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STOP # BIG KIDD PROPERTY, ASPEN GROVE

49 57'N, 120 37'W. NTS 92H/15E. This stop is on the Coquihalla Connector Highway (#97C), 30 kilometres southeast of Merritt at the junction with Highway 5A to Princeton.

Highlight:

The Big Kidd property straddles the highway and covers numerous old copper showings. Exploration in the 1990's has outlined a volcanic centred, silica-saturated, alkalic copper-gold porphyry system with the Big Kidd breccia pipe (volcanic neck) forming the hill south of the highway. A summary of property geology and recent exploration results will be given on site followed by an examination of some drill core, rock cuts and outcrop contingent on snow conditions.

Geological Setting

The Triassic to Jurassic age volcanic arc terranes of Quesnellia and Northern Stikinia in British Columbia host a distinct group of copper porphyry deposits with high gold contents. These alkalic suite porphyry deposits are rare outside of British Columbia. They are generally smaller than the well known copper-molybdenum, calc-alkaline porphyry deposits such as Highland Valley Copper but have higher unit values (\$/tonne) due to the precious metal contents. The location of the main alkalic porphyry deposits in British Columbia including Afton, Copper Mountain, Mount Milligan and Mount Polley are shown on Figure 1. The size and grade for these are shown on the accompanying Table 1.

The Big Kidd is a recent addition to BC. alkalic porphyries. Exploration by Placer Dome (1992) and Christopher James Gold Corp.(1997 to present) has confirmed the target type through geological, geochemical, geophysical surveys, trenching and limited diamond drilling. The drilling has produced significant gold-copper intersections in several areas (e.g. 19.46 m grading 3.09 g/t Au and 0.11 % Cu; see Table 2 for other selected intercepts).

An eroded Triassic-aged (Nicola Group) volcanic centre occurs is located on the property close to the triple junction between the three major structures in the belt (Quilchena, Allison and Kentucky-Alleyne fault zones). This high-level, alkalic volcanic-intrusive complex is centred on the Big Kidd intrusion breccia (volcanic neck) and features comagmatic monzodiorite, monzonite and syenomonzonite intrusives (mainly dikes), andesite to trachyandesite volcanic flows and volcaniclastic rocks (Figure 2). The main area of intrusives has a southeasterly trend; its exposed part is over 1.5 kilometres long by 1 kilometre in width and extends from Bald Hill to south of the Big Kidd. In this area, structurally controlled and disseminated chalcopyrite-pyrite mineralization has a strong gold-copper correlation, especially in the breccia body. The presence of late, feldspar porphyritic, monzonite to syenomonzonite intrusive phases and potassic alteration appears important to gold-copper mineralization.

Elsewhere on the property structurally controlled copper mineralization typical of the

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Aspen Grove belt is associated with subsidiary structures to the main faults: the Kentucky-Alleyne in the east and Allison in the west. The mineralization is predominantly hosted by Nicola volcanic rocks and contains chalcocite, local bornite and secondary copper minerals including native copper, malachite, azurite and digenite. Gold values are generally rare in this setting. To the west of the Allison fault northerly trending Nicola Group volcaniclastic rocks are intruded by calc-alkaline diorite. Younger Jurassic and Cretaceous sediments lie to the northwest.

The Big Kidd breccia pipe is over 350 metres in diameter. Its geological features, including alteration and mineralization, fit recent alkalic porphyry models to a remarkable degree (see Figure 3). 1997 exploration at Big Kidd by Christopher James Gold Corp. indicated excellent potential for multi-gram gold zones with relatively low copper values in the northern part of the breccia pipe (Table 2). Bulk tonnage breccia hosted gold zones in this northern area are the main target for the company's exploration on the property.

REFERENCES

Lang, J.R., Stanley, C.R. and Thompson, F.H., 1995. Porphyry copper-gold deposits related to alkalic igneous rocks in the Triassic-Jurassic arc terranes of British Columbia.

McMillan, W.J., and Panteleyev, A. 1995. Porphyry copper deposits of the Canadian Cordillera.

(Both of the above are in Porphyry copper deposits of the American Cordillera., Bolm, J.G. and Pierce, F.W. ed. Arizona Geological Society Digest 20, 1995.)

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Figure 1. Location of porphyry base and precious metal deposits in the tectonostratigraphic terranes of British Columbia. The distinction

between silica-saturated and silica-undersaturated deposits is discussed in the text.

TABLE I. Reserves in some alkalic porphyry Cu-Au deposits.

	Age (Ma)	Million Tonnes	Cu %	Au ppm	Ag ppm	Reserve Type	Source	
Mount Milligan	183	299	0.22	0.450		mincable	Sketchley and others (in press)	-
BP-Chuchi	185(est)	50	0.21-0.40	0.21-0.44		geologic	Nelson and others (1991)	
Lorraine	185(est)	10	0.70	0.343		geologic	Kennecott Com (pers comm.)	
Copper Mtn Camp	205	167.7	0.46	0.127	1.72	production	Holbeck and others (in press)	
Afton	206	30.8	0.77	0.580	4.2	mineable/prod	Kwong (1987)	
Ajax	206	20.7	0.45	0.340		minceble/prod	Boss and others (in press)	
Pothook	206	3.26	0.35	0 770		nincable prod	Ross and others (in press)	
Big Onion	206		0.00	0.770		production	L. Bond (pers. comm.)	
DM	206	2 685	0.38	0 270			noi available	
Crescent	206	1 448	0.44	0.270		geologic	L. Bond (pers. comm.)	
Katie	185(est)	email	0.44	0.180		production	L. Bond (pers. comm.)	
Galore Creek	211	106	0.04-1	low U.X	-		Cathro and others (1993)	
CHOIC CITCLE	211	125	1.06	0.400	7.7	proven	Enns and others (in press);	
Mount Polley	203	49	0.44	0.000		-	Sinclair and others (1982)	
ABOVE AFTE	R LANG E	T.AL.1	995.	0.583	4.5	mincable	Nicic and others (in press); Sinclair and others (1982)	

TABLE 2. MORE SIGNIFICANT DRILL INTERSECTIONS: BIG KIDD PROJECT

NORTH BRECCIA TARGET	INTERSECTION (Metres)	Cu%	Au ppm or g/t
DDH 92-1	173.0 - 244.0 (71.0)	0.20	0.75
DDH 97-5	200.0 - 234.9 (34.9)	0.11	1.95
DDH 97-4	215.44-234.9 (19.46)	0.11	3.09
	227.31-245.31 (18.0)	0.28	1.97
WEST BRECCIA TARGET			
DDH 97-6	3.96 - 31.42 (27.46)	0.306	0.21
DDH 97-7	6.66 - 30.50 (23.84)	0.325	0.32



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. Model of typical alkalic porphyry copper-gold deposit (draws heavily on data from Fox, 1989; Preto, 1989; Mutschler and Mooney, in press; and other sources).

MAINLY AFTER MCMILLAN & PANTELEYEV, 1995.