

*Focused on Copper and Gold in the Americas*

Ann Mason

Drill Hole  
AW21-001



**Willow Porphyry Copper  
Property, Looking Northeast  
Towards Ann Mason Deposit**





# Forward Looking Information



This presentation includes certain statements that may be deemed "forward looking statements". All statements herein, other than statements of historical facts, that address events or developments that Abacus Mining and Exploration Corporation (the "Company") expects to occur, are forward looking statements. Forward looking statements are statements that are not historical facts and are generally, but not always, identified by the words "expects", "plans", "anticipates", "believes", "intends", "estimates", "projects", "potential" and similar expressions, or that events or conditions "will", "would", "may", "could" or "should" occur. Forward looking statements are based on the beliefs, estimates and opinions of the Company's management on the date the statements are made. Although the Company believes the expectations expressed in such forward looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results may differ materially from those in the forward looking statements. Factors that could cause actual results to differ materially from those in forward looking statements include market prices, exploitation and exploration successes, environmental and permitting timeline delays or receipt of required provincial and federal permits that may affect future plans, continued availability of capital and financing, and general economic, market or business conditions. Investors are cautioned that any such statements are not guarantees of future performance and actual results or developments may differ materially from those projected in the forward looking statements. Except as required by securities laws, the Company undertakes no obligation to update these forward looking statements in the event that management's beliefs, estimates or opinions, or other factors, should change.

QUALIFIED PERSON: The Technical content of this presentation has been reviewed and approved by Paul G. Anderson, P.Geo., the Company's Qualified Persons as defined by National Instrument 43-101.

# ABACUS is Focussed on Copper and Gold in North America



## **AJAX: Cornerstone B.C. Porphyry Cu-Au Asset**

- Proven and Probable Mineral Reserve of 426 Mt at 0.29% Cu, 0.19 g/t Au and 0.39 g/t Ag. Contained metal : 2.7 Bil lbs Cu, 2.6 Moz Au and 5.3 Moz Ag.
- Long mine life: proposed production of 65,000 tonnes per day over 18 years producing 58,000 tonnes Cu + 125,000 oz Au per year.
- Significant regional exploration potential and at depth.
- KGHM 80% and operator; Abacus 20% and carried to production.

## **WILLOW: Significant Nevada Porphyry Cu-Mo Exploration Project**

- New discovery (first in +40 years in Yerington camp). Excellent access and infrastructure.
- Large covered target (2.2 km X 2 km). Porphyry deposits often require several drill campaigns, with geochemistry used to vector into a deposit. Size of target means it remains essentially untested.
- Two drill campaigns: two holes lost, four successful holes, all intersecting the host intrusive to the copper porphyries in the camp. Very long intercepts of low grade copper and molybdenum intersected in last drilling which allows vectoring in to higher Cu grades.
- Yerington camp contains ~ 33 billion lbs Cu (current reserves and past production).
- Next door to undeveloped Ann Mason deposit, owned by HudBay: 2.2 Billion tonnes at 0.29% Cu (Measure & Indicated).
- Yerington camp includes the producing Pumpkin Hollow Mine (Nevada Copper) and the PFS-stage MacArthur deposit (Lion Cu and Au – formerly Quattera).
- Further drilling planned 2023.



## *Strong Management Supported by an Exceptional Board with Demonstrated Success in Capital Markets, Exploration, Development and M&A within both Junior and Mid-tier Mining Companies*

**Paul G. Anderson, President, CEO and Director:** a geologist with 40+ years of domestic and international mineral exploration experience, mainly in gold, VMS and Cu. Extensive experience in West Africa, including managing Riverstone Resources, which discovered and developed the +5.0 Moz Karma gold deposit in Burkina Faso, before merging with True Gold, which was in turn acquired by Endeavour Mining.

**Michael McInnis, Executive Chairman:** a geologist with 45+ years experience managing numerous junior mining companies, including Gateway Gold until its acquisition in 2008 by Victoria Gold, and Riverstone Resources until its merger to become True Gold. Director of Abacus since 2002. Currently a director of Victoria Gold and Canasil Resources.

**Tom McKeever, Director:** retired after 40 years in senior management positions with major mining companies and in the metal trading industry, including as past Chairman of Sempra Metals Group.

**Kerry Spong, Director:** a CPA with 35+ years in public and private practice. He currently serves as CFO of Gitennes Exploration, Canasil Resources and Blackheath Resources.

**Jeannine Webb, CFO and Corp Secretary:** 30+ years experience as a CPA, serving as CFO and Corporate Secretary for numerous junior mining companies.

**Dr. Adrian King, Advisor:** recently retired as Global Head of Exploration after a 35-year career with Teck, where he was involved in all facets of exploration from generative through to resource/reserve definition.

# Abacus Share Structure



## Share Structure:

Common Shares: 100,511,009  
 Warrants: 26,749,206  
 Options: 8,053,750

### Approximate Shareholdings of Major Shareholders:

- Teck (6.0%)
- KGHM (2.5%)
- Management (9.5%)

1 Year Share Performance (from MarketWatch)



(Nasdaq Cu Price)



1 Year Gold Price in USD/oz





## Ajax is a Cornerstone Porphyry Cu-Au Asset

- Major advanced stage porphyry Cu-Au asset near Kamloops, British Columbia
- Proven and Probable Mineral Reserve of 426 Mt at 0.29% Cu, 0.19 g/t Au and 0.39 g/t Ag. Contained metal content is 2.7 Bil lbs Cu, 2.6 Moz Au and 5.3 Moz Ag.
- 2016 Feasibility Study used metal prices of Cu @ \$3.21/lb, Au @ \$1,200/oz and Ag @ \$17/oz; present commodity prices are much higher
- **18 year mine life, planned production of 58,000 tonnes Cu and 125,000 oz Au per annum**
- JV between Abacus (20%) and KGHM Polska Miedz SA (brought in to develop project in 2010)
- Abacus carried to production; *funds expended by KGHM on behalf of Abacus are only payable from the proceeds of production*
- Two former open pits mined in 1989-91 by Teck, as part of the Afton Mine; rest of old Afton property now owned by New Gold (New Afton Au-Ag-Cu Mine in production since 2012)
- Environmental assessment process on Ajax ran from February 2011 until October of 2017, leading to a decision by the B.C. government not to support the project
- KGHM, as the project proponent, has hired new people and reopened an office in Kamloops in 2020, with a view to potentially resubmitting the environmental application for the project

# Ajax Feasibility Highlights

(from 2016 Feasibility Study Update)

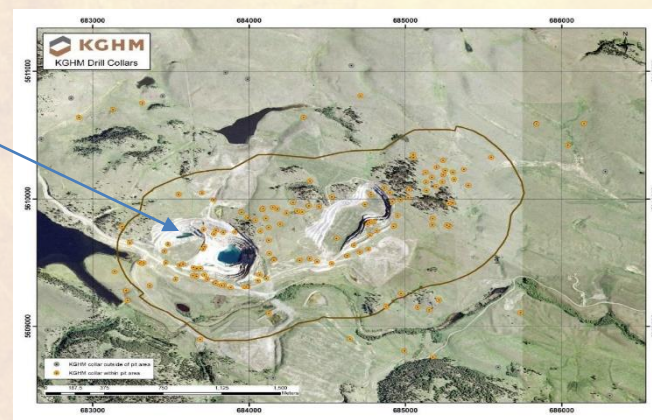
Reserve	Tonnes (mt)	Cu %	Au (g/t)	Ag (g/t)
Proven	130	0.30	0.19	0.40
Probable	296	0.28	0.19	0.38
<b>P + P</b>	<b>426</b>	<b>0.29</b>	<b>0.19</b>	<b>0.39</b>
<b>Contained Metal</b>		<b>2.7 Bil lbs</b>	<b>2.6 Moz</b>	<b>5.3 Moz</b>



Mining Rate	65,000 tpd
Mine Life	18 years
Average Annual Production	58,000 T Cu + 125,000 oz Au
Strip Ratio	2.65:1
CapEx	\$1.3 B
OpEx – LOM Mining	\$1.50/t mined
- Process	\$4.31/t ore

## Financial Highlights

Pre-Tax	NPV @ 5%	USD 872 M
	NPV @ 8%	USD 429 M
	IRR	13.4%
After Tax	NPV @ 5%	USD 543 M
	NPV @ 8%	USD 216 M
	IRR	11.1%





# Willow Porphyry Copper Project



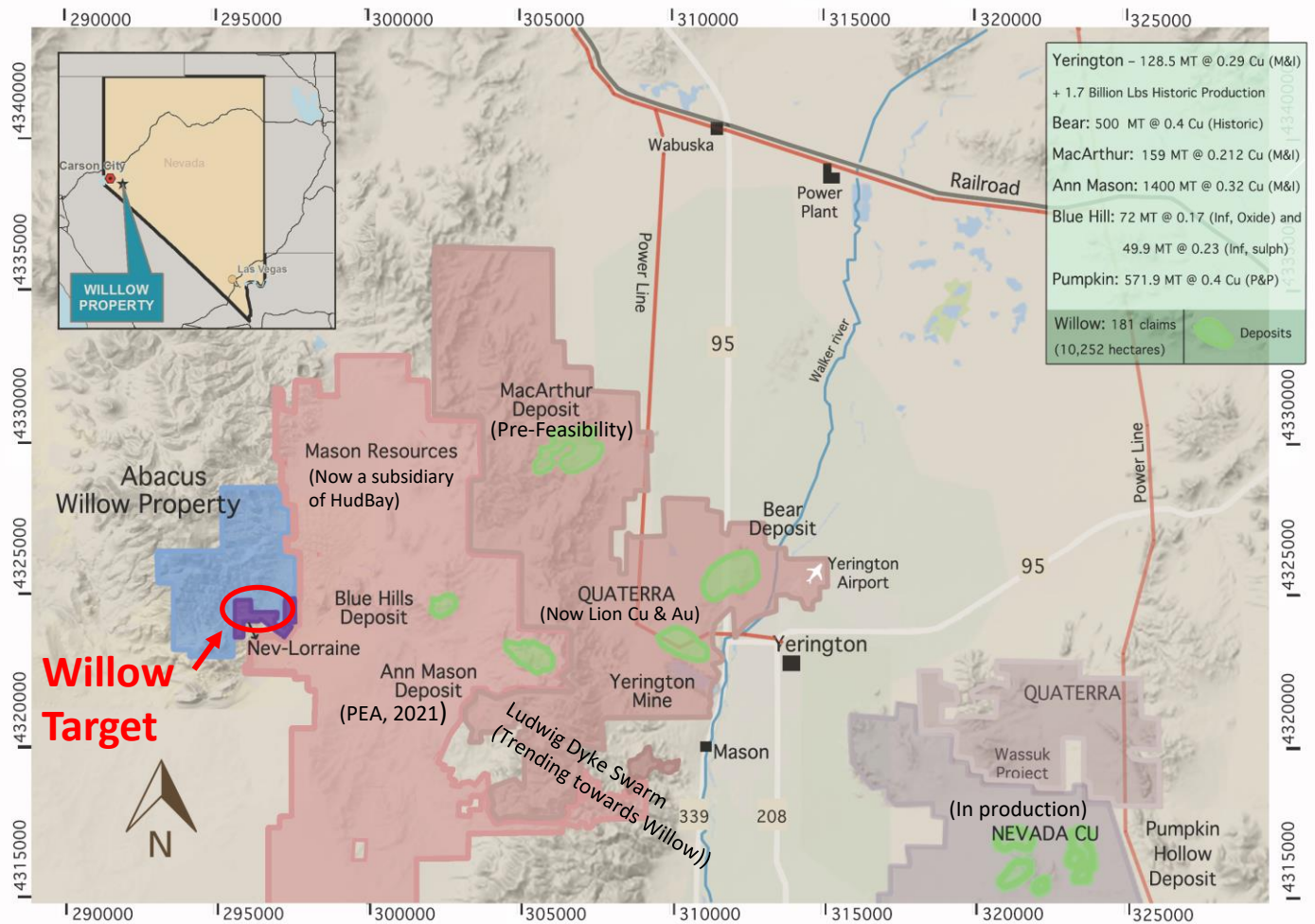
## **WILLOW: Significant Nevada Porphyry Cu Exploration Project**

- **New discovery** by Abacus in Yerington, a historic porphyry copper-molybdenum (Cu-Mo) camp located one hour from Reno
- Willow shown to have classic porphyry Cu alteration patterns based on geology, geochemistry and geophysics done by Abacus
- Willow is similar to known Cu-Mo porphyry orebodies in the Yerington district, and also to economic porphyry Cu deposits worldwide
- Based on work to date, Willow is a fifth Cu-Mo porphyry at Yerington, the first major discovery in over 40 years
- Target is buried, covering *approximately* 2.2 km by 2 km, and remains poorly drill tested
- Limited drilling (4 holes) hit the host rocks to the other four porphyry coppers in the camp, but the porphyry center has not yet been found on Willow. Since the target is large and covered, analytical results are used to vector in to an area of mineralization
- 2021 drilling intersected long runs of low grade Cu (308 m @ 0.08% Cu). Further drilling is planned in 2022
- Approximately *33 billion pounds* copper identified at Yerington in four historic Cu-Mo porphyries, plus several skarn deposits
- Willow is adjacent to HudBay's Ann Mason porphyry Cu-Mo deposit (Proven & Probable reserves of 2.2 BT at 0.29% Cu)
- Pumpkin Hollow (Nevada Copper) skarn is in production in the camp. Lion Cu and Au controls the three remaining porphyry deposits in the camp (Yerington, Bear and MacArthur), with the latter in Pre-Feasibility. All of Lion's properties were optioned in April of 2022 to Rio Tinto.



# Willow Nevada - Location Map

(Willow comprises Willow + Nev-Lorraine properties)



## Porphyry Cu Deposits In the Historic Yerington Nevada Copper Camp:

- Yerington (past producer)
- Bear
- MacArthur (Pre-Feas)
- Ann Mason (new PEA, now at 2.2 BT @0.29% Cu)

➤ **Willow – new discovery**

## Skarn Deposits:

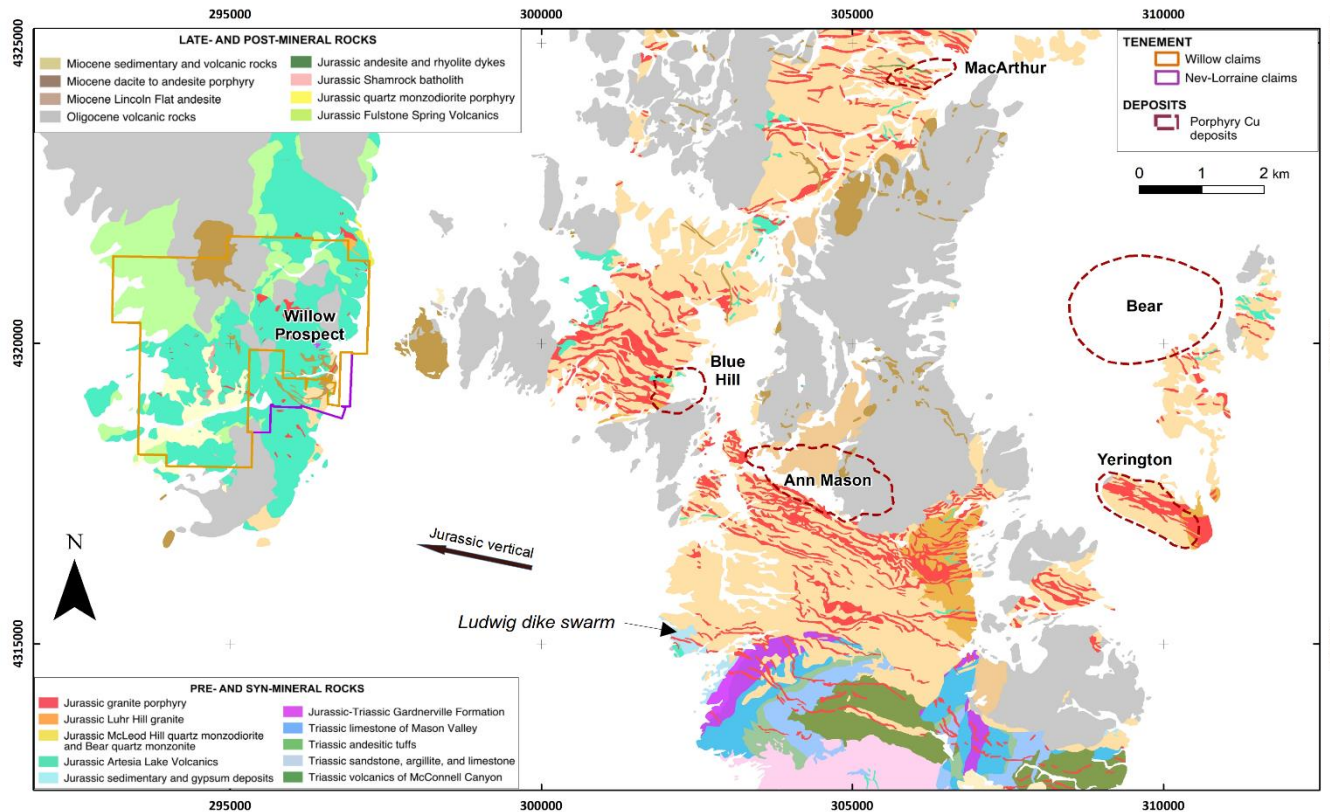
- Pumpkin Hollow (producing)
- Bluestone
- Mason Valley
- Malachite (last three now HudBay)

*Approximately 33 Billion Pounds of Cu identified to date in the Yerington camp*

(Note: tonnage and grade are from the respective companies websites)



# Yerington – District Geology



Main exposures are granite and porphyritic granite of The *Yerington Batholith* and its coeval Artesia Lake Volcanics.

Most dyke swarms are associated with Porphyry Cu bodies *except* Ludwig along the southern border of the Batholith.

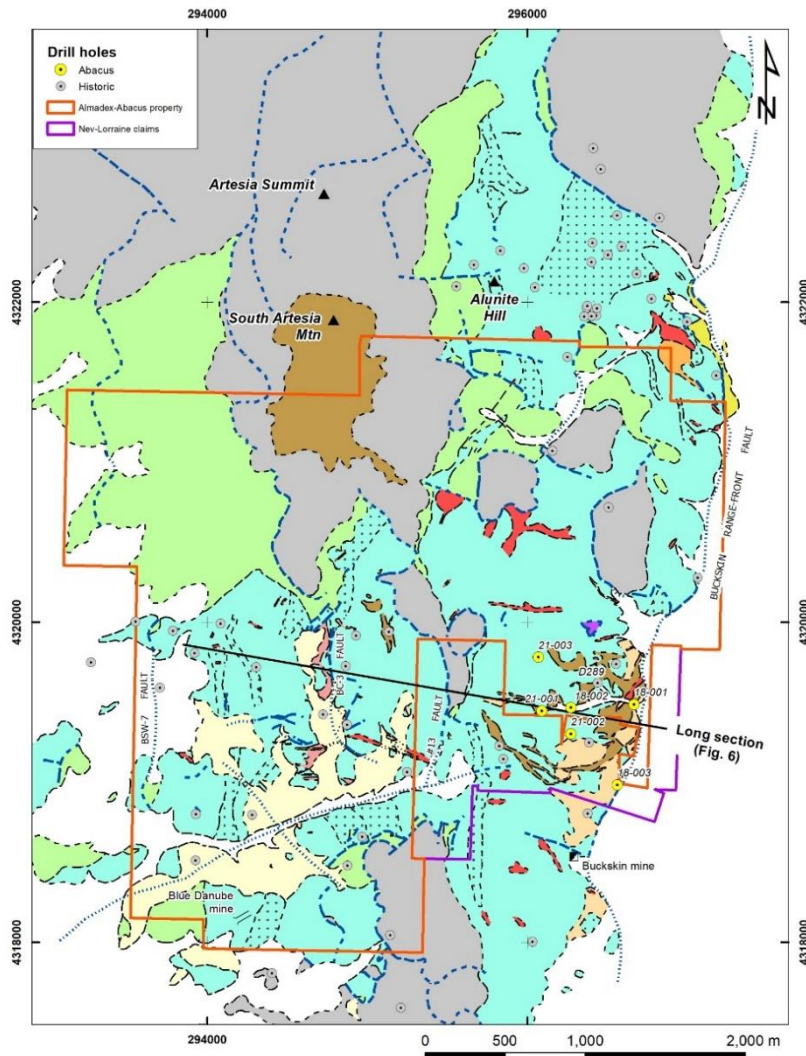
Willow covered by Artesia Lake Volcanics coeval with the batholith

Geology from Proffett and Dilles (1984), Proffett (2007), and Abacus mapping.

Resource outlines from Kulla *et al.* (2017) and <https://Lion> Cu and Au



# Willow – Property Geology



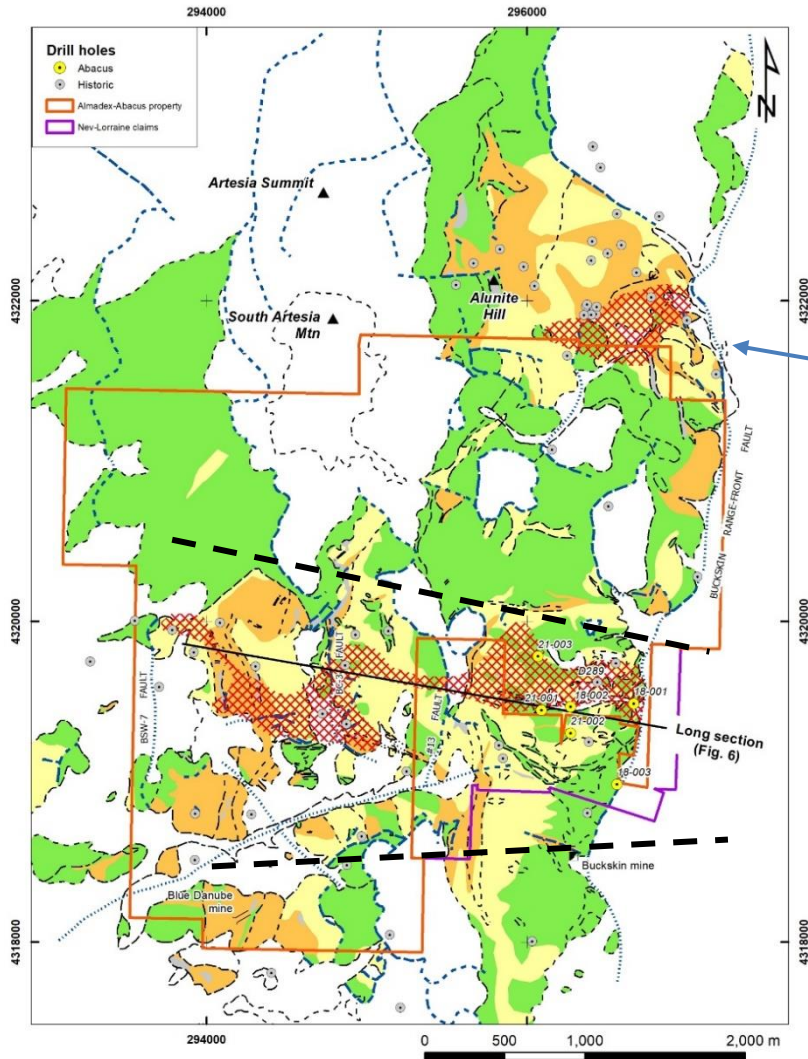
Rock Unit	Age
<b>POST-MINERAL UNITS</b>	
Alluvium and colluvium	Holocene to Pliocene
Older alluvium	Pleistocene to Pliocene(?)
Ferruginous conglomerate	Quaternary?
Andesite to dacite porphyry	Miocene (13 Ma; Ghobadi, 2017). Can be altered, pyritized, and carry Zn-Pb mineralization
<b>LATE-MINERAL UNITS</b>	
Quartz diorite to tonalite porphyry	Miocene (13 Ma?). Weakly veined and Cu-Mo mineralized
Tertiary volcanic rocks (mostly Singatse and Mickey Pass Tuffs)	Oligocene: 27.0-28.5 Ma (Proffett and Proffett, 1976; Hudson and Oriol, 1979; Dilles and Gans, 1985; Garside et al., 2002)
Fulstone Spring Volcanics	167.8-166.5 Ma (Proffett, 2007; Dilles and Wright, 1988)
<b>SYN-MINERAL UNITS</b>	
Granite porphyry	168.5 Ma (Dilles and Wright, 1988)
Porphyritic granite, or Luhr Hill granite	~168.5 Ma (grades into granite porphyry at Ann-Mason; Proffett and Dilles, 1984)
<b>PRE-MINERAL UNITS</b>	
Bear porphyritic aplite	~169 Ma
McLeod Hill quartz monzodiorite	169.4 Ma (Dilles and Wright, 1988)
Artesia Lake Volcanics	~169-168.5 Ma (Dilles and Wright, 1988)
Gardenville Formation	Latest Triassic and Early Jurassic (Stewart et al., 1997)

Granite and porphyry granite dykes cut the Artesia Lake Volcanics on Willow, the unit that is coeval with the Batholith. They do not cut later cover rocks.

The dykes are concentrated in the SE corner of Willow.



# Willow Alteration



## GENERALIZED ALTERATION



Abacus held claims here originally. This alteration zone was found to be limited in extent and is now known to be the Lithocap of Ann Mason.

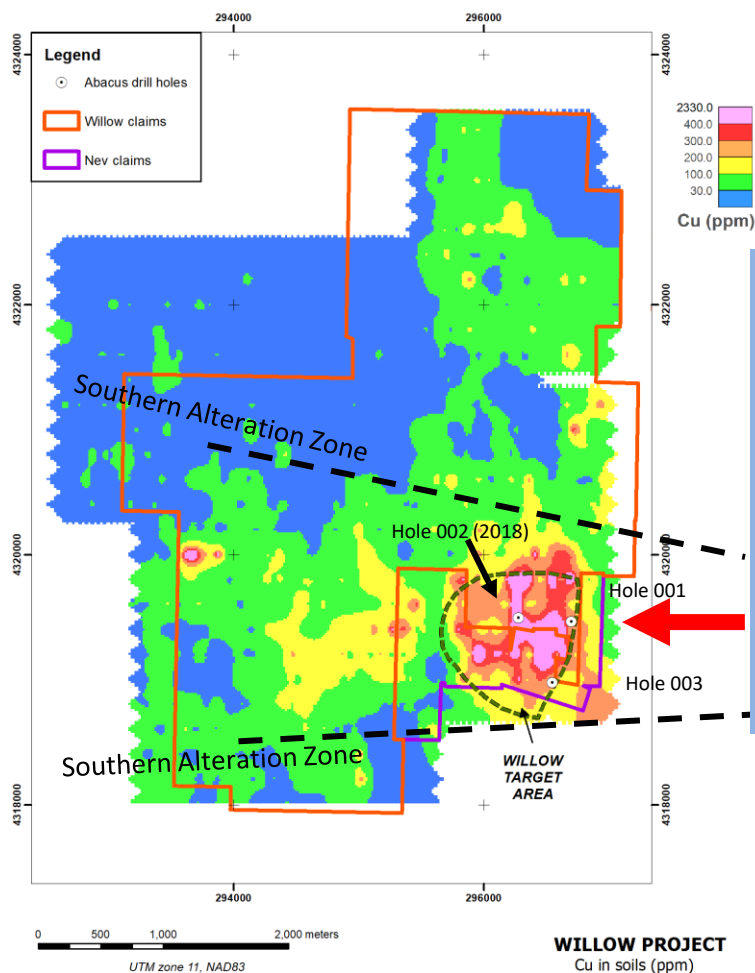
Funnel shaped southern alteration zone eventually becomes focus of attention – more extensive alteration, more dykes, more veins.

Geochemistry shows overlapping zones of Cu, Mo, W, Sn, Se, etc.  
(i.e. a *Classic porphyry signature*)



# Cu in Soils + Magnetics

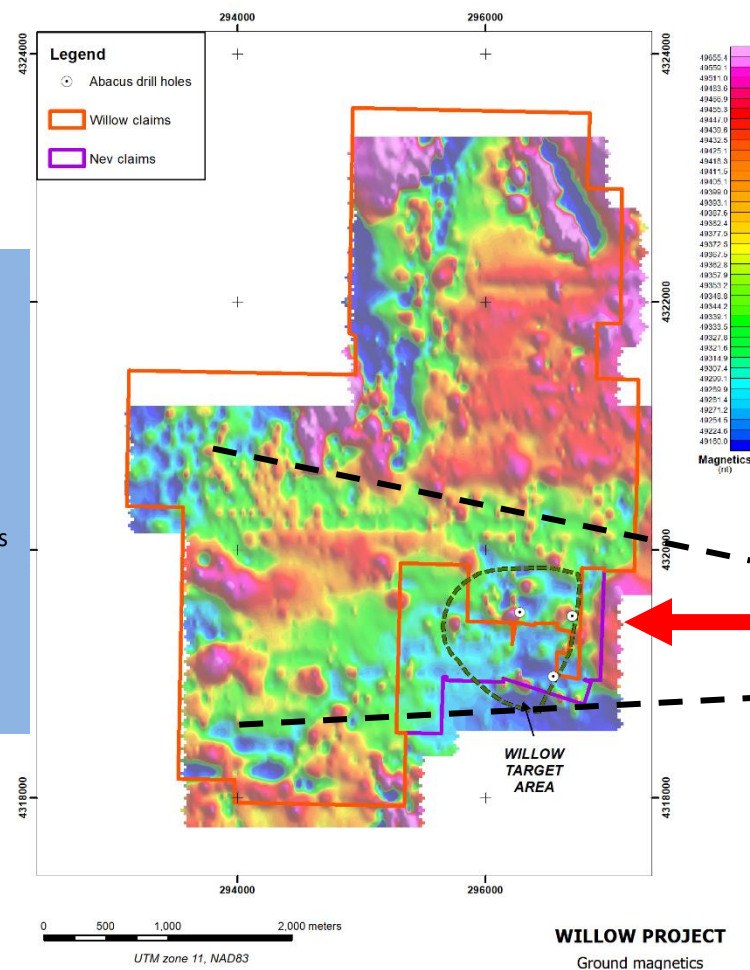
(Refines Target to Eastern Portion of Southern Alteration Zone)



**Strong Cu in soil anomaly (left figure).**

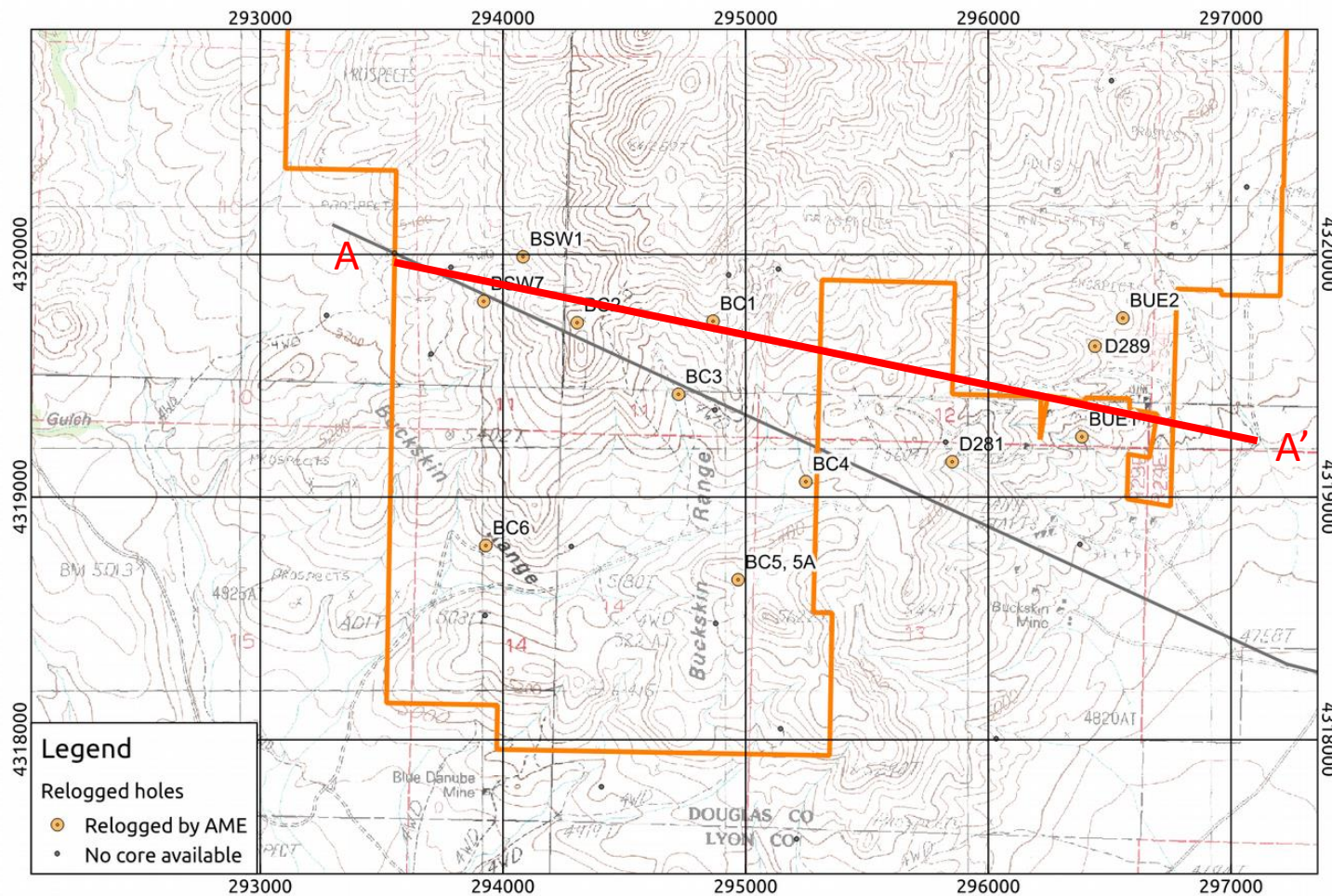
**Coincident Magnetic low (the pale blue on the right figure). Interpreted as Intense alteration.**

**Narrows down target Zone to a 2.2 X 2.0 Km area**





# Willow – Historic Skeleton Core



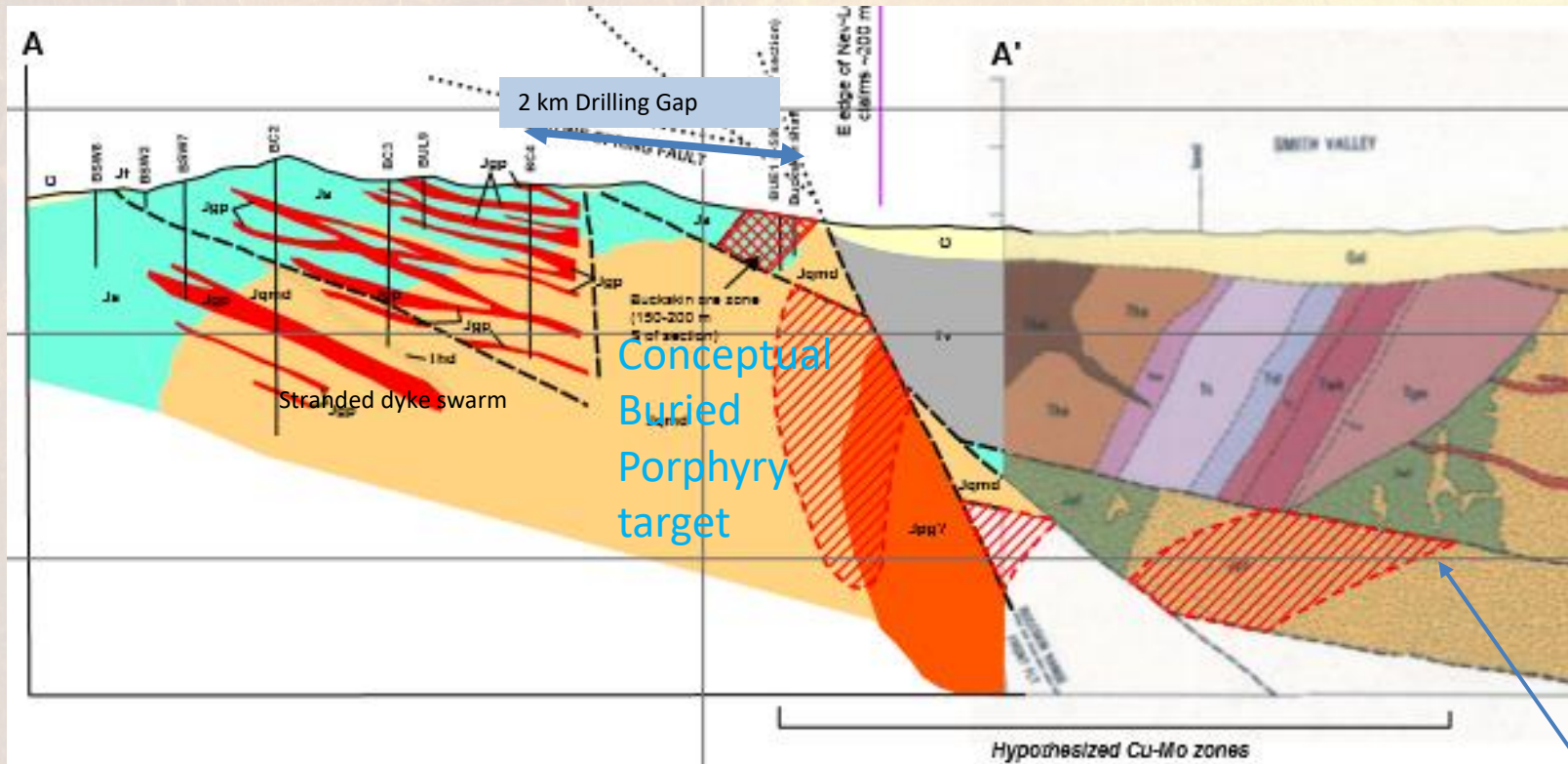
Historic Skeleton Drill Core Located (from Conoco, Anaconda, Bear Cr., 1970's -1980's)

- Relogged
- Terraspec
- Select geochem sampling
- Terraspec of hand samples collected over southern Willow property
- Allowed a cross section to be drawn across the southern property (next figure)



# Initial Model: Abacus Identifies A New Porphyry Center

Plotting the geology from the skeleton core clearly shows a “stranded” dyke swarm on the western part of Willow, unassociated with any known porphyry copper deposit. There is a +2 km gap to the east with no drilling.



Eastern section through Ann Mason and Yerington deposits, published by Proffett and Dilles (1984). Their section stopped at Willow’s eastern border.

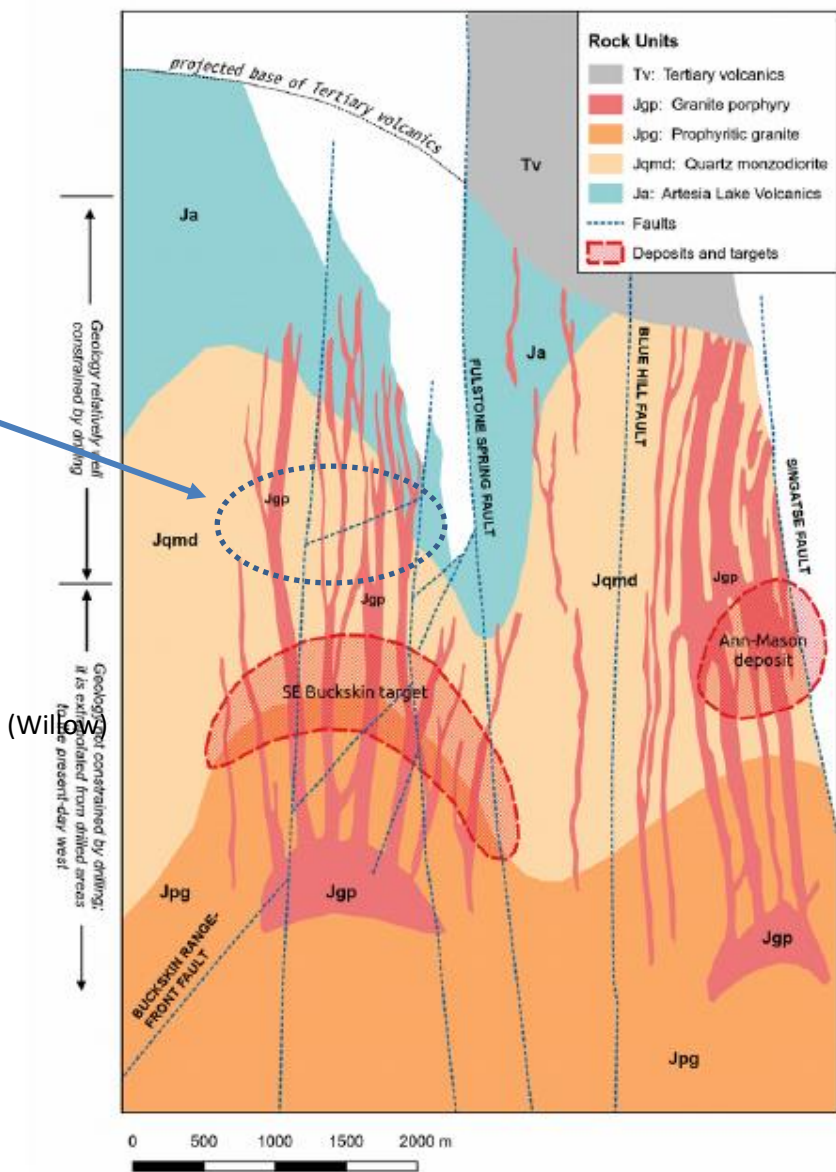


# Willow Restored to Upright

We have this portion of the dyke swarm in the western part of Willow (see previous slide).

It has to be connected to a porphyry center.

Geochemistry shows the center on Willow.



## The Willow Model:

Restored to its original upright orientation.

The effects of Oligocene and younger extension have been removed by reversing displacement on the faults sequentially from youngest to oldest, and rotating the Jgp dykes to near vertical.

The geological interpretation in the deeper (present day eastern) portions of the Buckskin side is hypothetical.

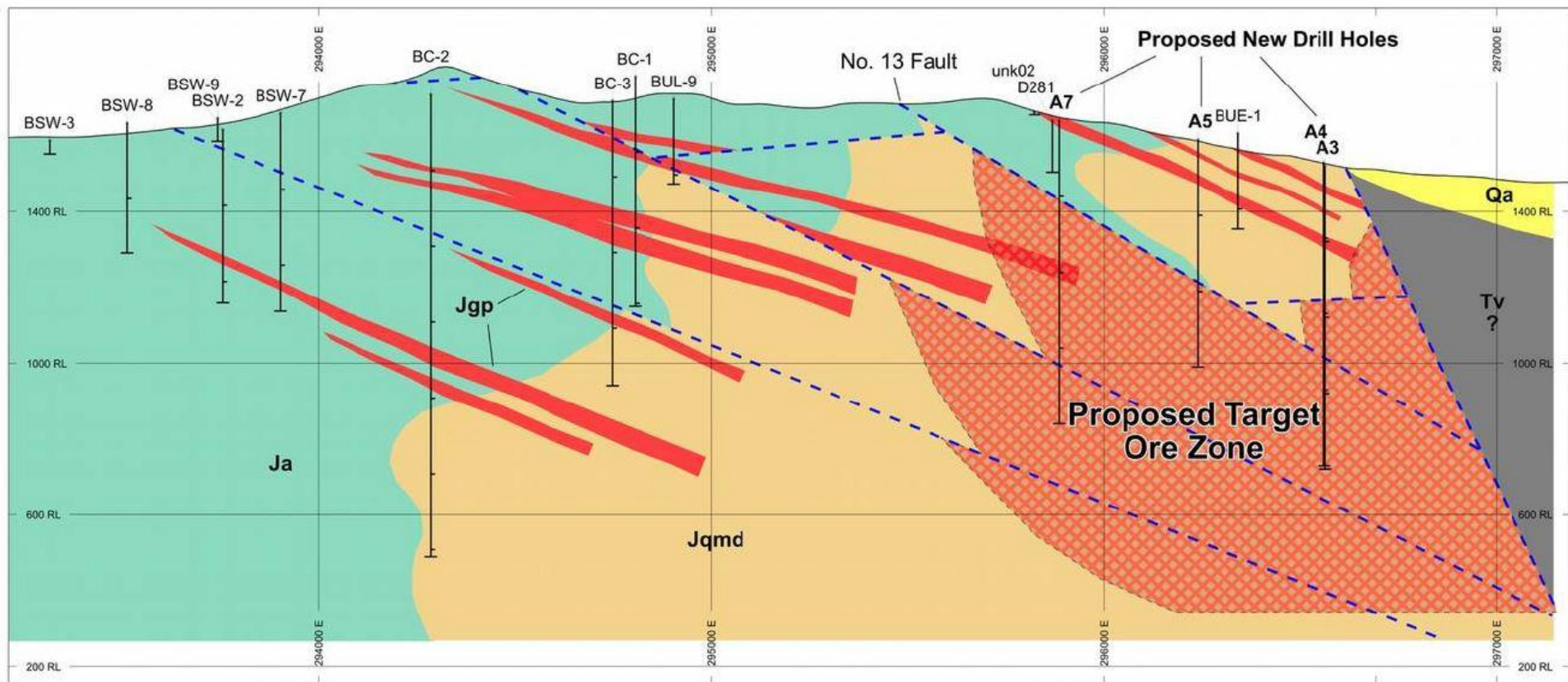
Uncoloured areas are above present day topographic surface.

Note that there is significant uncertainty in this restoration since the section does not cut the sub-Tertiary unconformity, which can only be projected.



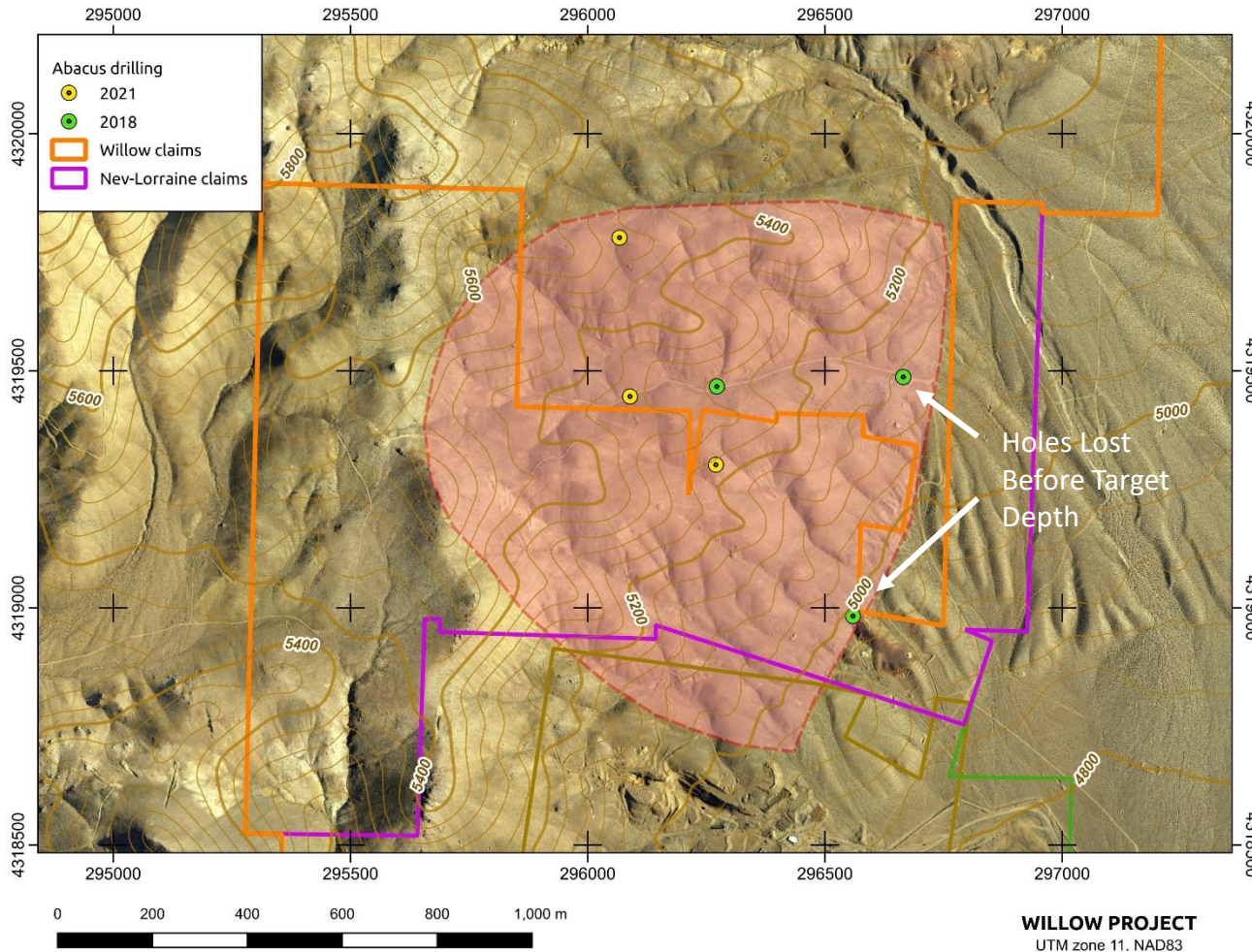
# Refining the Model Prior to Drilling

Abacus identified a series of flat-lying faults, which shifts the target closer to surface as you go west





# Drilling the Target



## Key Points:

- Target is large (~ 2.2 X 2 km)
- Target is buried meaning geochemistry is used to vector in to a deposit
- 3 holes in 2018, 2 lost. Looking for the granite that hosts all of the porphyry Cu deposits in the camp.
- The completed hole hit the host granite with low grade Cu and Mo
- 3 additional holes 2021; all hit host granite, with *significant intervals* of low grade Cu and Mo

**Target remains poorly tested**



# Willow Porphyry Copper Project

Hole	From	To	Interval (m) *	Cu (%)	Mo (ppm)	Cu GxT (%-m)
AW18-002	499.60	571.80	72.20	0.11	68.0	7.97
AW21-001	478.00	535.50	57.50	0.118	96.0	6.76
including						
AW21-001	501.50	535.50	34.00	0.189	160.7	6.35
AW21-002	239.80	548.20	<b>308.40</b>	<b>0.079</b>	47.6	24.4
including						
AW21-002	456.70	494.60	37.90	0.096	124.3	3.65
AW21-003	426.00	428.50	2.50	0.12	20.0	0.30

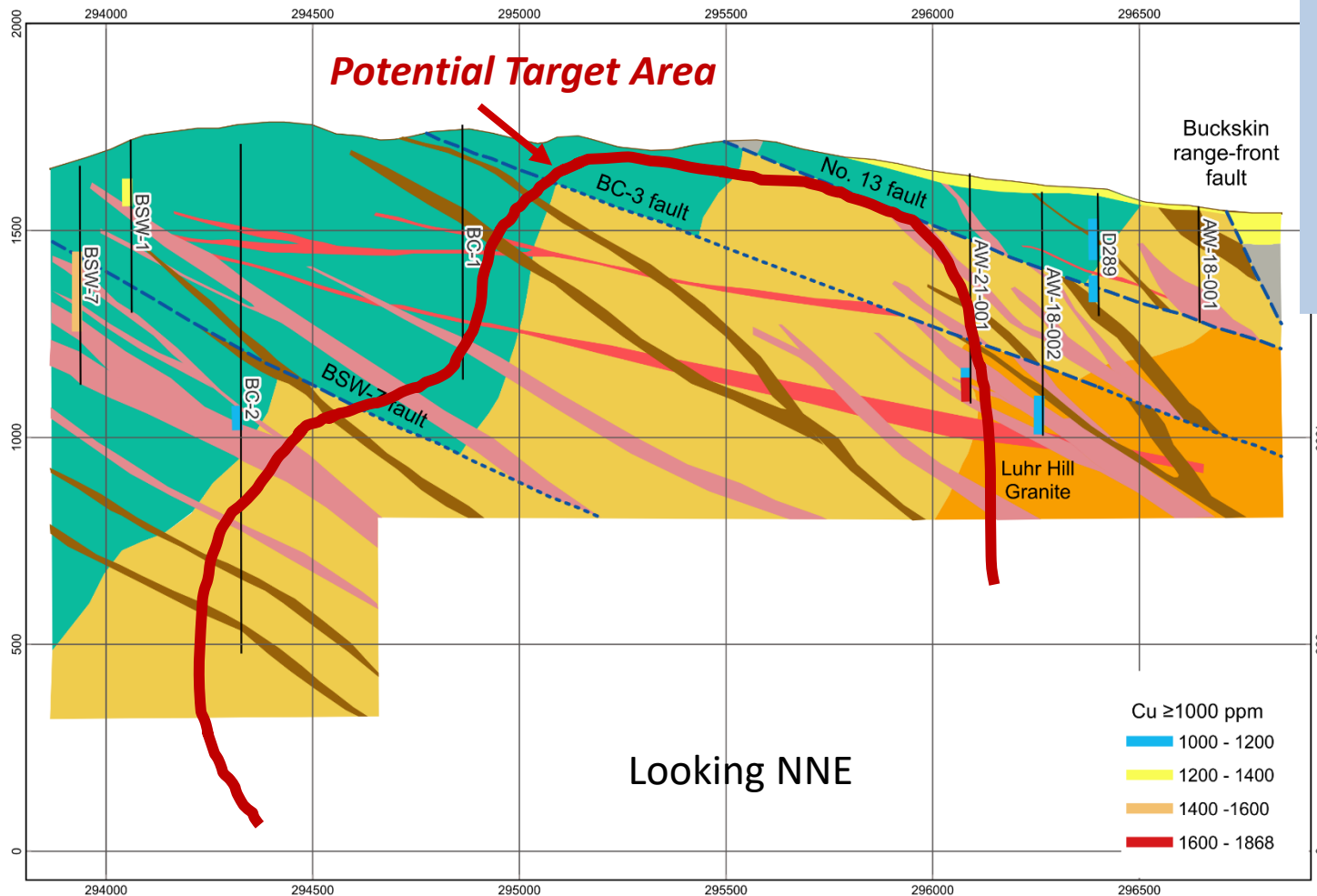
\*True widths are unknown but are estimated at 80-85% of the drilled interval

## Significant Intercepts:

- All are composited intervals
- Individual intervals of 0.2 – 0.4 % Cu



# Current Willow Long Section



Everything below the No 13 fault is prospective, over ~1.5 km East-West, between BC-1 and AW21-001, and in and out of the page over at least 2.0 km.

Moving west brings the target closer to surface.

Getting closer to a porphyry center...

**But More Drilling is Required!!!**



# Willow Porphyry Copper Project



## Summary Points:

- **Abacus discovered the Luhr Hill Granite while drilling at Willow, and is currently vectoring in to higher copper grades. This marks the first new discovery of a porphyry copper deposit in Yerington in +40 years.**
- The Yerington Batholith erupted in several phases, but only the Luhr Hill Granite is associated with the formation of Cu-Mo orebodies. **You can't have a Porphyry Copper Deposit at Yerington without the Luhr Hill Granite. Conversely, all *known* occurrences of this granite at Yerington are associated with known porphyry Cu deposits.**
- Copper orebodies at Yerington form at the Luhr Hill granite/volcanic contact, further out within the dyke swarm, or totally within the Luhr Hill Granite itself (see slide 16).
- The porphyry system was originally upright, but the system is now tilted and lying on its side.
- Flat faults have dissected the original porphyry system and the original 4-5 km depth of the system is now extended over approximately 15 kilometres, east to west.
- There are four historic Cu Porphyry Deposits in the camp: Yerington, Ann Mason, Bear, MacArthur.
- Companies have been searching for a fifth porphyry associated with the Ludwig dyke swarm. Abacus has discovered a new porphyry on Willow, first by identifying the Luhr Hill granite in drilling and more recently by intersecting significant widths of low grade Cu and Mo associated with dykes of the Luhr Hill granite.
- Porphyry copper deposits are large targets and Willow is buried. Geochemistry is thus used to vector into a deposits. Further drilling is required, but Abacus is confident that an area of higher copper grades exists on Willow, likely within 100-300 m depth.



## Reasons to Own Abacus Shares:

*Copper demand is projected to soar in the near term, partly driven by electrical vehicle uptake in the face of falling mine grades, depleting mines, and few undeveloped ore bodies due to recent low Cu prices*

*Copper and Gold are near historic highs*

- 20% owner of Ajax, a major development stage, long mine life, porphyry Cu-Au deposit in B.C.
- Drilling a new discovery at the Willow Cu-Mo porphyry in Nevada
- Continued success at any of these projects will re-rate the shares
- Strong Management backed by an Exceptional Board
- Actively pursuing gold and copper opportunities in the America's, with a view to aggressively build a larger Cu-Au exploration and development vehicle
- Currently trading at a *very* low value