Adding Value with Exploration Dollars

Including a Case Study on the Yandera Project, Papua New Guinea

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FREEPORT RESOURCES INC.

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Topics of this Presentation

Battery limits of discussion

Mining is a Business

An Idea in Eastern Nevada

Outline of the Process

Yandera Copper Deposit

A case study of real-world application of Advanced Exploration Targeting.

Battery Limits of Discussion

Focused on expanding resources and reserves for projects with reasonably well understood geology

Mining is a Business

Businesses exist to make a Profit

Investments should serve a purpose, mainly to increase profitability

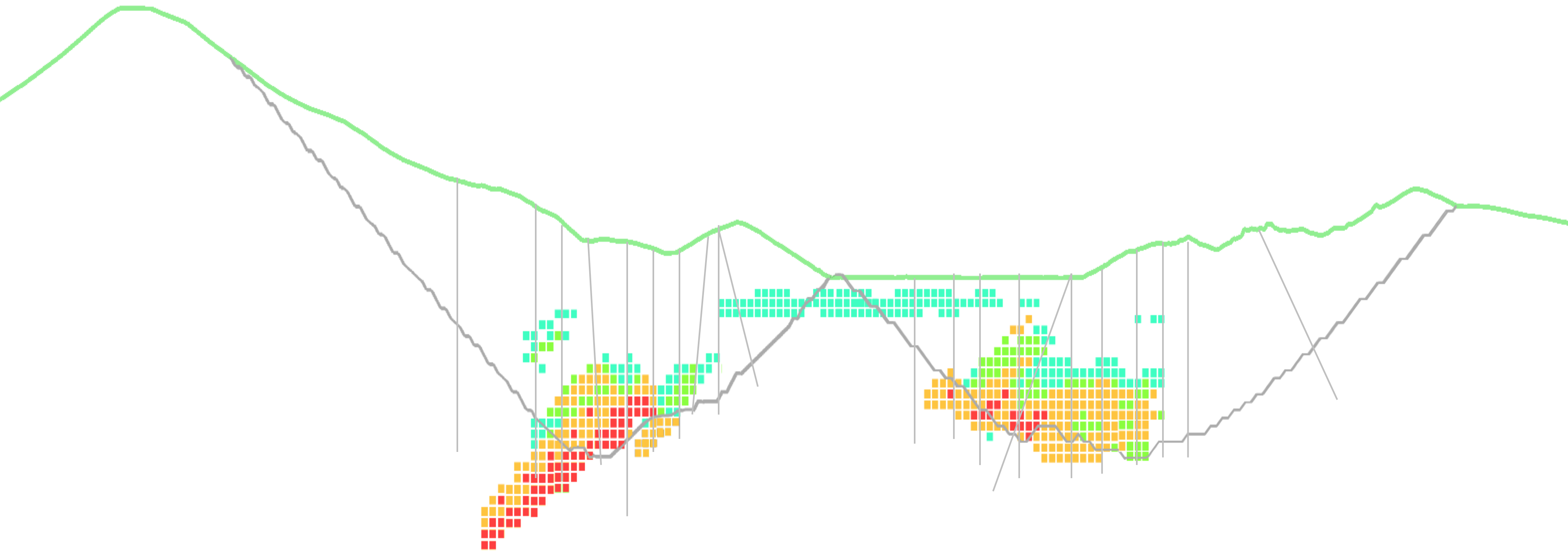
Exploration funding is generally difficult to come by and high-risk

Management needs to justify the expense and quantify their potential impact

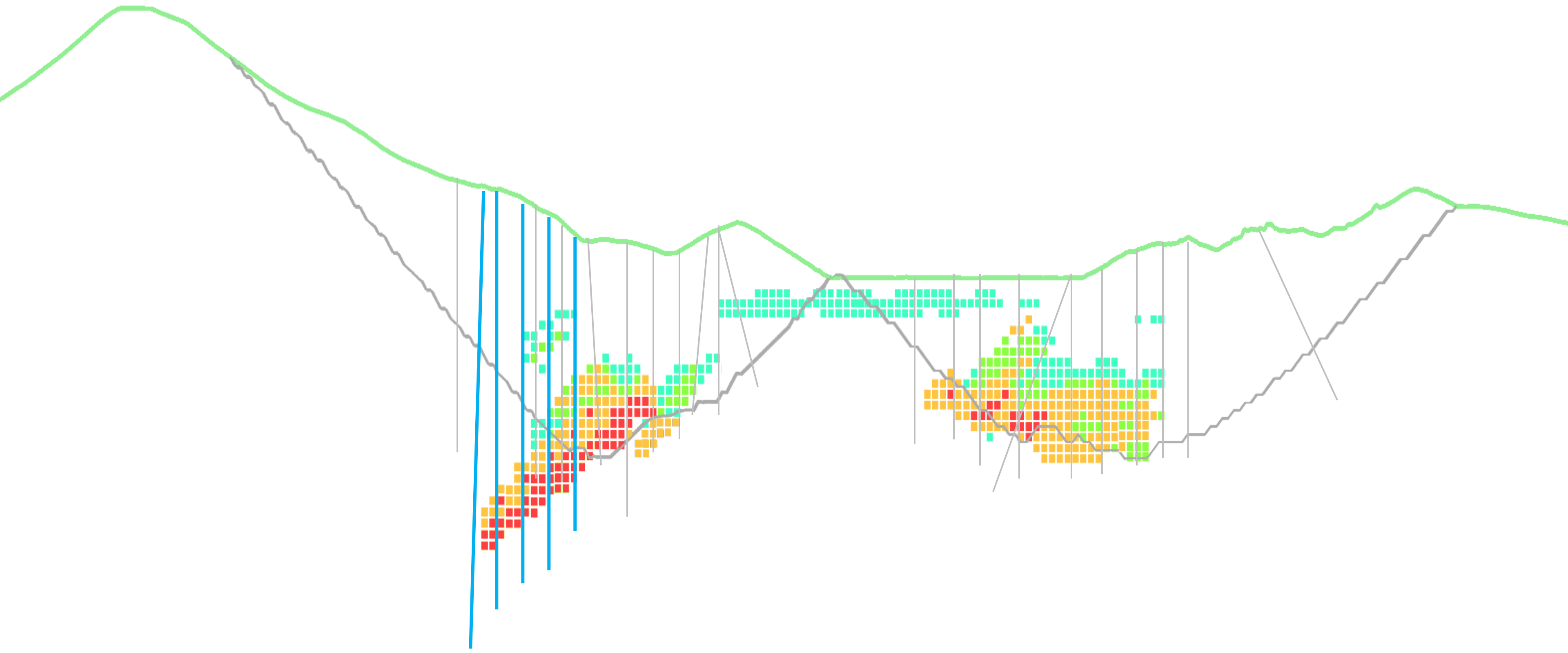
Drilling programs steered by good science and potential for value addition can better position projects for success

We should try to determine the potential impact of drilling before we spend the money.

Gold Mine – Nevada USA

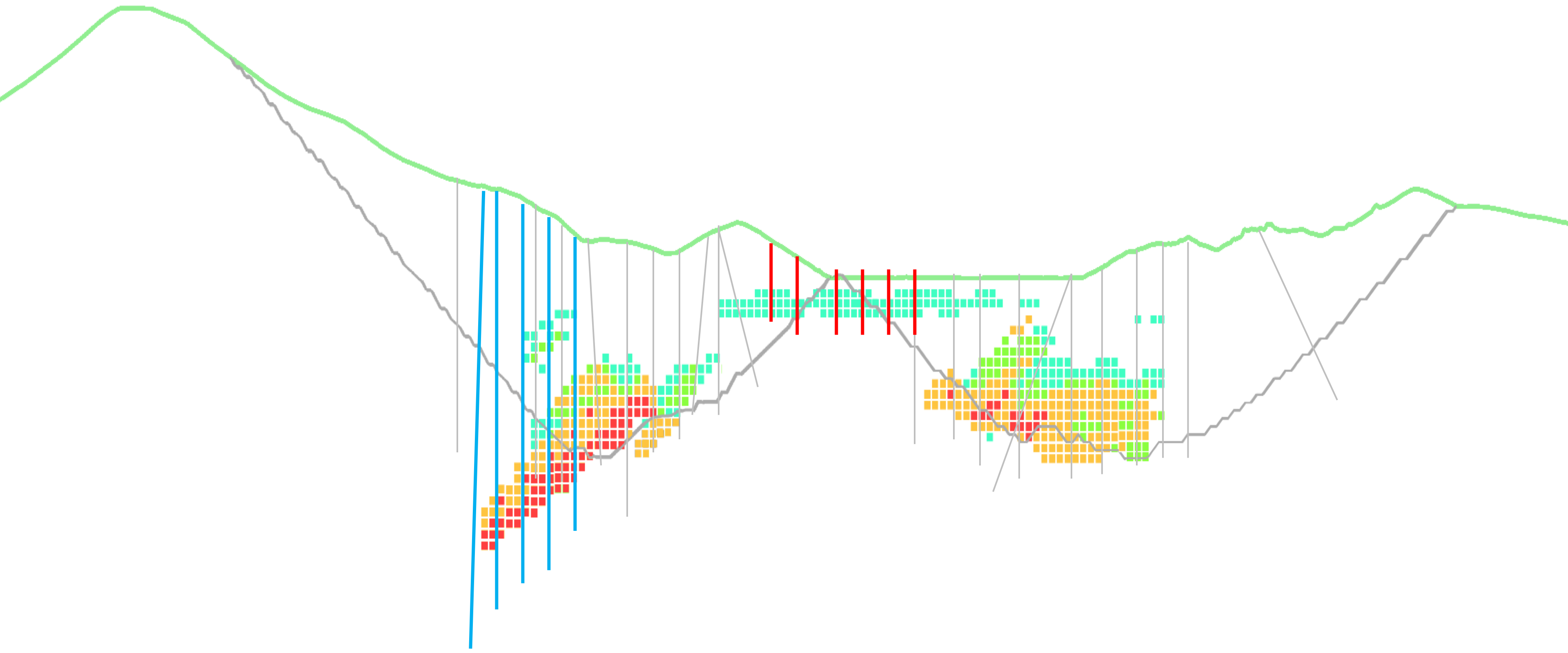


Gold Mine – Nevada USA

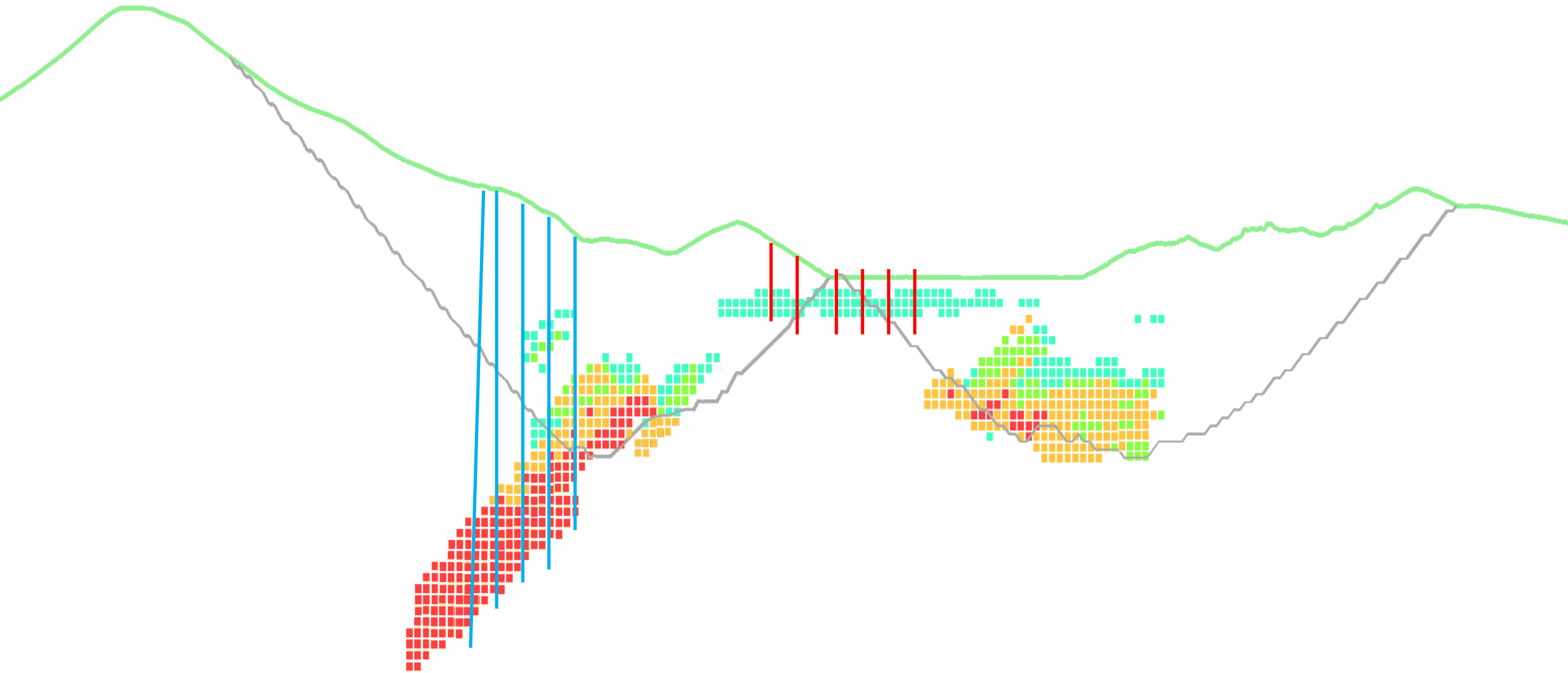


Initial Focus – the shiny spot

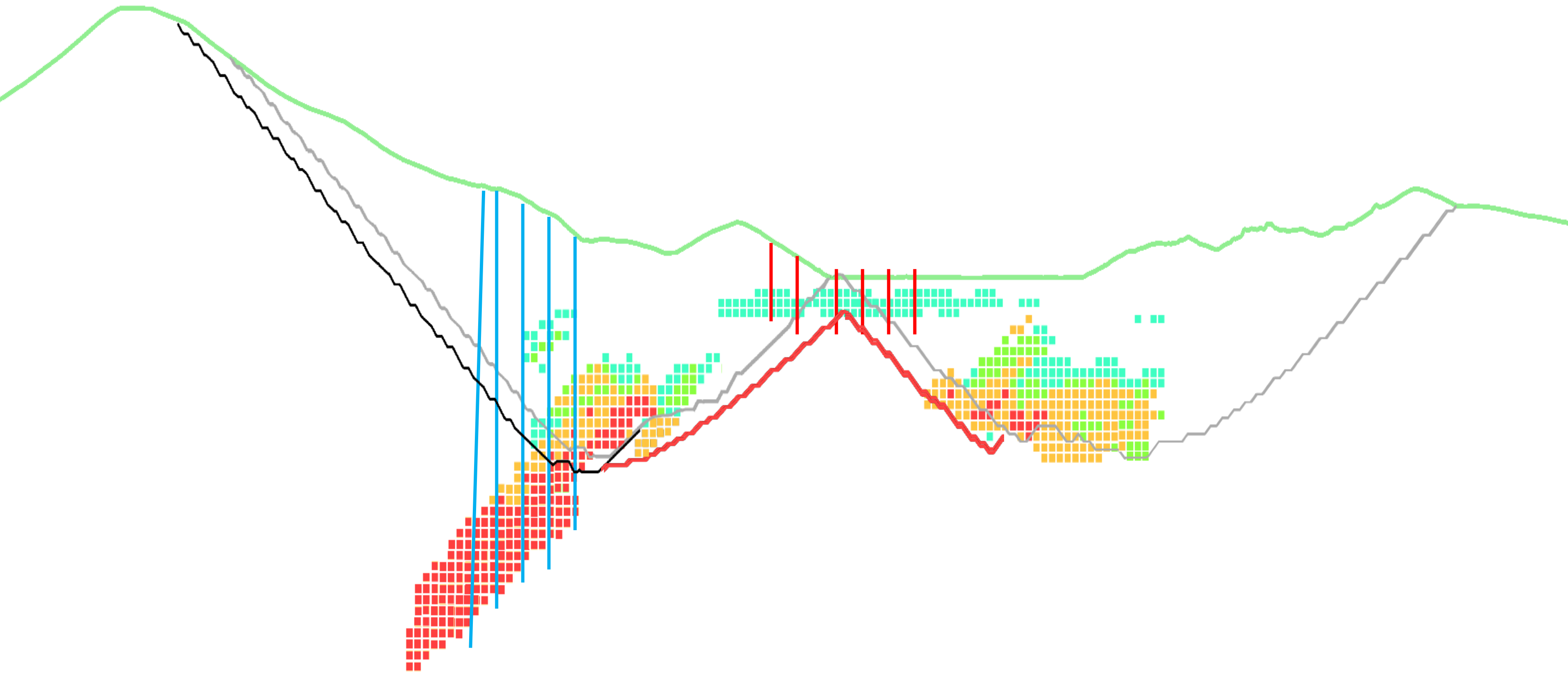
Gold Mine – Nevada USA



Gold Mine – Nevada USA

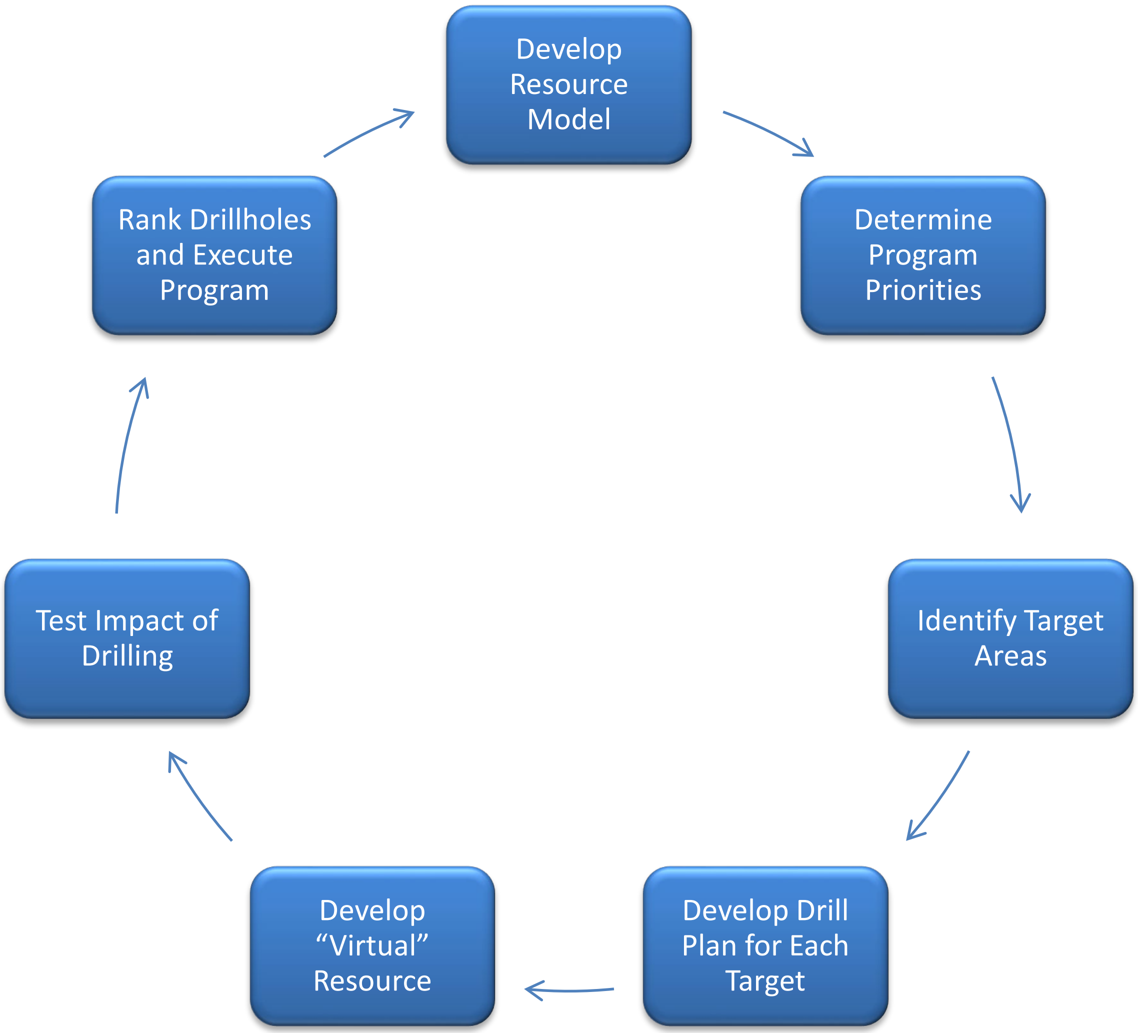


Gold Mine – Nevada USA



Assume Complete Success

Simplified Process



Case Study – Yandera Copper Project

Source: http://eraresources.com/

Yandera Regional Geology

Located in the Northwestern trending Porphyry Belt on the island of Papua New Guinea, the same porphyry belt that hosts Ok Tedi, Frieda River, Wafi-Golpu, and Grasburg to the west

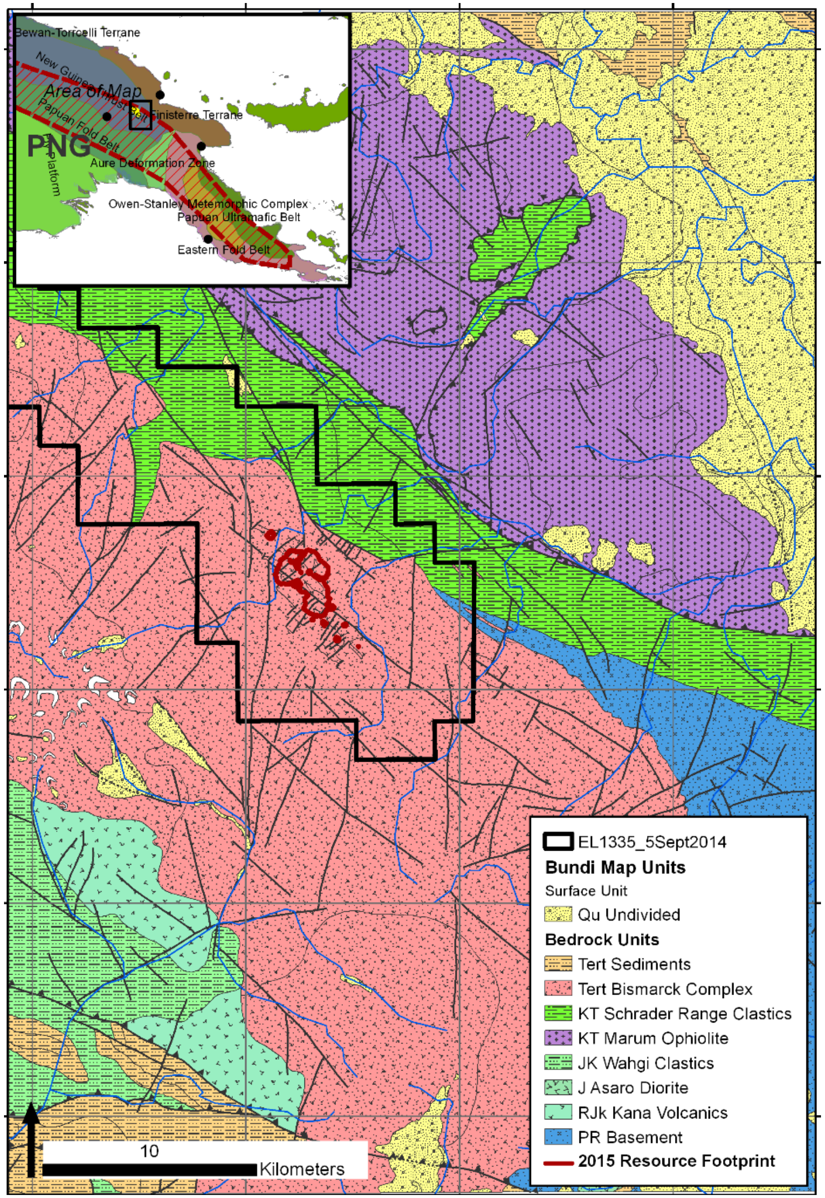
The property is hosted in the Bismarck Intrusive Complex

Deposit is a structurally controlled porphyry copper system (ancillary Mo and Au)

Overall low-grade resource (less than 0.5% copper) with no significant supergene enrichment

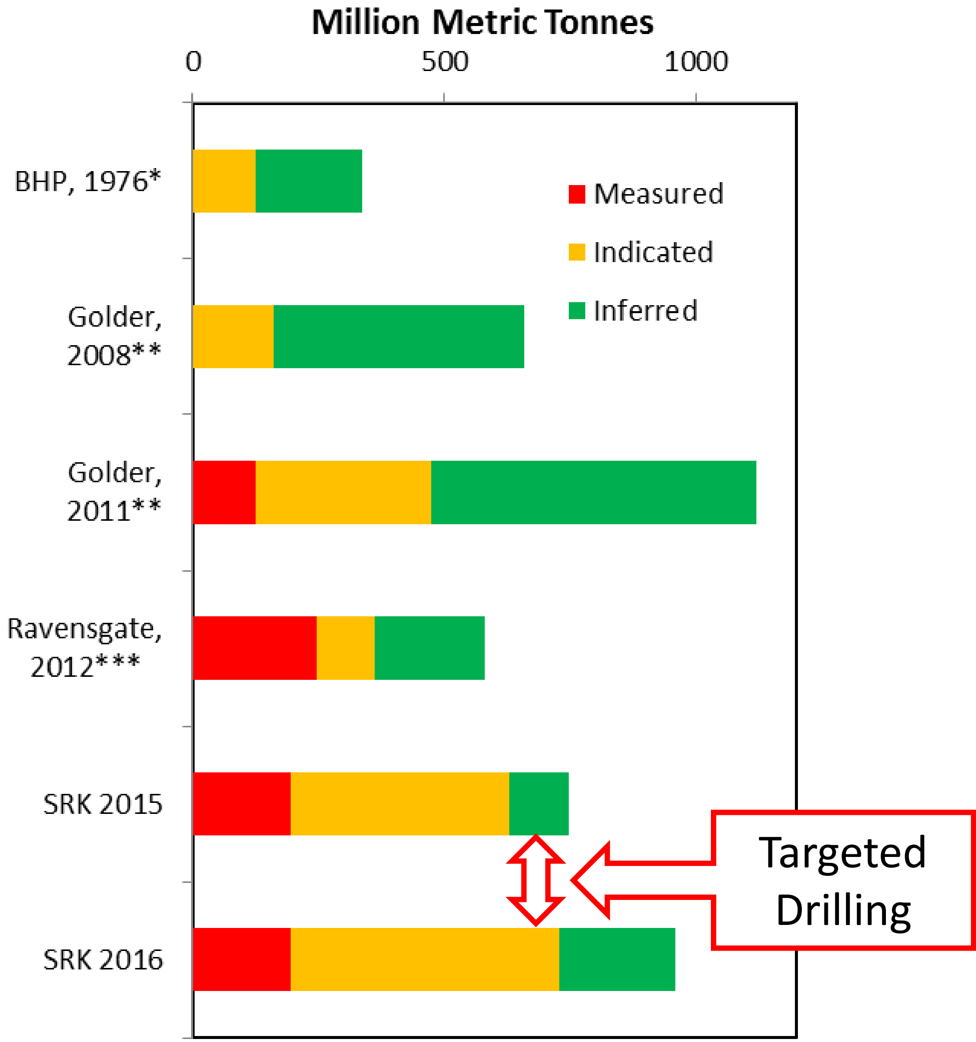
Known mineralization is associated with a prominent Northwest trend with intersecting North-Northeasterly trending structures and later intrusive units

Excellent exploration upside potential



Yandera Project Advances

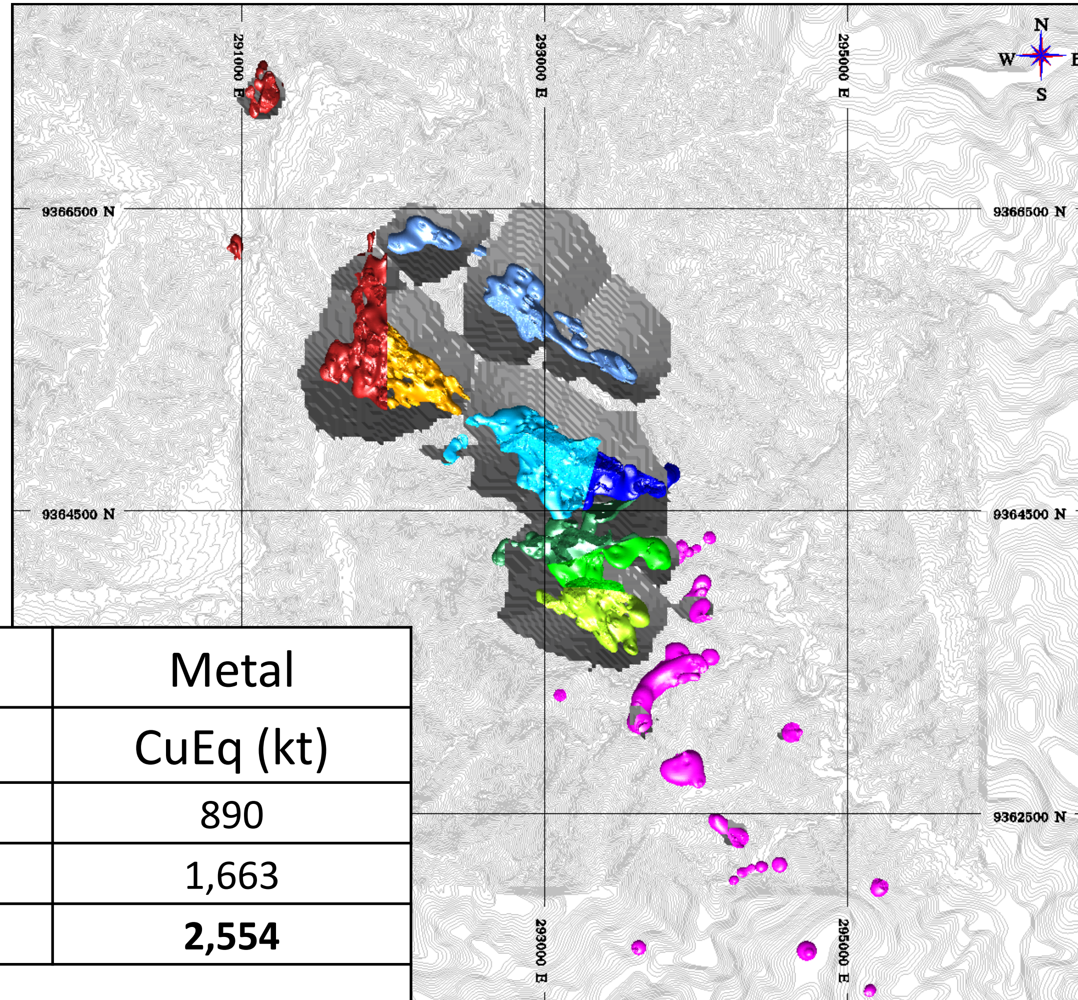
1957—Discovered by Australian Government geologists conducting regional reconnaissance work
1965-1972—Kennecott: field work, drilling, geophysics
1973-1976 — BHP/Amdex: field work, drilling
1977-1986 — Amdex: field work, drilling
1999 — Cyprus Amax: field work
2003-2006—Belvedere: airborne geophysics
2006-Present—Marengo/Era Resources surface work, drilling, geophysics, multiple resource estimates, EIS work, PFS/some FS level work
2012—Feasibility Study work stopped because of low copper price
2015—Mineral Resource Update
2016—Resource development program
2016—Updated Mineral Resource Estimate
2018—Pre-Feasibility Study completed, EIS work started
2021—Era acquired by Freeport Resources Inc.



*-Historic non-compliant resource
**-In-situ/unconstrained resource model
***-In-situ/unconstrained resource model and only from Cu%

In-Pit Resource – Prior to 2016 Drilling

- 2015 Resource Pit
- Cu Gradeshells
- NI 43-101 format resource
- Grade challenged
  - Must find more tonnes

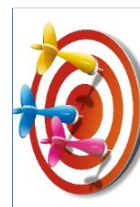


Class	Mass	Grade	Metal
	(Mt)	CuEq (%)	CuEq (kt)
Measured	195	0.46	890
Indicated	435	0.38	1,663
M&I	**630**	**0.41**	**2,554**
Inferred	117	0.34	401
Total	747		

2016 Yandera Resource Drilling Program

Limited budget

Tight time constraints



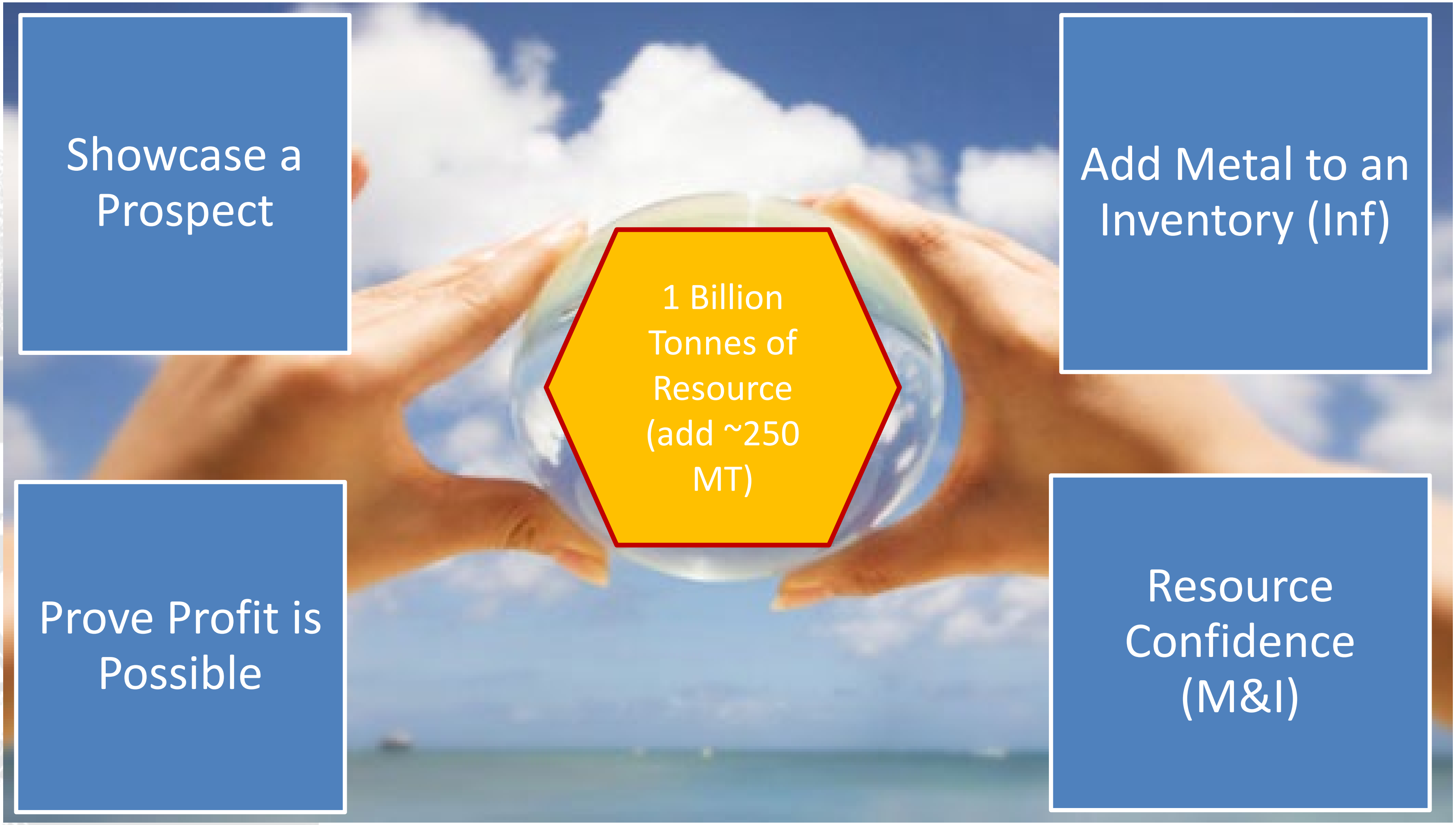
Numerous Possible Targets

Challenging Terrain

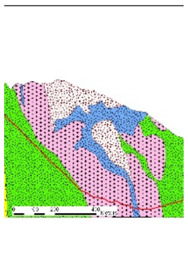
- Helicopter access (no roads)
- Long time for pad prep (weeks)
- Limited drilling season (rainy season)

Where should we drill?

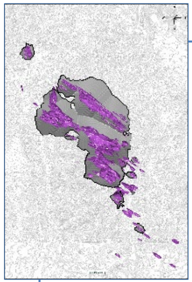
What are the Program's Priorities?



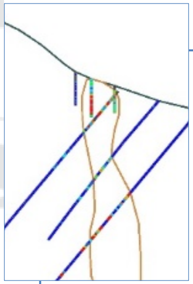
How is it done?—Inputs Required



Effective geologic and structural interpretation



Existing resource model (grade shells, block model, other model parameters)



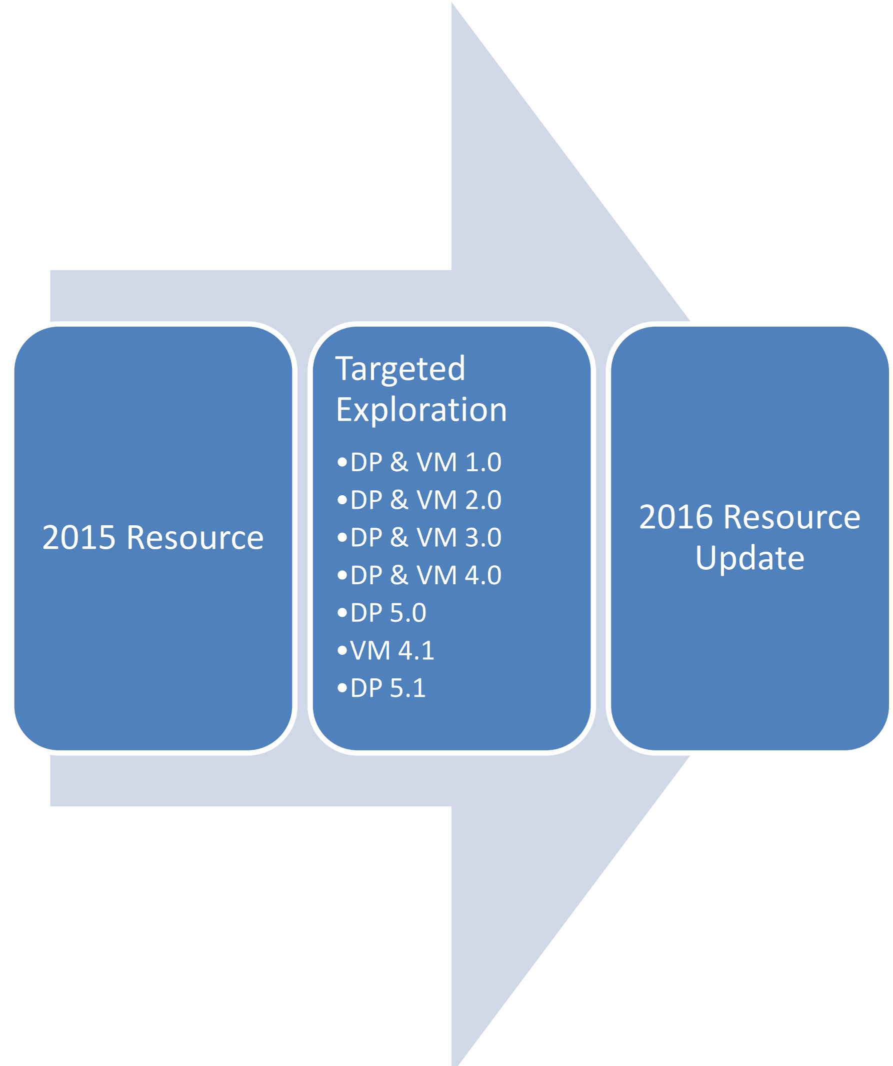
Proposed Drill Holes **WITH** estimated grade-thicknesses (projected)

Economic Inputs for Pit Optimization

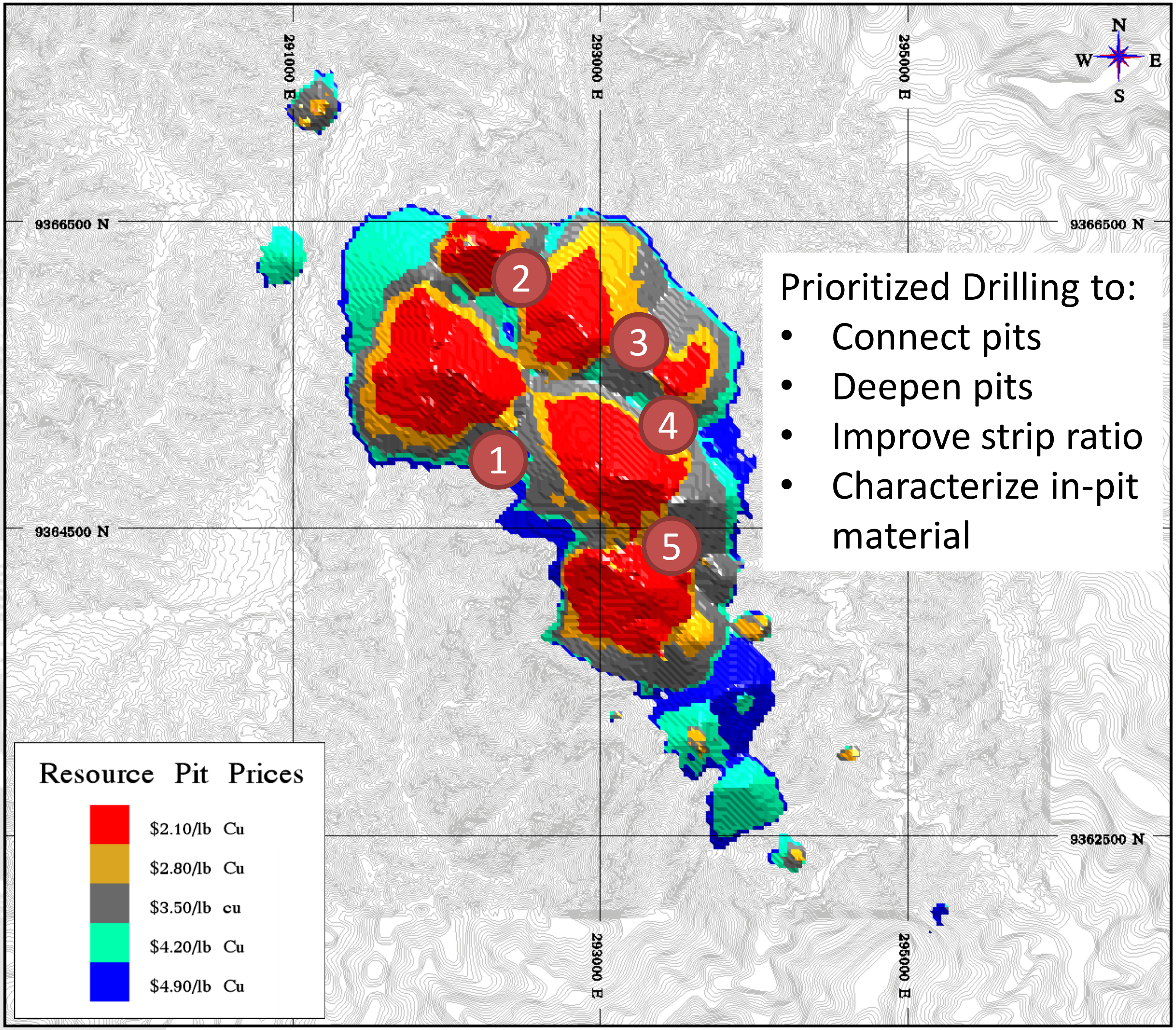
Yandera Resource Targeting Progression

An initial drilling plan was developed.

Data was collected in near real time and the drill plan and virtual model updated four times during the program.



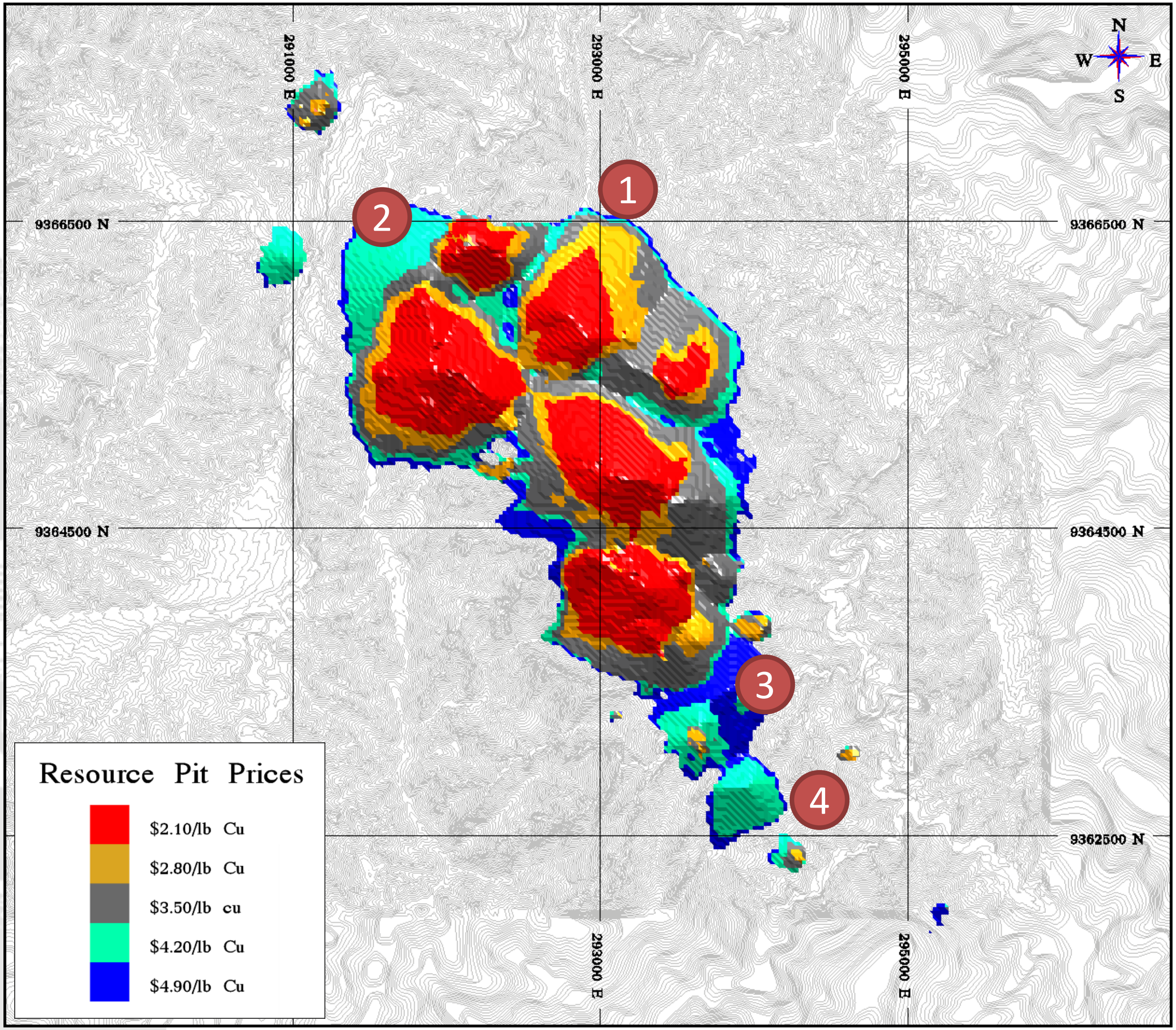
Infill Drilling Options – Initial Targets



Prioritized Drilling to:

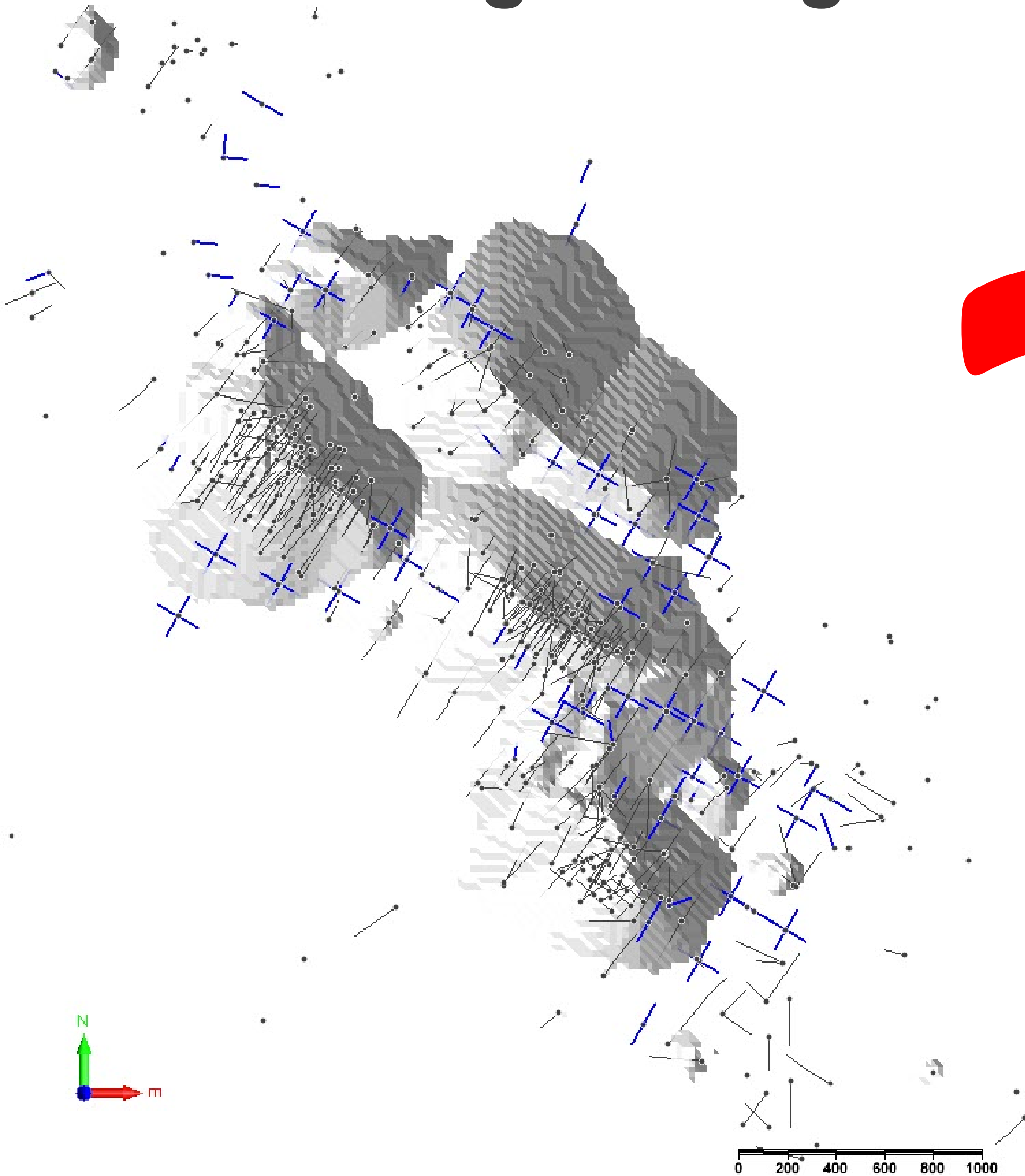
- Connect pits
- Deepen pits
- Improve strip ratio
- Characterize in-pit material

Step Out Drilling Options – Initial Targets



Best Resource Expansion Drilling Targets

How to Make Intelligent Target Choices?

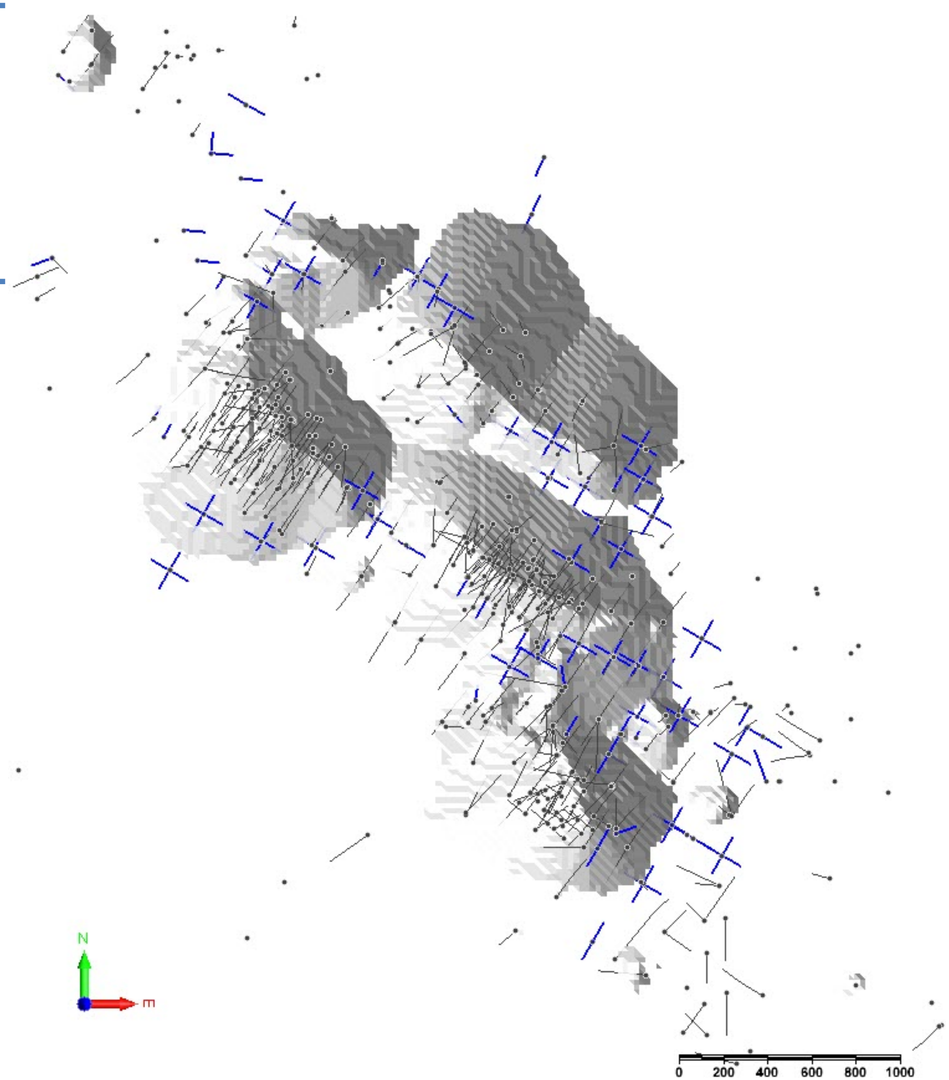


?

Drill Planning (DP 1.0)

Impact of individual holes evaluated, and priority of drill targets influenced by preliminary results

Actual: a number drill holes were assigned lower priorities because the interpreted results suggested that their individual impact was lower than many other holes, especially some infill targets that tested for grade where there was sufficient information



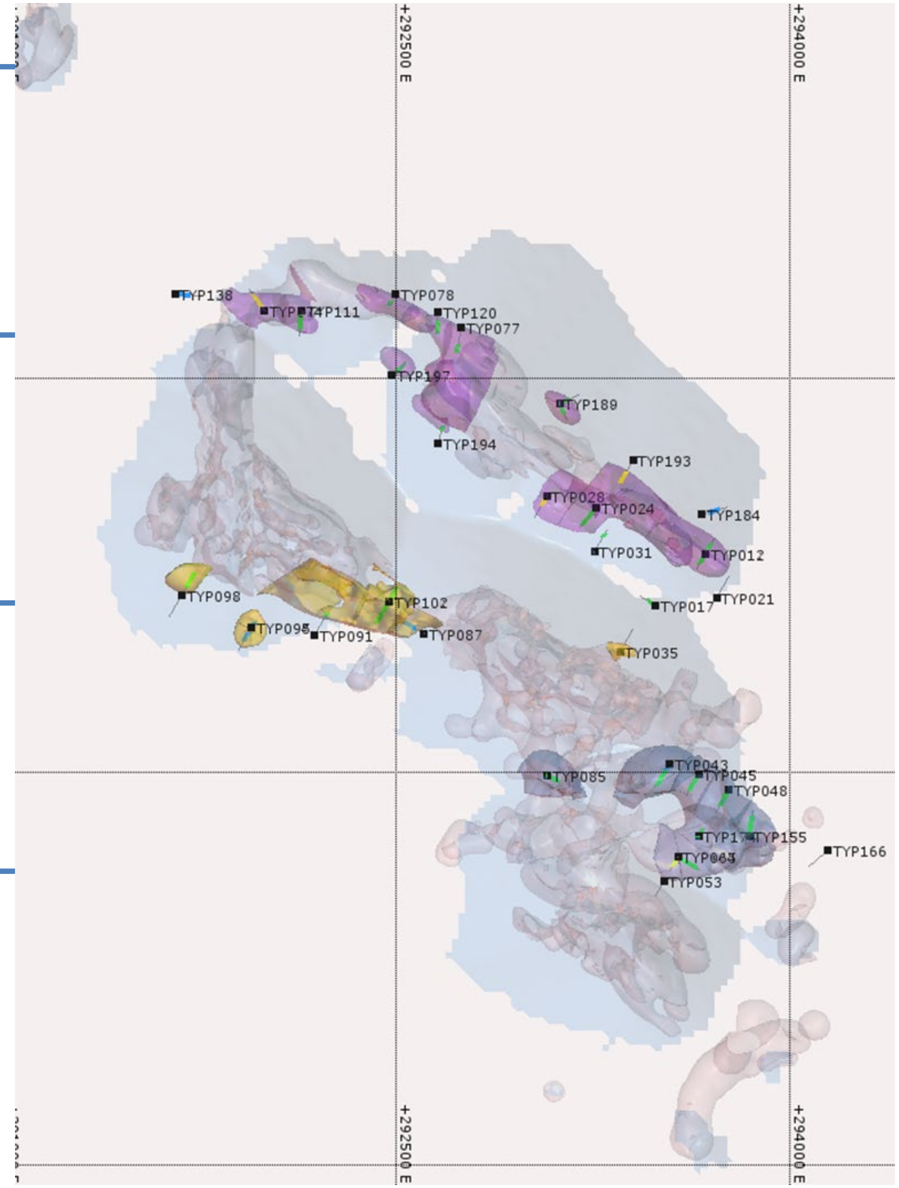
Calculation of ‘Virtual Resource’ (VR 1.0)

Era’s grade-thickness intercepts provided to SRK

Model database is updated with proposed drill holes and estimated composites

Virtual resource pit calculated based on same input parameters except for additional ‘drilling’ data

Contributions from individual proposed holes tabulated



Calculation of 'Virtual Resource' (VR 1.0)

Individual holes shown with tonnes and expected total metal

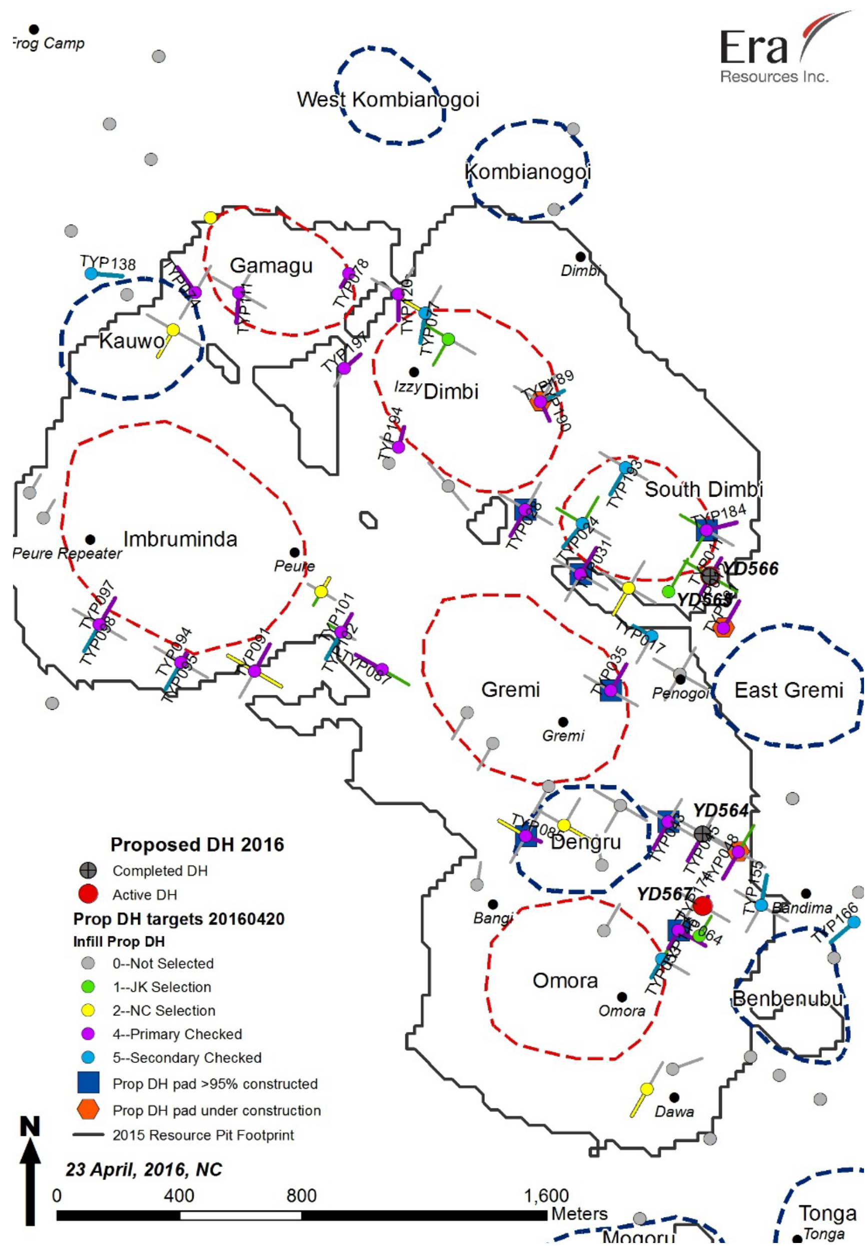
Drilling Status	DH Code	Mass	CuEq	
		(t)	(%)	(t)
Drilled	1043	10,966,967	0.29	32,001
	1045	2,340,648	0.53	12,405
	1048	7,213,815	0.56	40,758
	1174	4,195,979	0.21	8,617
	3011	1,338,845	0.20	2,657
	3012	14,599,062	0.45	65,554
	3184	17,869,463	0.47	84,589
	Total	**58,524,780**	**0.42**	**246,581**
Undrilled				
	3193	6,444,839	0.30	19,370
	3021	4,032,414	0.28	11,089
	1155	5,623,311	0.18	10,128
	3024	3,991,573	0.23	9,000
	1064	3,461,805	0.25	8,655
	3077	3,443,128	0.25	8,650
	1085	3,945,209	0.22	8,621
	3028	3,039,363	0.28	8,457
	2102	3,726,944	0.21	7,842
	3074	1,730,109	0.30	5,109
	3194	1,430,114	0.29	4,174
	1145	1,272,177	0.28	3,562
	3120	1,725,061	0.20	3,448
	3190	1,322,746	0.25	3,306
	3111	1,269,340	0.26	3,301
	2101	1,471,672	0.21	3,133
	3197	807,095	0.25	2,017
	3189	801,942	0.25	2,005
	3017	492,182	0.25	1,230
	2091	552,126	0.20	1,100
	2094	592,578	0.16	918
	2095	367,128	0.16	569
	2035	288,426	0.16	462
	2087	231,056	0.18	405
	3078	46,657	0.20	92
	Total	**155,840,056**	**0.33**	**516,695**
Estimated	(2097 holes)	665,305,093	0.40	2,628,996
Grand Total		**879,669,928**	**0.39**	**3,392,272**

Drilling

Drilling started in domains of resource area where overall impact expected to be higher (and easier logistics)

Summary logs of drilling include visual estimates and Niton scans of Cu mineralization

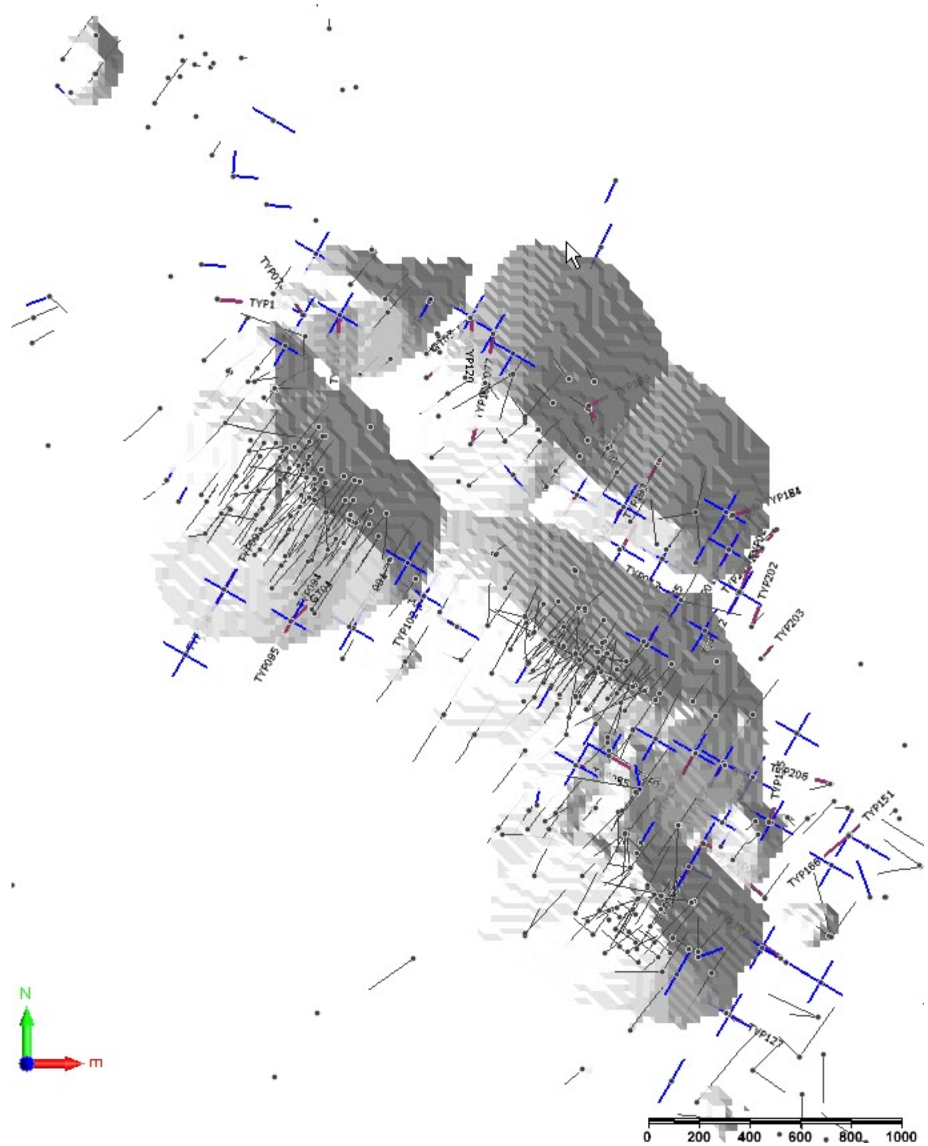
These were used to generate improved (iterative) estimates of drilling composites



Drill Planning (DP 2.0)

Preliminary visual estimate results are used to check that impact of drilling on resource is still likely

Minor modifications to preliminary plan (DP 1.0) based on results of first holes



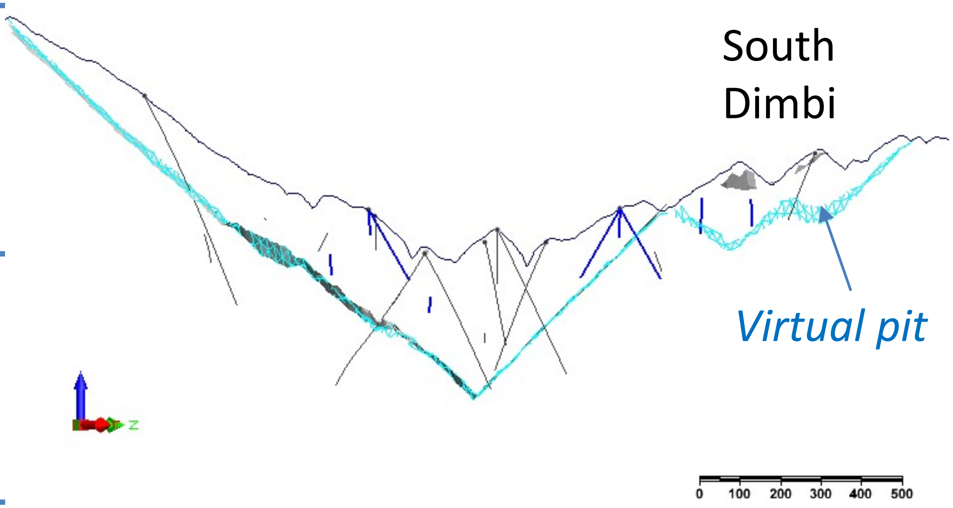
Virtual Resource Calculation (VR 2.0)

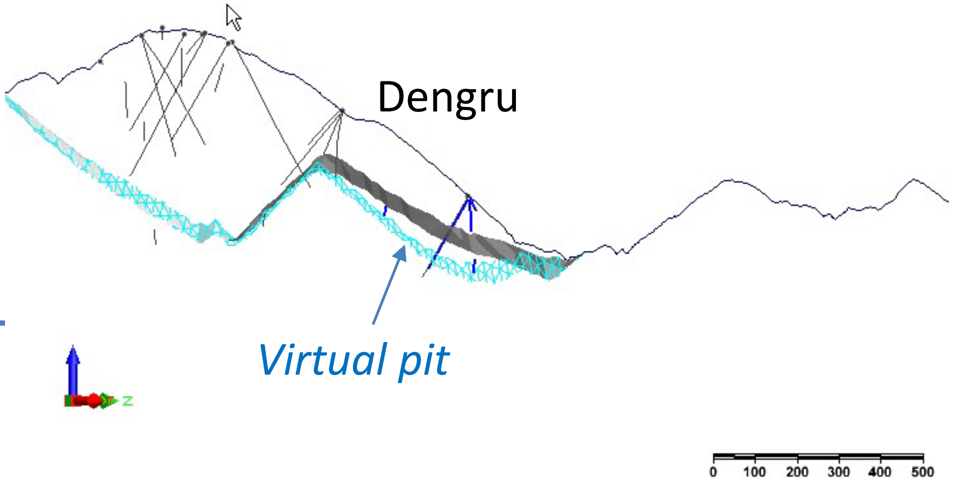
Preliminary results are re-tabulated with the projected results

24% of drilling completed

Re-prioritized holes are included (or excluded) in the revised tabulation

Inputs are fed back into model, and new virtual resource is calculated





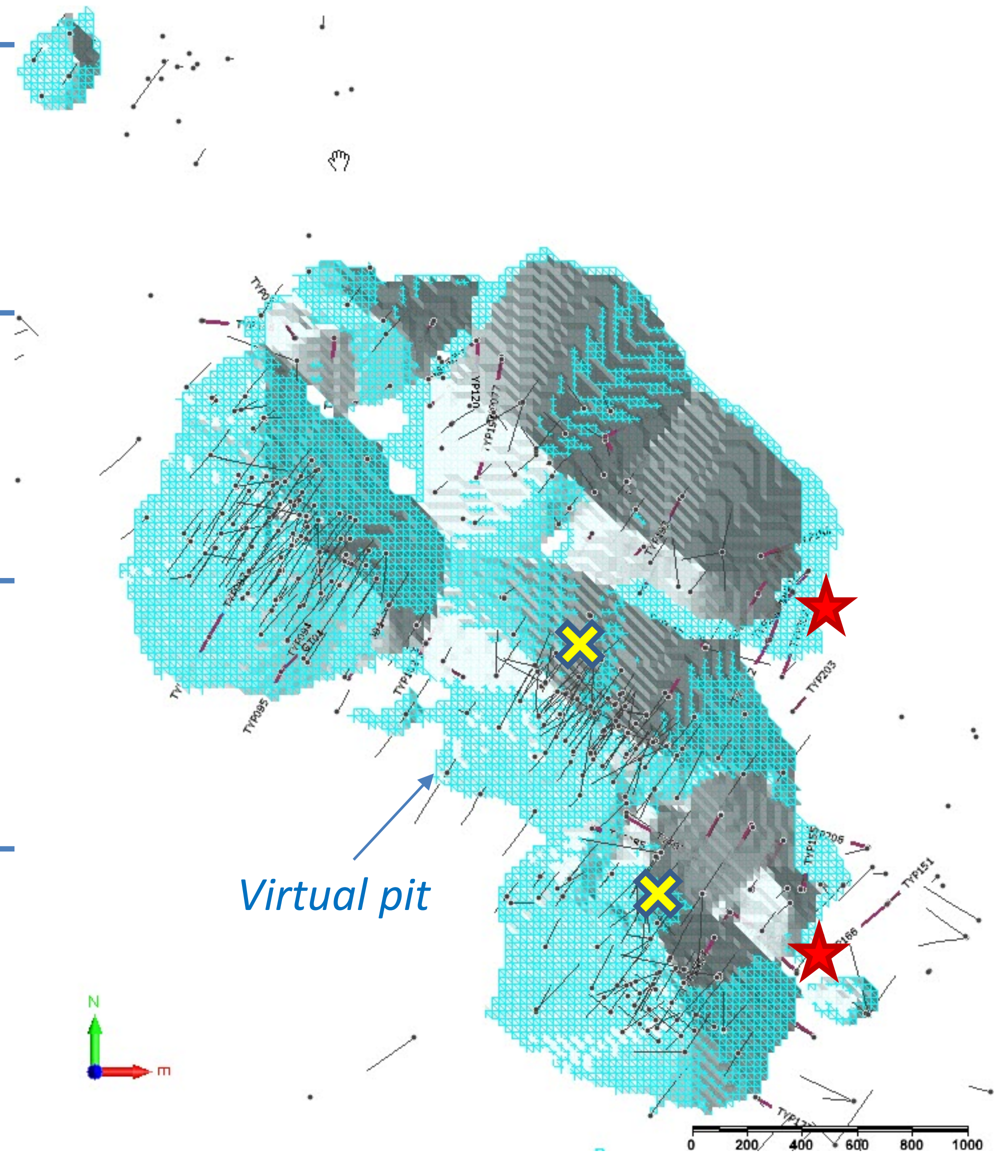
Drilling Planning (DP 3.0)

Results from virtual resource are used to refine and reprioritize drill targets

Several holes added as drill targets to expand on positive results

Preliminary visual results from ongoing drilling are compiled

Actual assay results are compiled from processed samples



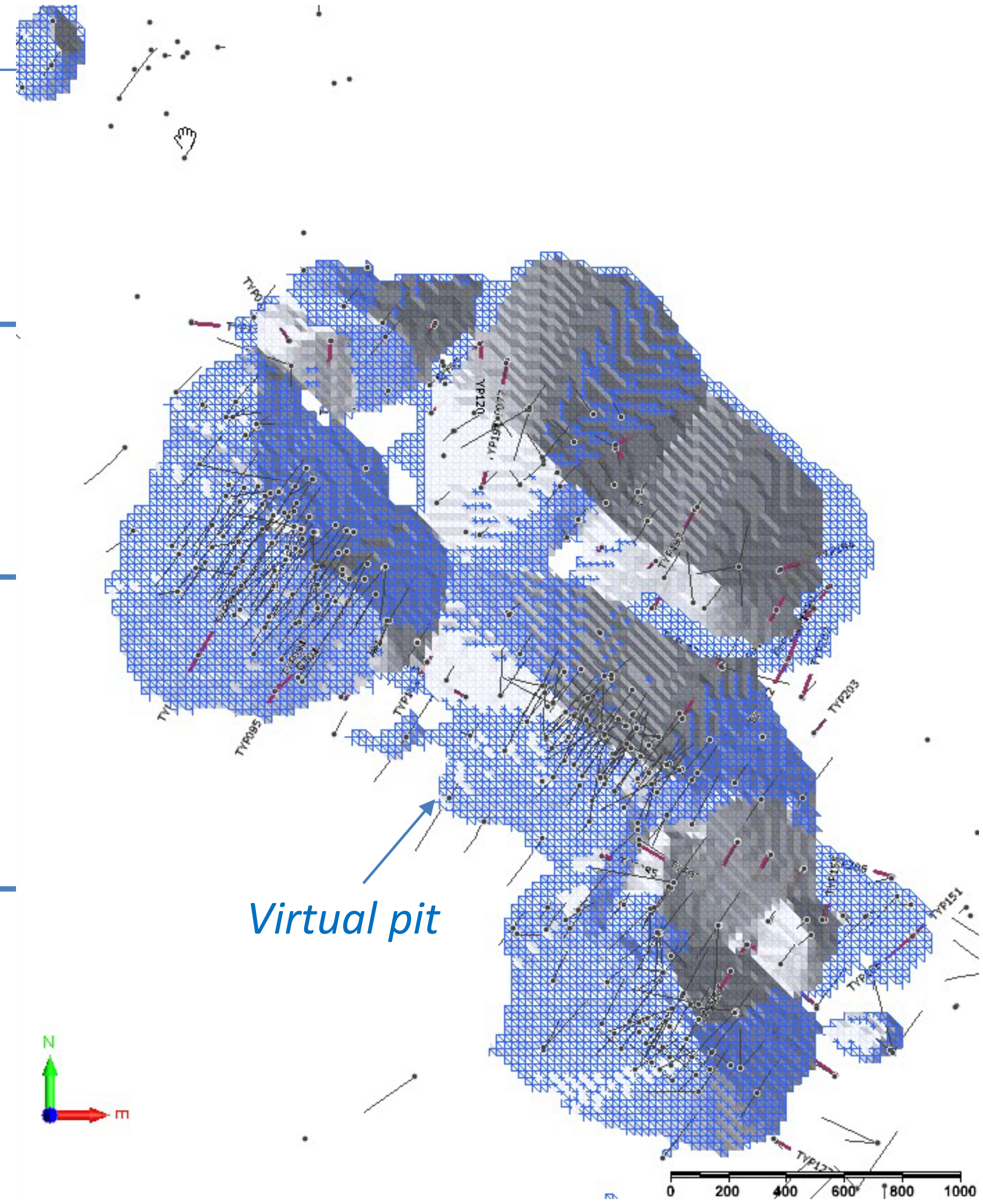
Virtual Resource Calculation (VR 3.0)

Updated drilling results/estimates included in model

47% of drilling completed

Re-prioritized holes included (or excluded) the revised tabulation

Inputs are fed back into model, resource is calculated

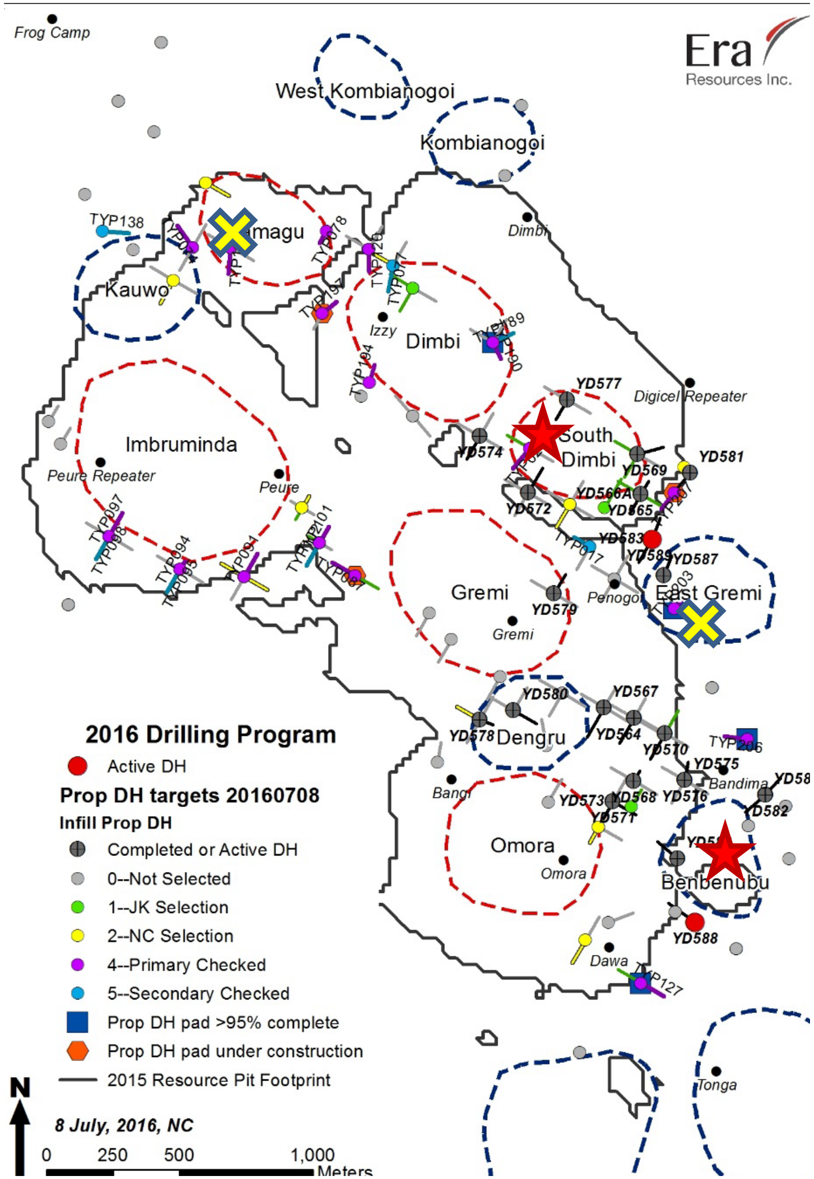


Drill Planning (DP 4.0)

Results from virtual resource are used to modify drill target priorities

Several holes added in the Benbenubu/Omora area, several holes removed in the South Dimbi area (diminishing return), hole added at Dimbi

Visual estimates and actual assay results are tabulated



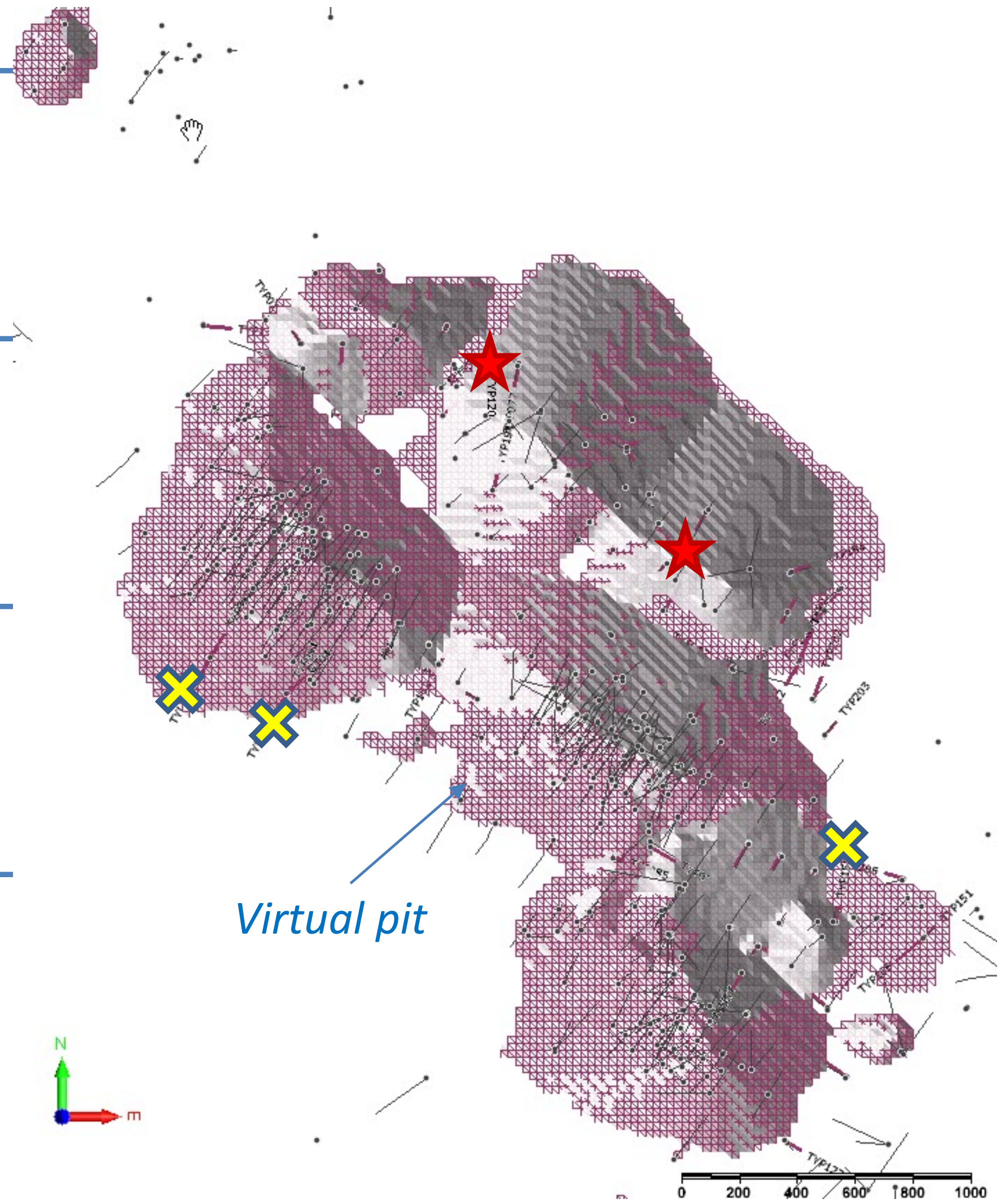
Virtual Resource Calculation (VR 4.0)

Updated drilling results/estimates included in model

63% of drilling completed

Some prosed holes added, some removed from the revised tabulation

Inputs are fed back into model, virtual resource is calculated



Drill Planning (DP 5.0)

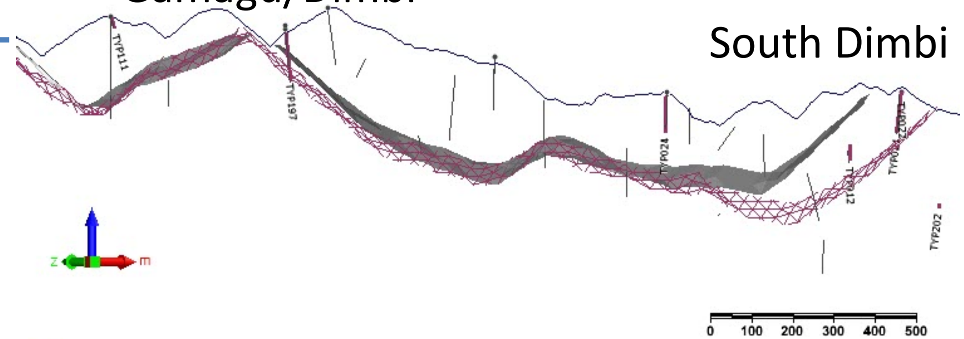
Results from virtual resource are used to modify drill target priorities

Several holes in Imbruminda removed, hole at Gamagu moved, holes at Kauwo given lower priority

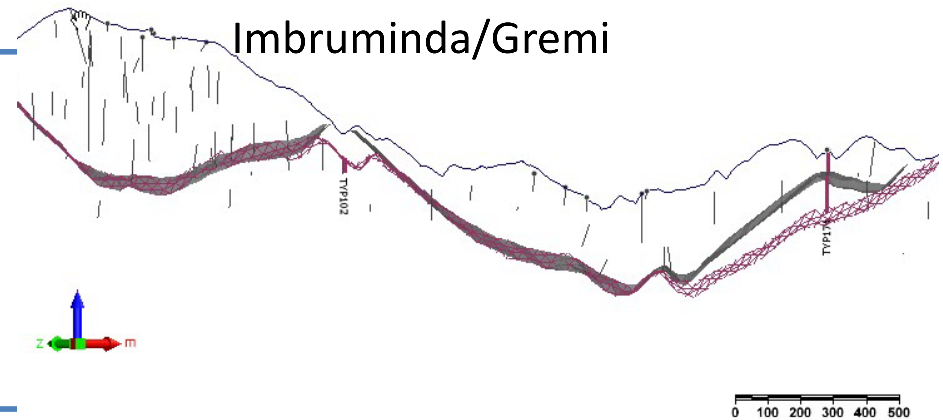
Visual estimate and actual assay results are tabulated

Gamagu/Dimbi

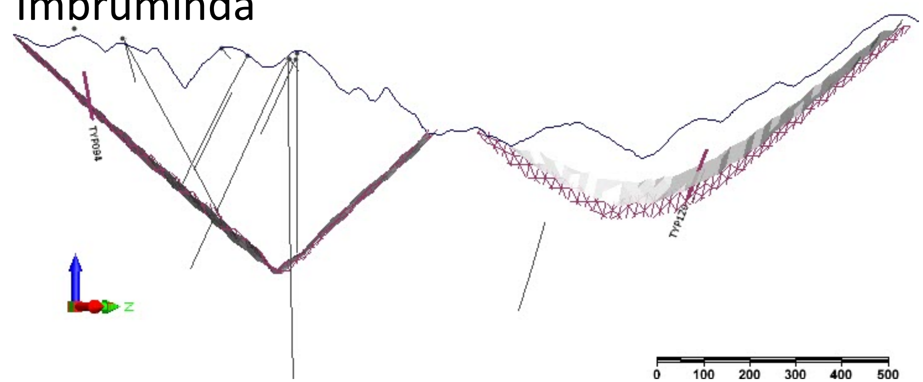
South Dimbi



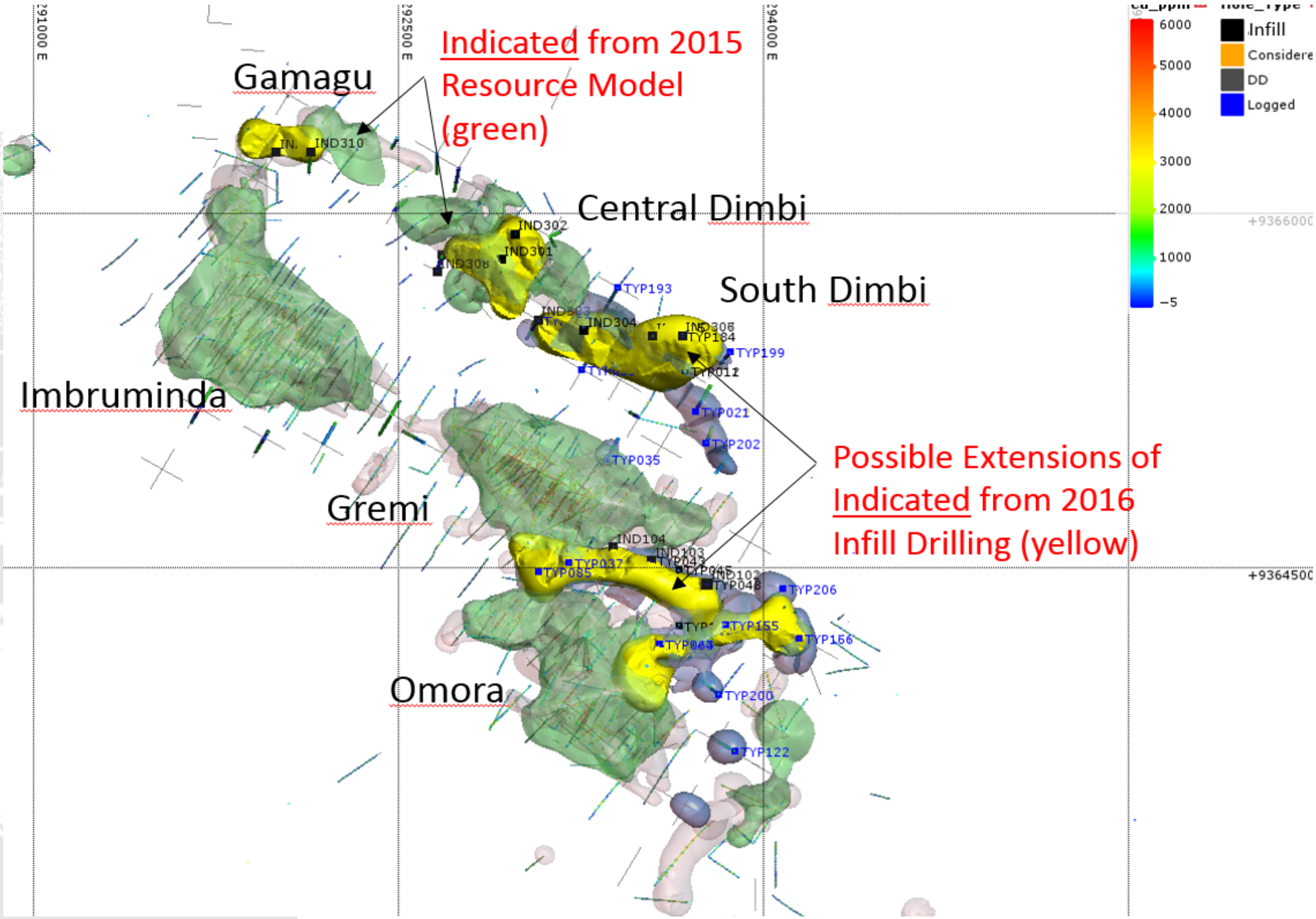
Imbruminda/Gremi



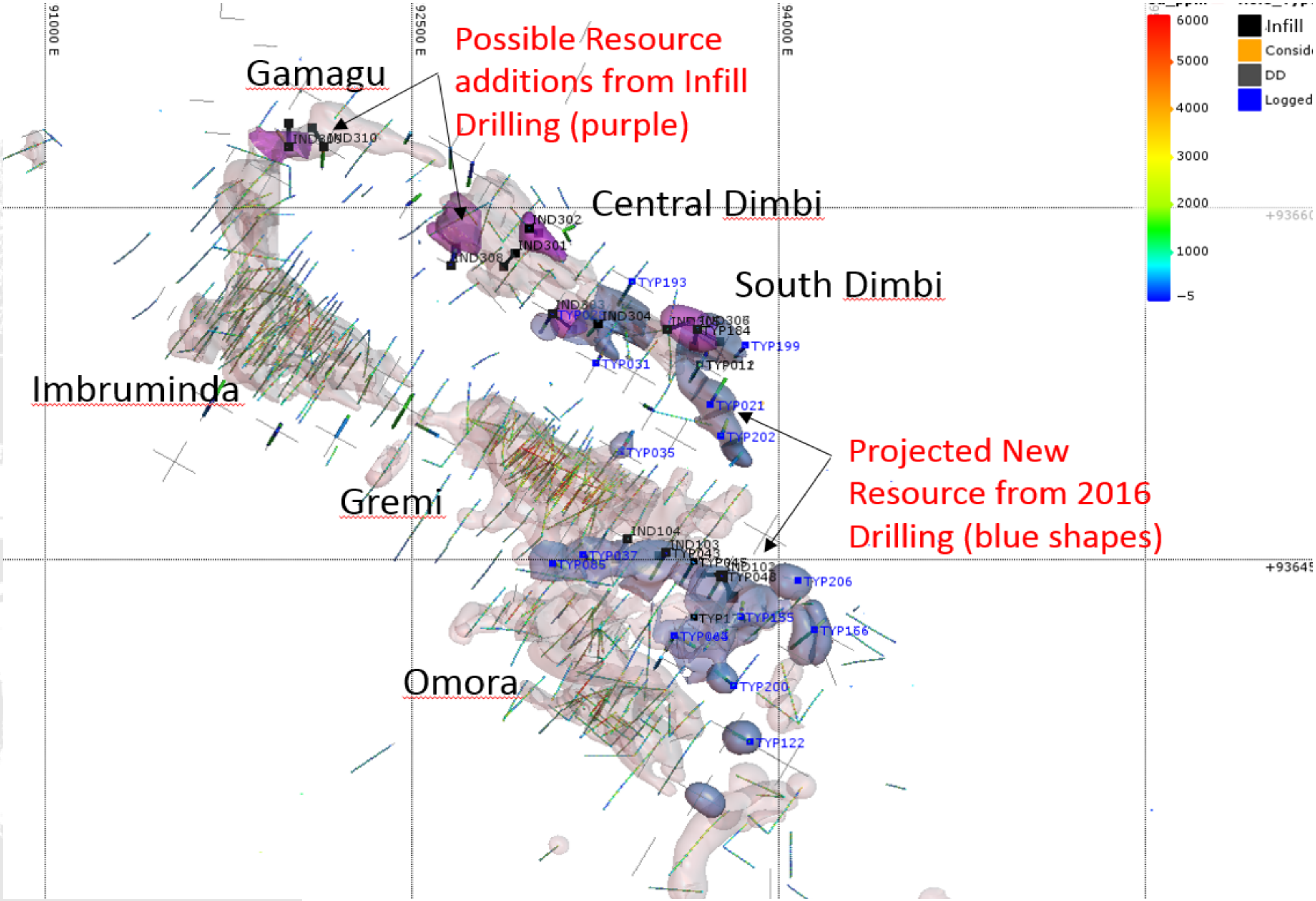
Imbruminda



Virtual Resource Calculation (VR 4.1)
Re-evaluating Objectives—Indicated



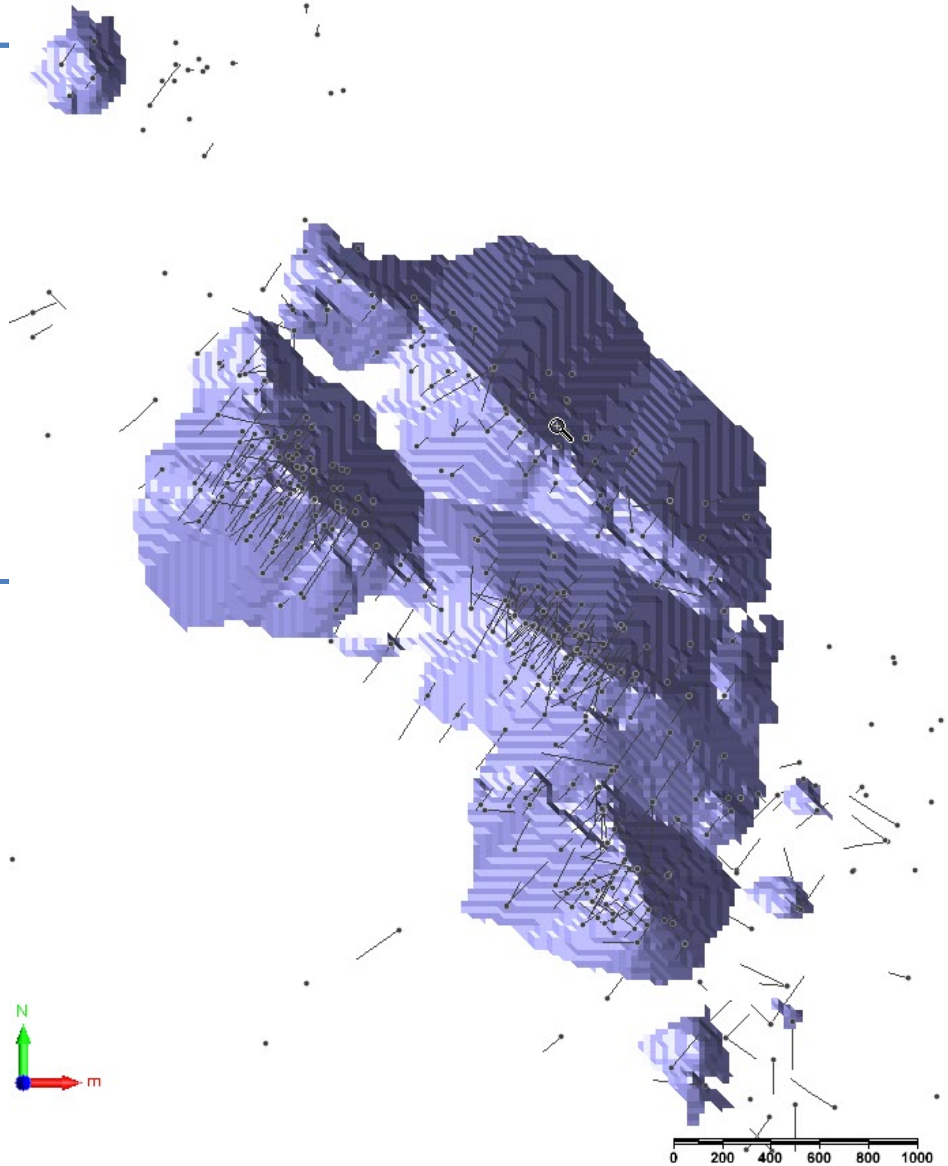
Virtual Resource Calculation (VR 4.1)
Re-evaluating Objectives—Inferred



Drill Planning (DP 5.1)

Results from VR 4.1 considered in the context of converting material to indicated

Priority given to conversion of in-pit material to inferred and some peripheral targets to further expand inferred resource

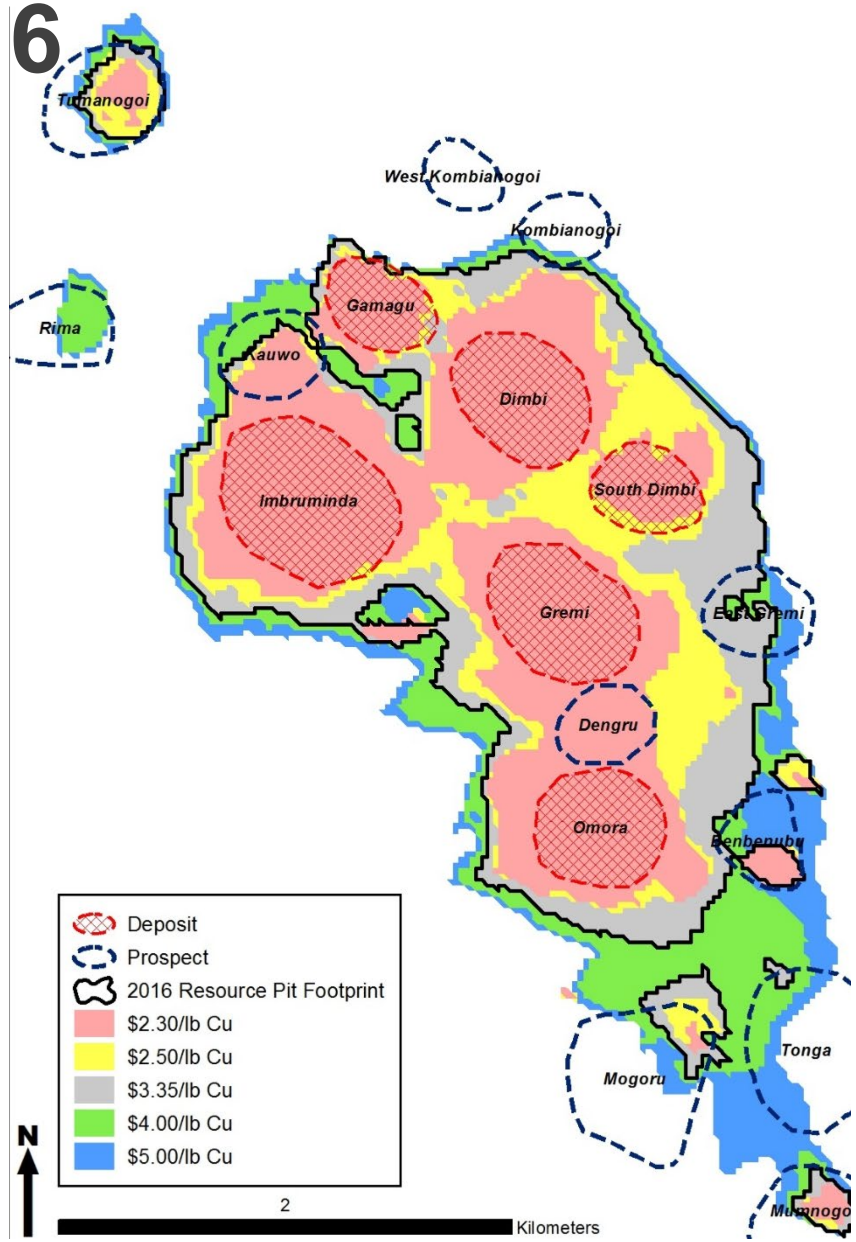


Results (Virtual)—2016

Virtual model projected ~15% increase in contained metal

Improved geologic model was expected to add some contained metal

Able to manage corporate expectations



Results (Actual)—2016

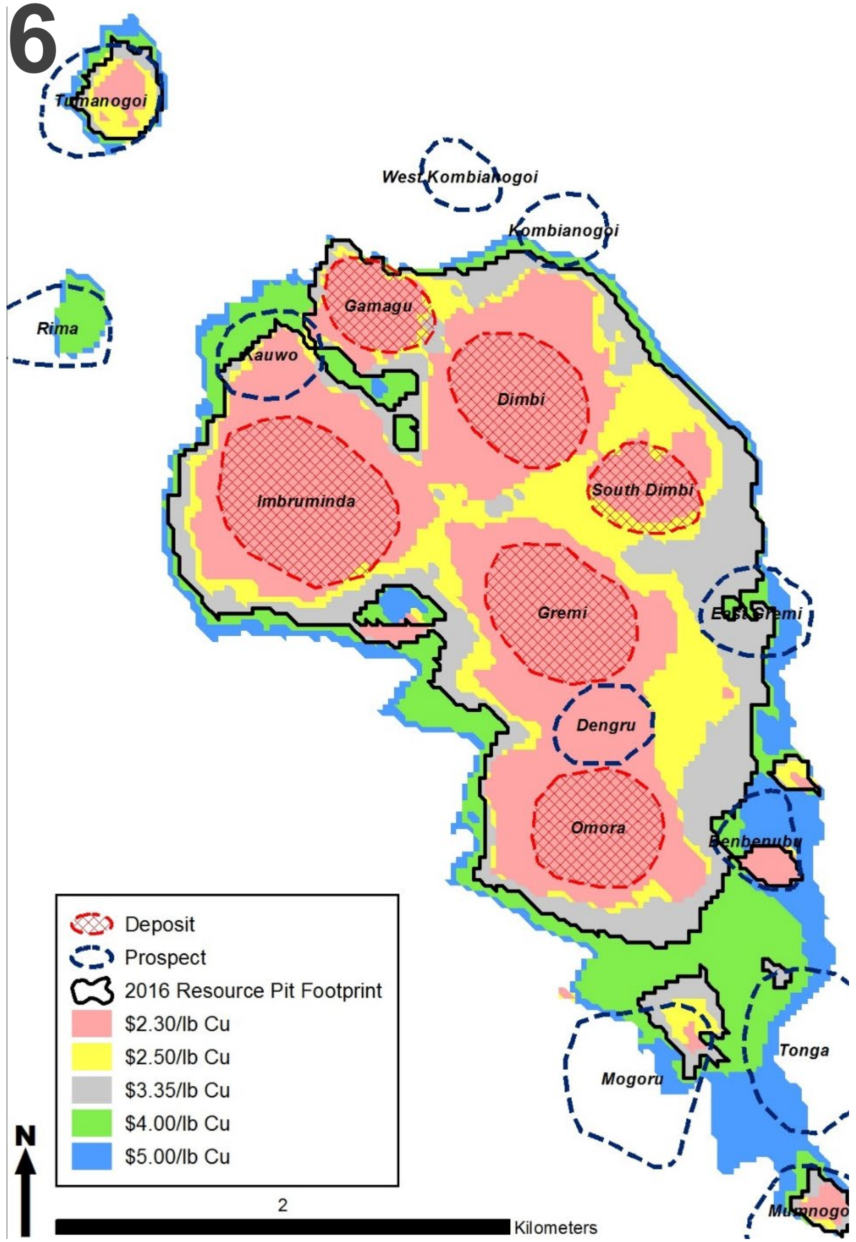
Total of 43 DH, 8918.5m of core

Resource increase in total mass by ~212 MT (mostly Inferred category)

Overall ***20%*** increase in contained metal (1.3 Billion lbs Cu added) with less than ***5%*** of additional to the total drilling on project

Program completed on time and within budget

Class	Mass	Grade	Metal	Diff from 2015
	(Mt)	CuEq (%)	CuEq (kt)	CuEq (kt)
Measured	196	0.46	895	*+5*
Indicated	532	0.36	1,915	*+252*
M&I	**728**	**0.39**	**2,809**	***+257***
Inferred	231	0.32	738	*+337*
Total	**959**			***+594***



Conclusions

- Allows for quality refinements to drill planning (value added to drilling program)
- Good potential to be very effective for infill and step-out resource improvement programs
- Has potential for evaluating resource-reserve conversion
- The geologist ~~is not~~ is almost always right, but with the feedback from the mining engineer the most economic targets can be prioritized

Thank you

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