values above 30 gpt Au may are “eratics” and the 11 samples in the database with values >30 gpt Au were cut to maximum of 30 gpt.

- The sample interval lengths predominantly range from 10cm to 2m with a rare interval >2m in length. Sample intervals average 1.36m in length. In order to eliminate any potential bias introduced by the variable sample lengths, all samples were composited on 1.5m equal length sample intervals (after cutting all assays to maximum of 30 gpt Au) for further statistics, modelling and resource evaluation.

Section 2a-iii

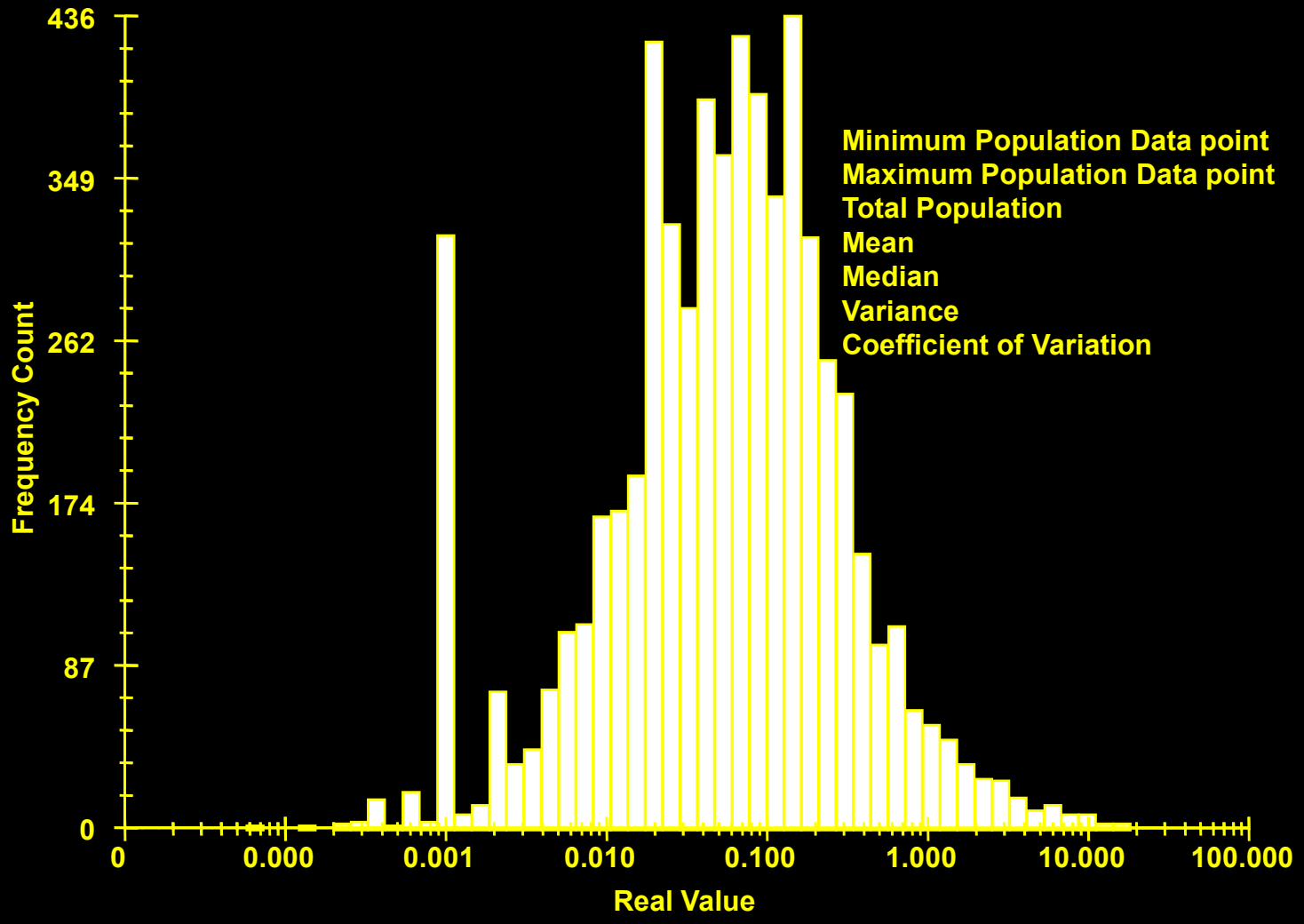
Univariate Statistics

1.5m Composites

(assays cut 30 gpt Au)

LOG Normal Histogram

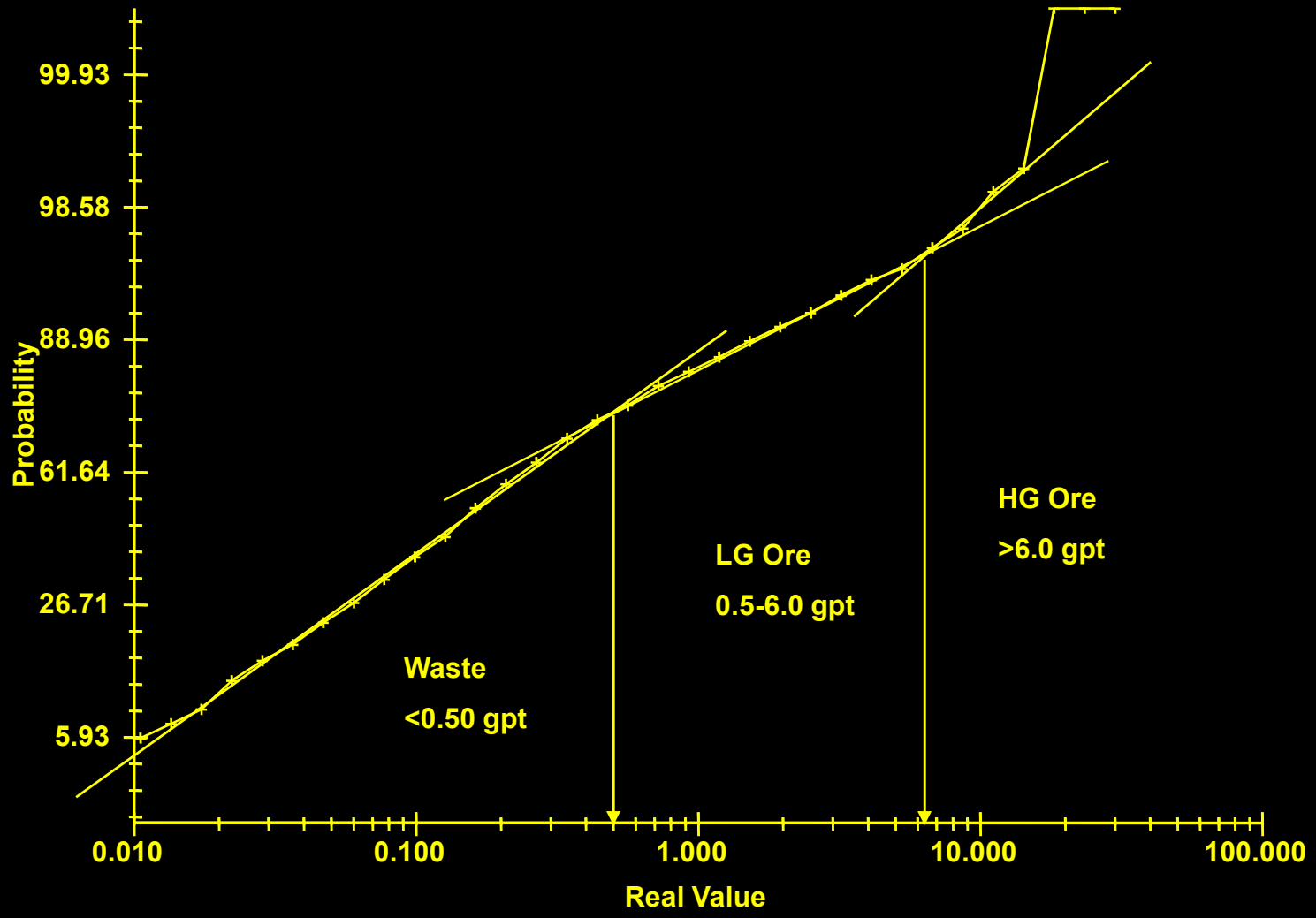
1.5m composites Au cut 30 gpt - All rock types



Minimum Population Data point	0.0
Maximum Population Data point	18.070
Total Population	7199
Mean	0.348
Median	0.267
Variance	0.433
Coefficient of Variation	1.889

LOG Normal Probability Plot

1.5m composites Au cut 30 gpt - All rock types



Conclusions from

1.5m Assay Composite Statistics

(assays cut 30 gpt Au)

- The log-normal probability plot of the 1.5m assay composites demonstrates a barren population of samples <0.5 gpt Au and a mineralized population of samples above 0.5 gpt Au. A smaller sub-population of high grade samples occurs above 6.0 gpt Au and probably correlates with the narrow high grade vein intersections.

- The 1.5m assay composites demonstrate a lower coefficient of variation than the raw assay data and reflect the cutting of the "eratic" high grade assays and eliminating the effects of variable sample lengths.

Section 2a-iv

Univariate Statistics

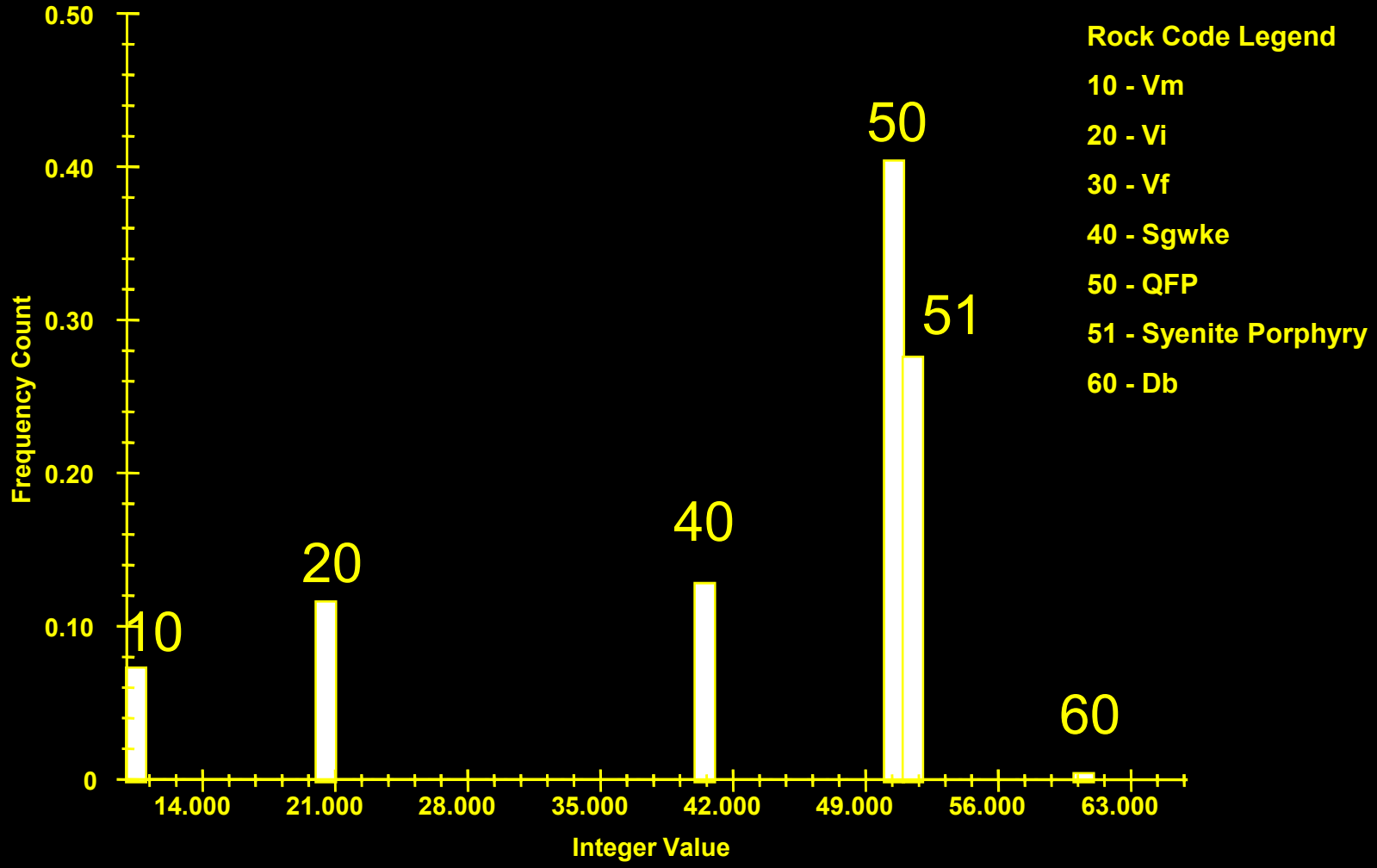
by Rock Type

1.5m Composites

(assays cut 30 gpt Au)

Normal Histogram

1.5m Composites by Rock Type



Rock Code Legend

- 10 - Vm
- 20 - Vi
- 30 - Vf
- 40 - Sgwke
- 50 - QFP
- 51 - Syenite Porphyry
- 60 - Db

Composite Statistics by Rock Type

Vi Composite Points Only

Minimum Population Data point	0.000
Maximum Population Data point	18.070
Total Population	832
Mean	0.424
Median	0.275
Variance	1.080
Coefficient of Variation	2.449

QFP Composite Points Only

Minimum Population Data point	0.000
Maximum Population Data point	10.327
Total Population	2911
Mean	0.338
Median	0.266
Variance	0.318
Coefficient of Variation	1.668

Syenite Porphyry Composite Points Only

Minimum Population Data point	0.000
Maximum Population Data point	12.007
Total Population	1984
Mean	0.358
Median	0.273
Variance	0.350
Coefficient of Variation	1.651

>0.5 gpt Au Composite Statistics by Rock Type

Vi Composite Points >0.5 gpt Au Only

Minimum Population Data point	0.500
Maximum Population Data point	18.070
Total Population	75
Mean	2.183
Median	1.075
Variance	8.576
Coefficient of Variation	1.341

QFP Composite Points >0.5 gpt Au Only

Minimum Population Data point	0.000
Maximum Population Data point	10.327
Total Population	171
Mean	1.753
Median	0.997
Variance	3.294
Coefficient of Variation	1.035

Syenite Porphyry Composite Points >0.5 gpt Au Only

Minimum Population Data point	0.000
Maximum Population Data point	10.327
Total Population	166
Mean	1.545
Median	0.956
Variance	2.648
Coefficient of Variation	1.053

Conclusions from Rock Type Statistics

- The high Fe-tholeitic volcanic rocks appear to be the most favourable host rocks with 9.0% of volcanic assays above 0.5 gpt Au averaging 2.18 gpt Au.

- The syenite host rocks yield 8.4% of syenite assays above 0.5 gpt Au averaging 1.55 gpt Au.

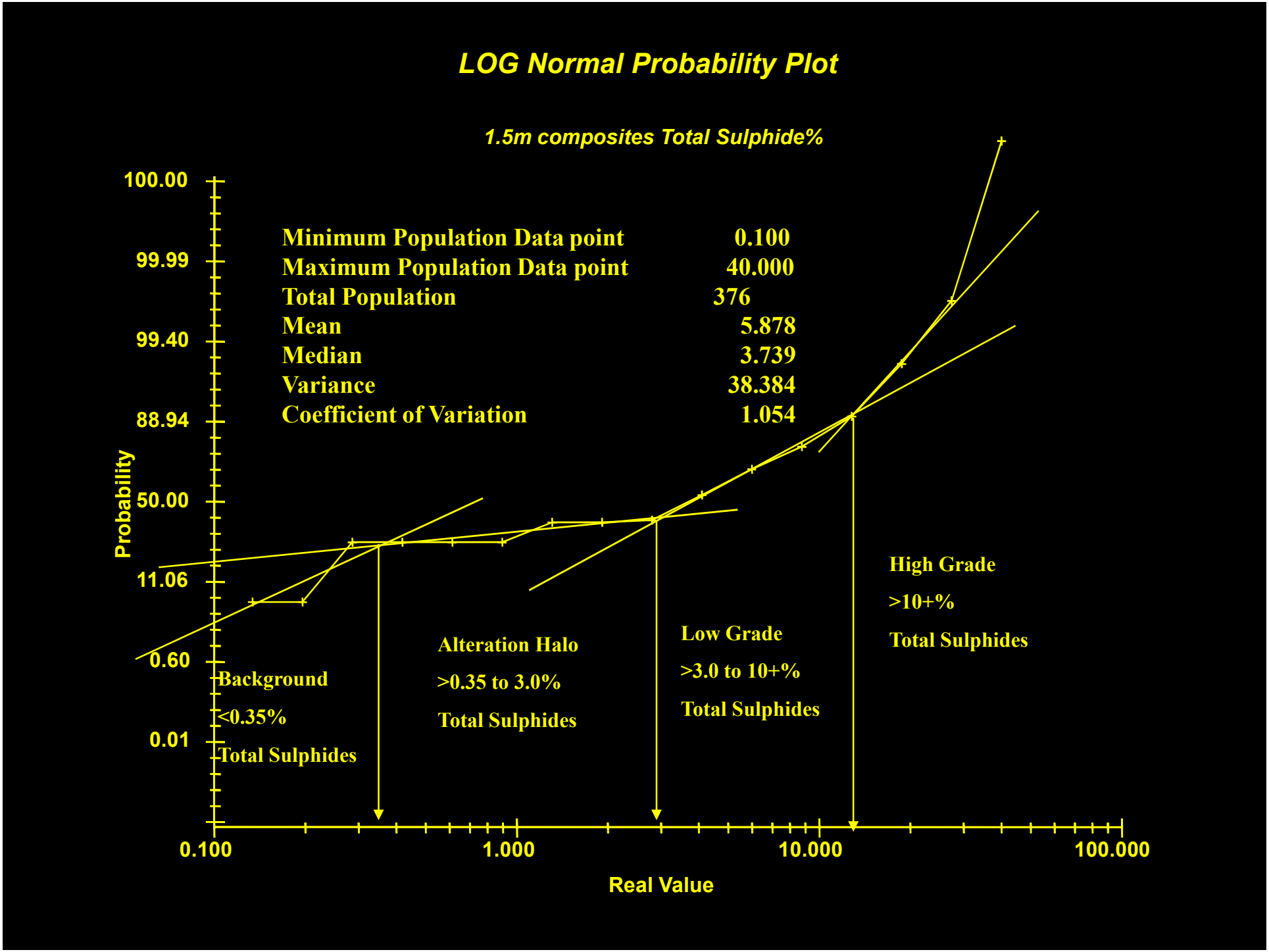
- The Qtz-feldspar porphyry host rocks yield 5.9% of QFP assays above 0.5 gpt Au averaging 1.75 gpt Au.

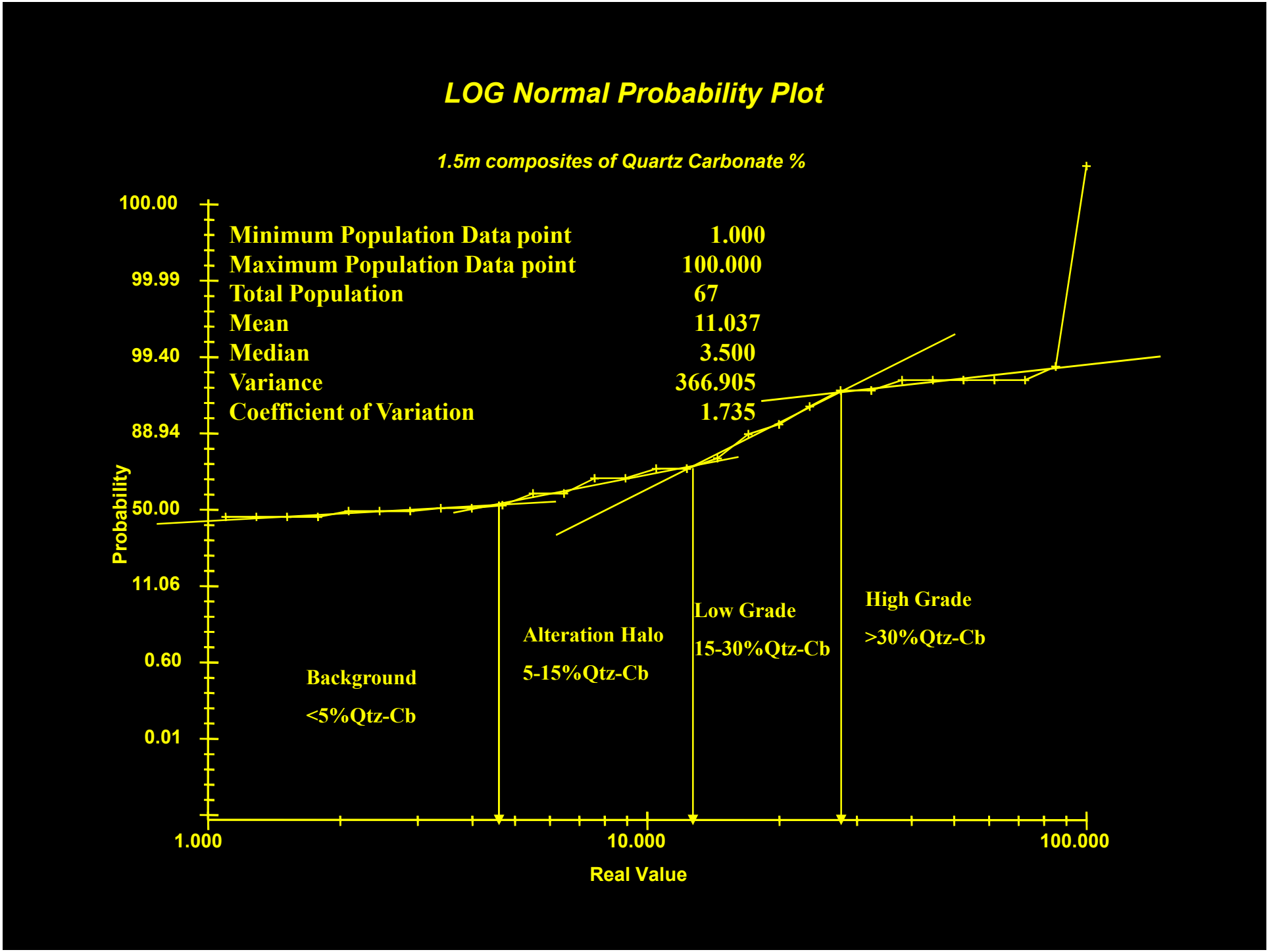
Section 2a-v

Univariate Statistics

Total Sulphides % and

Quartz-Carbonate %


LOG Normal Probability Plot
1.5m composites Total Sulphide%
Minimum Population Data point 0.100
Maximum Population Data point 40.000
Total Population 376
Mean 5.878
Median 3.739
Variance 38.384
Coefficient of Variation 1.054
Probability
100.00
99.99
99.40
88.94
50.00
11.06
0.60
0.01
Background
<0.35%
Total Sulphides
Alteration Halo
>0.35 to 3.0%
Total Sulphides
Low Grade
>3.0 to 10+%
Total Sulphides
High Grade
>10+%
Total Sulphides
0.100
1.000
10.000
100.000
Real Value


LOG Normal Probability Plot
1.5m composites of Quartz Carbonate %
Minimum Population Data point 1.000
Maximum Population Data point 100.000
Total Population 67
Mean 11.037
Median 3.500
Variance 366.905
Coefficient of Variation 1.735
100.00
99.99
99.40
88.94
50.00
11.06
0.60
0.01
Probability
Background
<5%Qtz-Cb
Alteration Halo
5-15%Qtz-Cb
Low Grade
15-30%Qtz-Cb
High Grade
>30%Qtz-Cb
1.000
10.000
100.000
Real Value

Conclusions Univariate Statistics

Alteration & Mineralization

- Sulphur and total sulphide % demonstrate the strongest correlation with Au grades and may indicate a possible relationship as follows:

  >10+% total sulphides may indicate grades >6.0 gpt Au,

  >3-10% total sulphides may indicate grades >0.5 to 6.0 gpt Au

  0.5-3% total sulphides may indicate an alteration halo and grades <0.5 gpt Au

  <0.5% total sulphides is background and unmineralized

- Silica % and quartz-carbonate vein % demonstrate strong correlations with Au grades and may indicate a possible relationship as follows:

  >30% Qtz-Cb Veining may produce grades >6.0 gpt Au

  15-30% Qtz-Cb Veining may produce grades >0.5 to 6.0 gpt Au

  5-15% Qtz-Cb Veining may indicated an alteration halo and grades <0.5 gpt Au

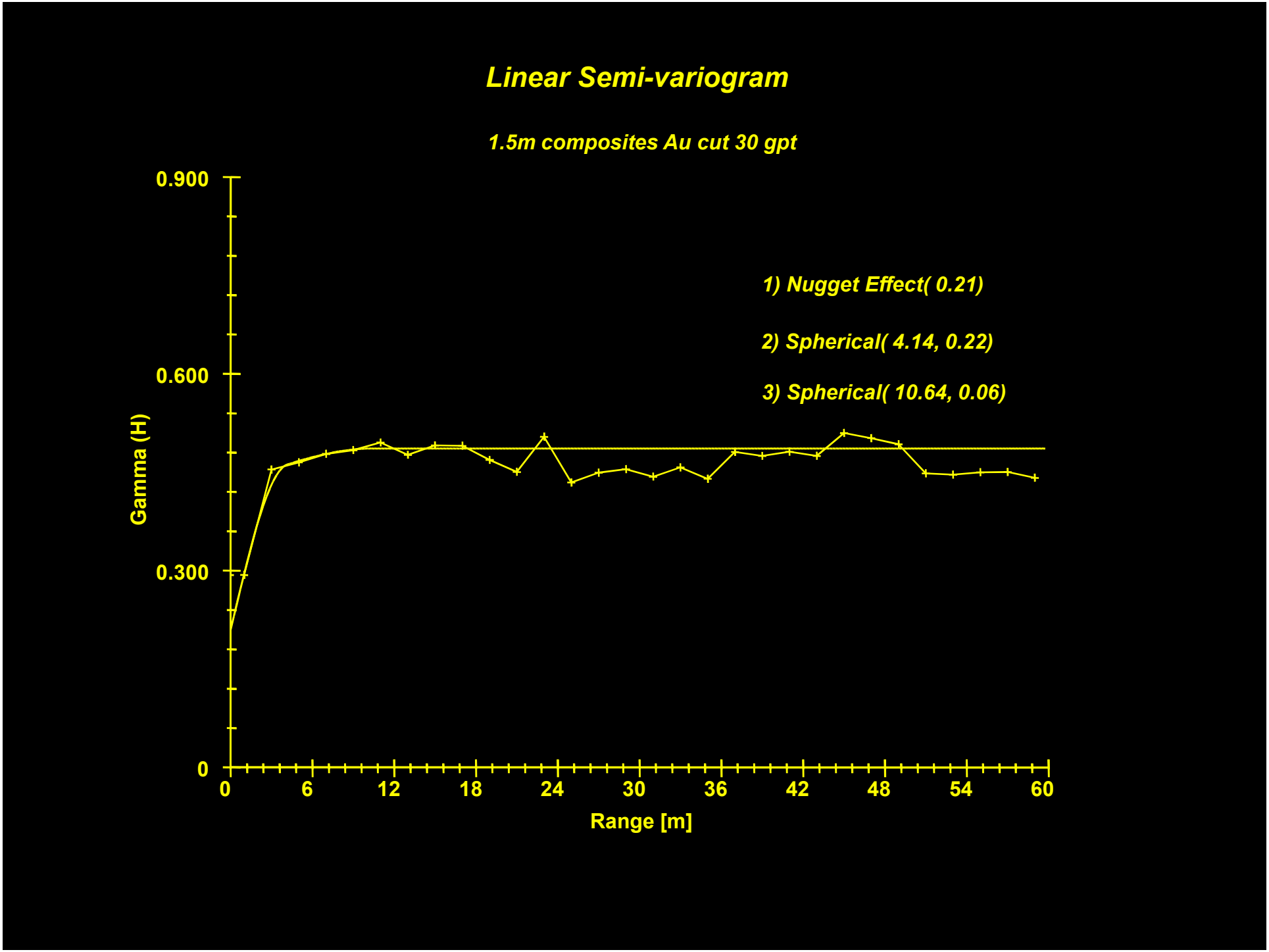
  <5% Qtz-Cb Veining is background and unmineralized

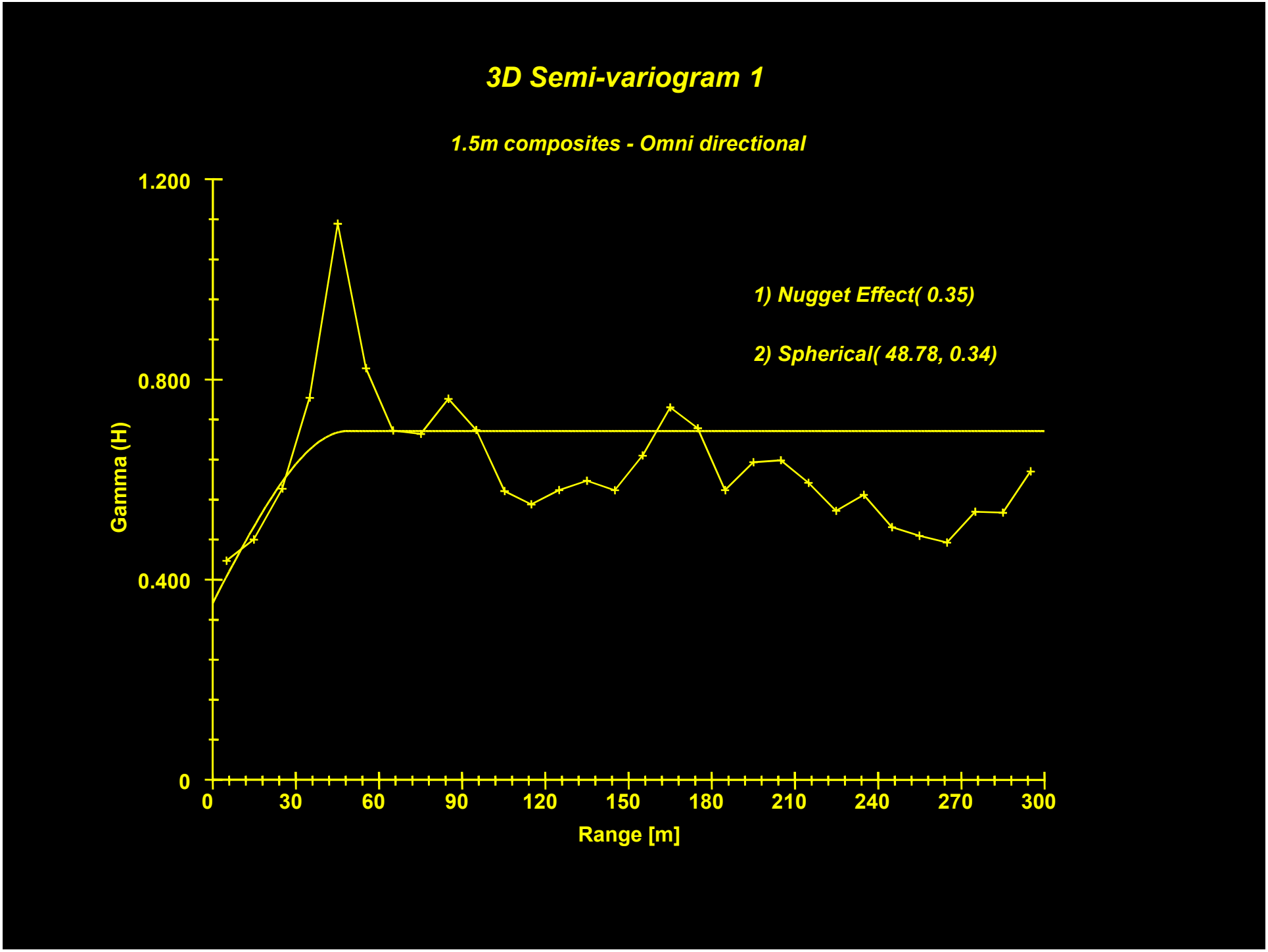
Section 2b

Linear & 3D Omni Directional Variogaphy

1.5m Composites

(Assays cut 30 gpt Au)


Linear Semi-variogram
1.5m composites Au cut 30 gpt
1) Nugget Effect(0.21)
2) Spherical(4.14, 0.22)
3) Spherical(10.64, 0.06)
Gamma (H)
0.900
0.600
0.300
0
0
6
12
18
24
30
36
42
48
54
60
Range [m]


3D Semi-variogram 1
1.5m composites - Omni directional
1.200
0.800
0.400
0
Gamma (H)
1) Nugget Effect(0.35)
2) Spherical(48.78, 0.34)
0
30
60
90
120
150
180
210
240
270
300
Range [m]

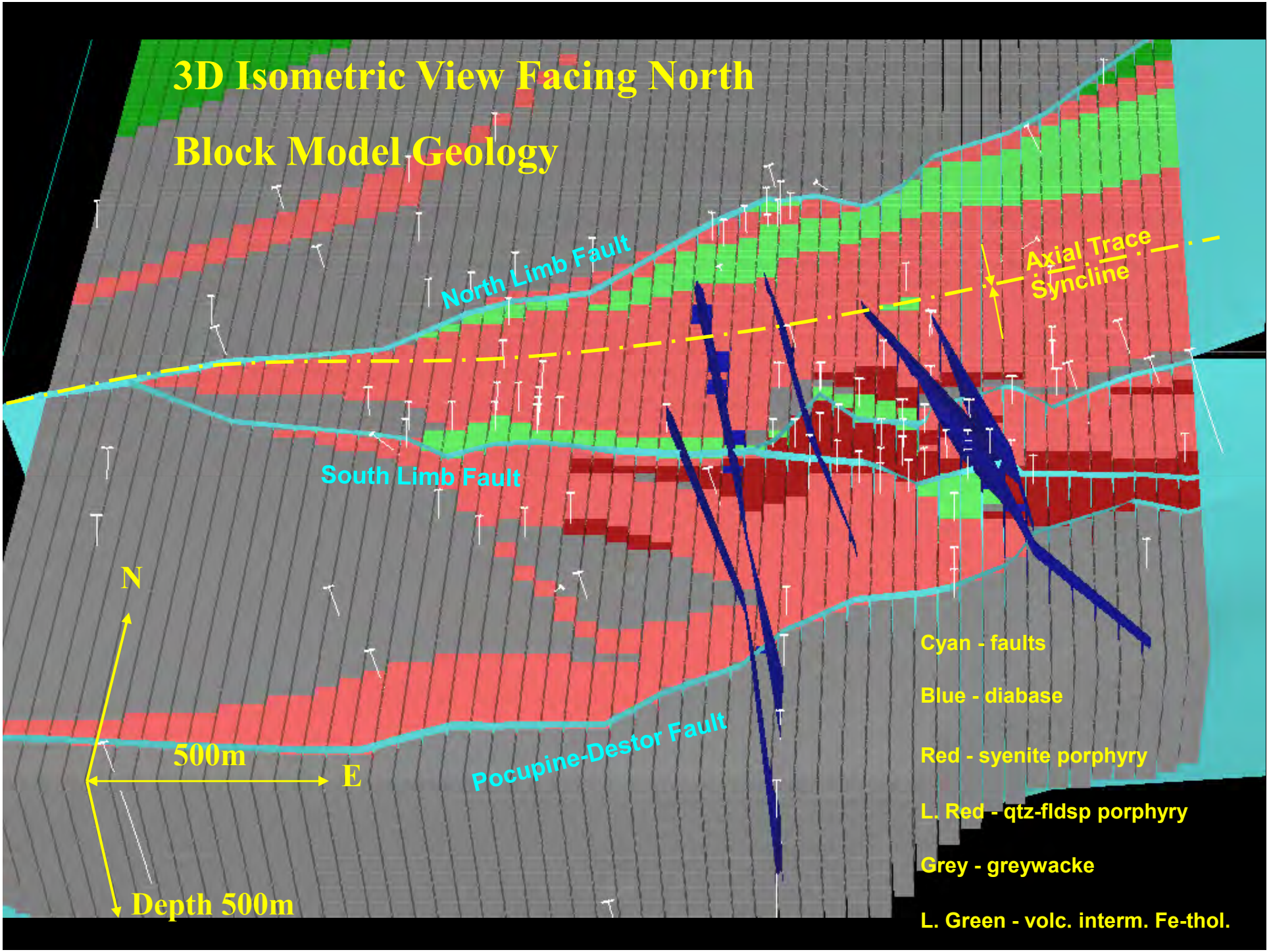
Conclusions from Variography

- Linear variography of the 1.5m assay composites suggests 2 sub-populations of data each with unique range and sill.
- The sub-population with the shorter indicated range (4m) is interpretted to correlate with the higher grade vein intersections.
- The sub-population with the longer indicated range (10m) is interpretted to correlate with the lower grade mineral zones in the surrounding wall rock of the higher grade veins.
- The linear variogram also demonstrates a favourably low nugget value at 0.2 gpt Au.
- A 3D Omni directional variogram yields a range of nearly 50m and is indicative of a strike, dip and/or plunge continuity over this range.
- A total sulphide% model interpolated using twice the indicated ranges from the Au assay composite results reveals trends to the larger sulphide mineral zones for targeting higher grade zones of sulphide and gold mineralization.

Section 3

Large Block Dimension Modelling

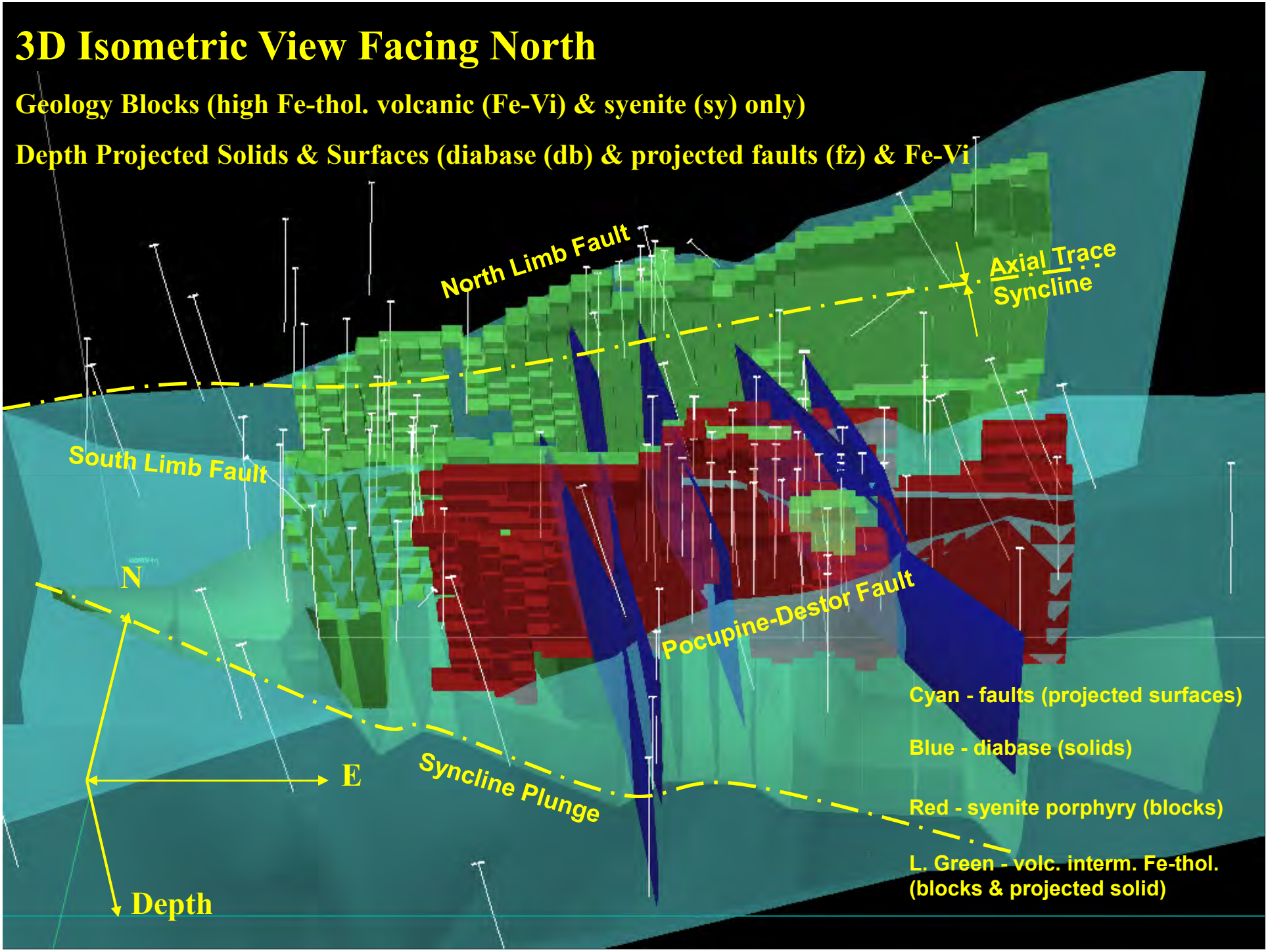
(50x25x50m x,y,z blocks)

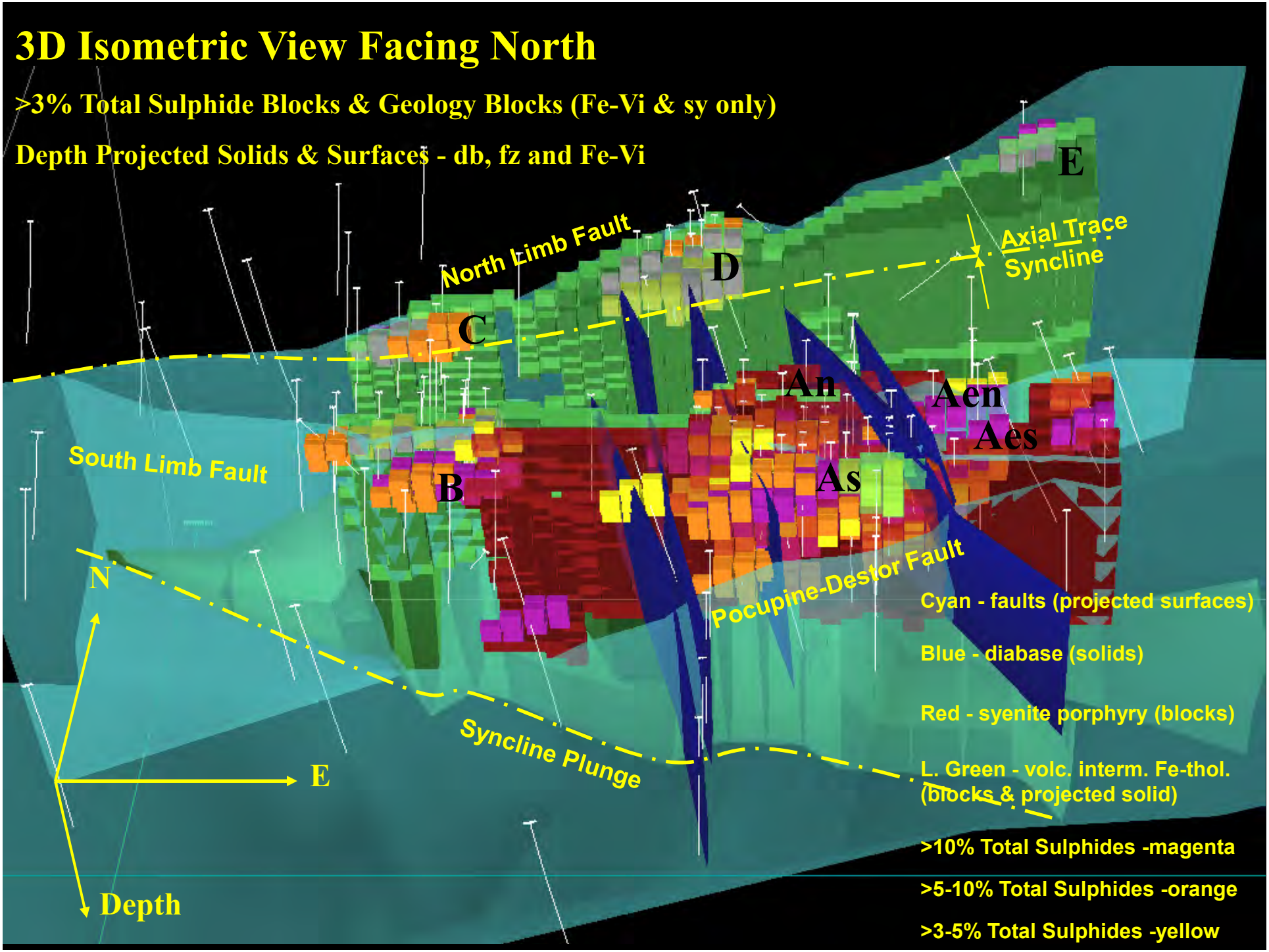

3D Isometric View Facing North
Block Model Geology
North Limb Fault
Axial Trace
Syncline
South Limb Fault
N
500m
E
Depth 500m
Pocupine-Destor Fault
Cyan - faults
Blue - diabase
Red - syenite porphyry
L. Red - qtz-fldsp porphyry
Grey - greywacke
L. Green - volc. interm. Fe-thol.

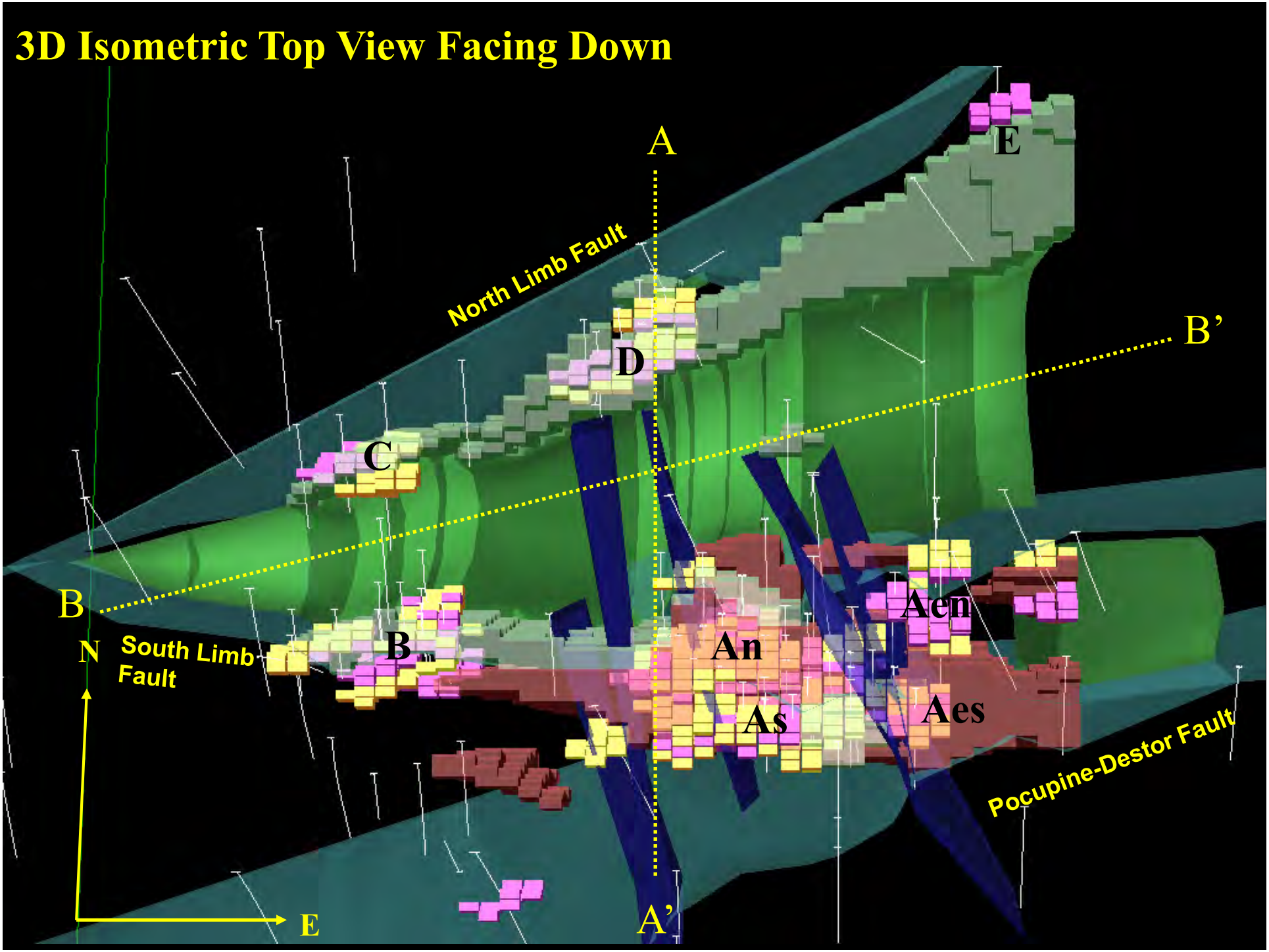
3D Isometric View Facing North

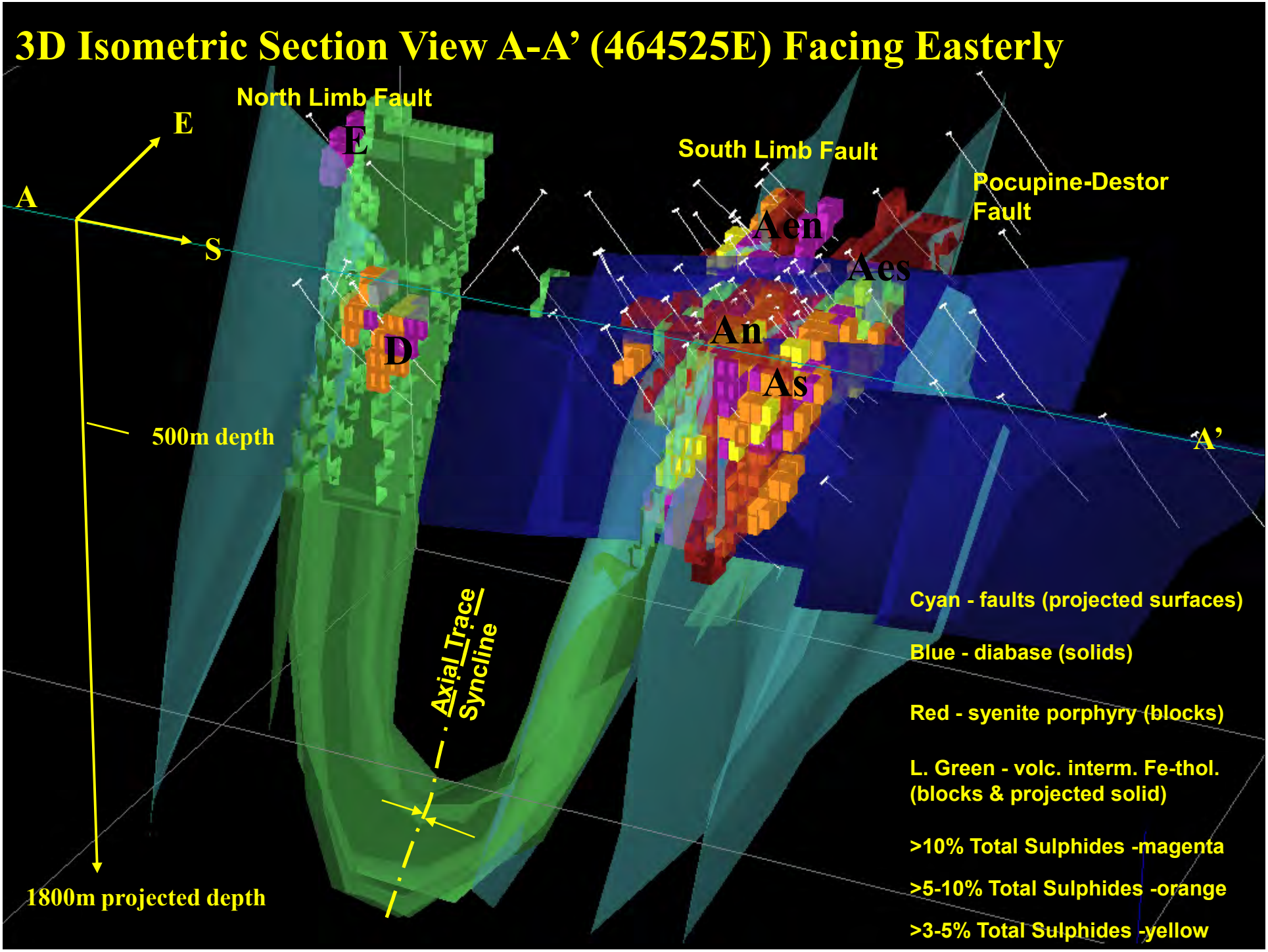
Geology Blocks (high Fe-thol. volcanic (Fe-Vi) & syenite (sy) only)

Depth Projected Solids & Surfaces (diabase (db) & projected faults (fz) & Fe-Vi



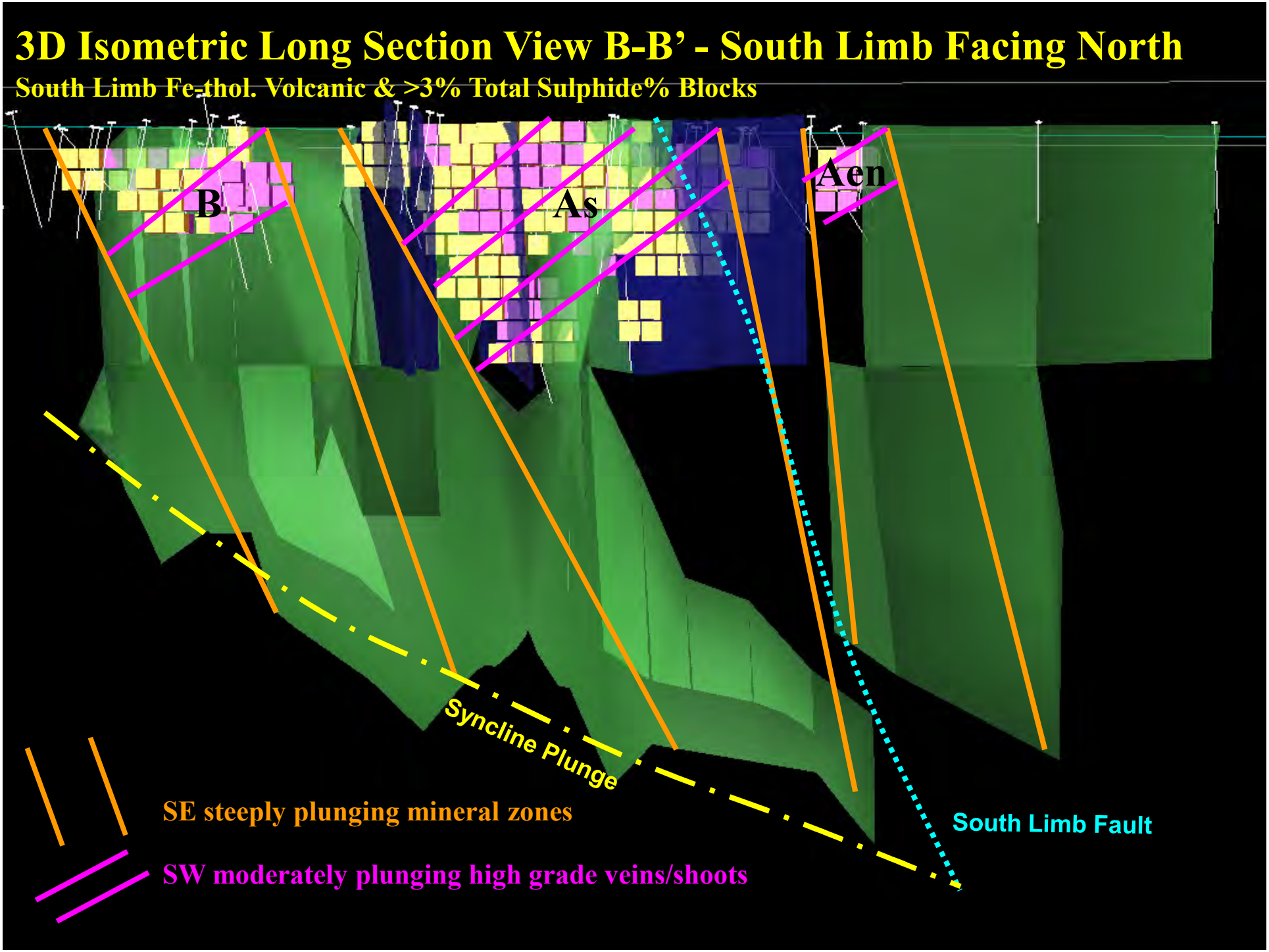

3D Isometric View Facing North
>3% Total Sulphide Blocks & Geology Blocks (Fe-Vi & sy only)
Depth Projected Solids & Surfaces - db, fz and Fe-Vi
E
North Limb Fault
Axial Trace
Syncline
D
C
An
Aen
Aes
As
B
South Limb Fault
Pocupine-Destor Fault
N
E
Depth
Syncline Plunge
Cyan - faults (projected surfaces)
Blue - diabase (solids)
Red - syenite porphyry (blocks)
L. Green - volc. interm. Fe-thol. (blocks & projected solid)
>10% Total Sulphides -magenta
>5-10% Total Sulphides -orange
>3-5% Total Sulphides -yellow


3D Isometric Top View Facing Down
A
E
North Limb Fault
B'
D
C
B
N
South Limb Fault
B
An
Aen
As
Aes
Pocupine-Destor Fault
E
A'


3D Isometric Section View A-A' (464525E) Facing Easterly
North Limb Fault
E
A
S
E
South Limb Fault
Pocupine-Destor Fault
Aen
Aes
An
As
D
A'
500m depth
Axial Trace Syncline
1800m projected depth
Cyan - faults (projected surfaces)
Blue - diabase (solids)
Red - syenite porphyry (blocks)
L. Green - volc. interm. Fe-thol. (blocks & projected solid)
>10% Total Sulphides -magenta
>5-10% Total Sulphides -orange
>3-5% Total Sulphides -yellow

3D Isometric Long Section View B-B' - South Limb Facing North

South Limb Fe-thol. Volcanic & >3% Total Sulphide% Blocks



Conclusions from Block Modelling

Mineral Zone Occurences

- Each of the Au grade and total sulphide % block models yield the principal zones of mineralization identified as zones “A” through “E” inclusive. Zone “A” is further subdivided into north (An) and south (As) en echelon lenses with respective eastward extensions (Ane & Ase) east of a NW crosscutting diabase dyke swarm.
- The majority of drilling has focussed on the south limb of the geosyncline in the A and B mineral zones.
- The total sulphide % model produces larger mineral zone envelopes and demonstrates trends for targeting exploration.
- All mineral zones demonstrate a strong spacial relationship with proximity to high Fe-tholeitic volcanic rocks on both limbs of the geosyncline.
- The larger zones of mineralization display a strong spacial relationship with proximity to syenite intrusive rocks and high Fe-tholeitic volcanic rocks.

Conclusions from Block Modelling

Interpretation

- The syenite porphyry intruded a dilant zone developed at the intersection of the Porcupine-Destor and South Limb faults. These faults developed along high Fe-tholeitic metavolcano-sedimentary contacts that provided the necessary Fe to precipitate sulphide mineralization during hydrothermal activity.

- Along the south limb of the geosyncline, the high Fe-tholeitic volcanic horizon is often present only as remnant xenolithic or fault mega-blocks due to disruption by the South Limb fault and intrusions of QFP and syenite porphyry. There is well demonstrated continuity of the high Fe-tholeitic volcanic horizon on the north limb however, only minor occurences of syenite intrusive have been intersected on the north limb.

- The structural environment is favourable for large bodies of syenite to have intruded further at depth. The intersections of the major faults and the contacts of the favourable high Fe-tholeitic volcanic host rocks especially near the synclinal fold hinge provide the best target areas for targeting exploration.

Conclusions from Block Modelling

Target Conception

- Distribution of the >3% total sulphide blocks especially in the better defined lenses of the A & B zones demonstrates:
    - an overall steep SE plunge to the mineral zones, especially the A zone lenses. The SE plunge coincides with the occurrence of syenite intruding the high Fe-tholeitic volcanics near the intersection of the Porcupine-Destor and South Limb faults,
    - a moderate SW plunge is indicated to occur for the >10% total sulphide blocks. The SW plunge likely coincides with the higher grade veins, shoots or en echelon lenses that occur within the steeply SE plunging lower grade mineral zone envelopes.
- Higher grade and more continuous zones of mineralization may occur deep down-plunge along the indicated trends of the existing mineral zones.
- Zones of high dilatency at fault intersections and high Fe-tholeite contacts especially near the fold-hinge are high priority targets areas.

Timmins Porcupine West:
- Phase 1 Drill Program

Hole	East	North	Elev	Length	Az	Dip	Target
PRa-01	464550	5362150	295	1,100	180	-70	A - SW plunge
PRa-02	464850	5362175	295	1,200	180	-65	A - down dip
PRa-03	465150	5362250	295	1,000	190	-60	A - SE plunge
PRa-04	464000	5362500	295	1,600	180	-70	C - shallow / B - deep
PRa-05	464600	5362800	295	1,600	180	-60	D - shallow / A - deep
Total Phase 1				6,500	meters		

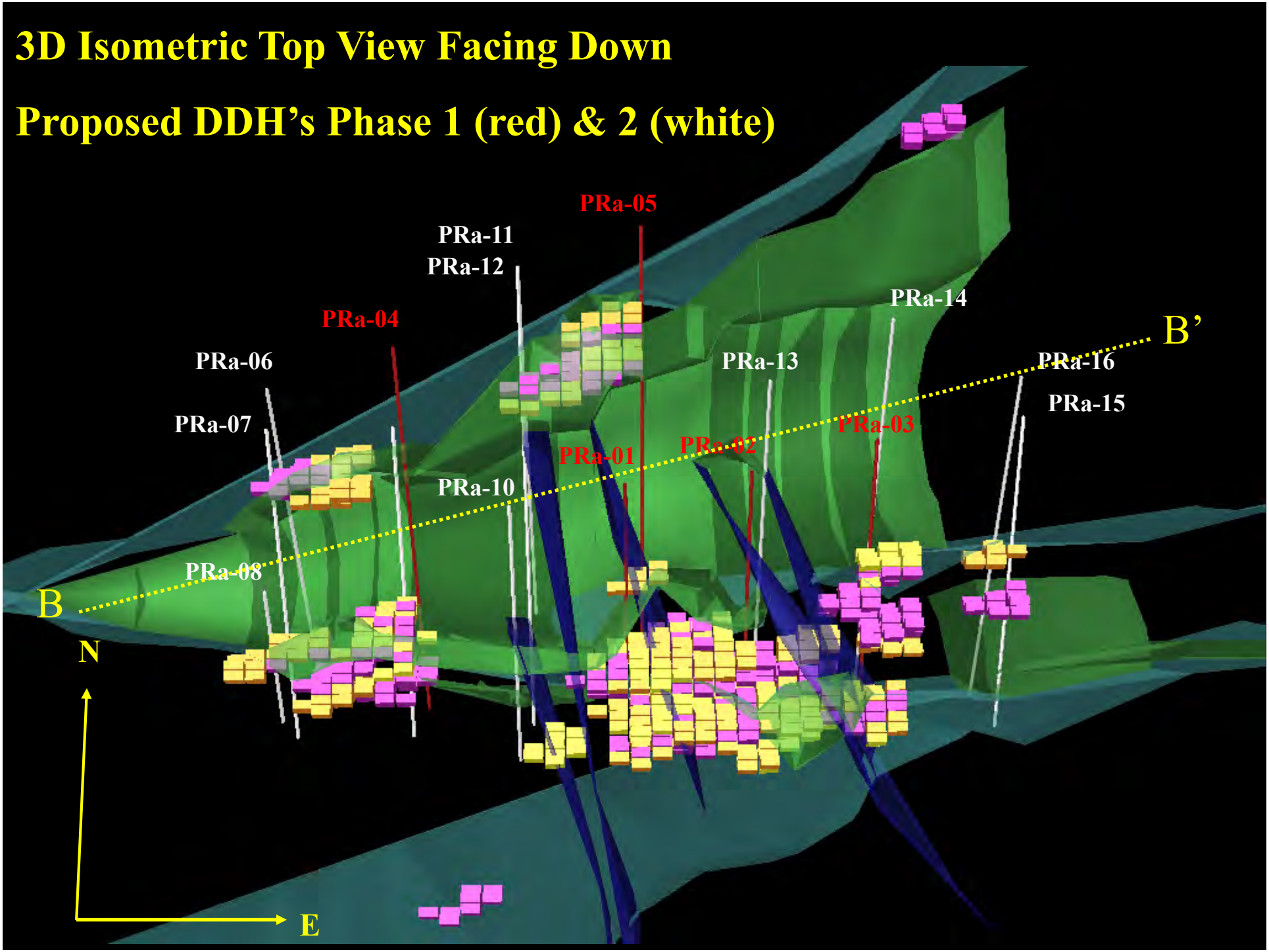
Timmins Porcupine West:
- Phase 2 Drill Program

Hole	East	North	Elev	Length	Az	Dip	Target
PRb-06	463700	5362400	295	1,400	180	-75	B/C - hinge zone
PRb-07	463700	5362300	295	1,000	180	-55	C - shallow / B - deep
PRb-08	463700	5361900	295	500	180	-65	B - shallow
PRb-09	464000	5362300	295	1,000	180	-55	C - shallow / B - deep
PRb-10	464275	5362100	295	900	180	-60	A - SW plunge
PRb-11	464300	5362700	295	1,500	180	-55	D - shallow / A - deep
PRb-12	464300	5362700	295	1,700	180	-75	A/D - hinge zone
PRb-13	464900	5362400	295	1,500	180	-70	A - down dip
PRb-14	465200	5362550	295	1,600	180	-70	A - SE plunge
PRb-15	465500	5362300	295	1,000	180	-55	A - east extension
PRb-16	465500	5362400	295	1,400	180	-70	A - east extension

Total Phase 2 13,500 meters

3D Isometric Top View Facing Down

Proposed DDH's Phase 1 (red) & 2 (white)



3D Isometric Long Section View B-B' - South Limb Facing North