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# The T.E. Arnold Estate

Information Memorandum

McKinnon Creek Property British Columbia, Canada

Prepared for Badger and Co.

October 2001

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Dated October 2001.

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#### 1.0 INTRODUCTION

The T.E. Arnold Estate ("the Estate") has title to certain mineral lode claims and Crown Grants in British Columbia which it wishes to divest of. The Executrix of the Estate has appointed Geographe Corporate Advisory Limited to assist in the sale or joint venture of these assets.

Until recently, the Estate has been part of protracted legal proceedings involving certain beneficiaries of the Estate and separately, Weymin Mining Corporation ("Weymin"), a company which had the Property under option. In both instances, the legal cases have been settled in favour of the Estate. However, liens remain registered against the Crown Granted portion of the property, filed by a beneficiary of the Estate. Geographe has been informed that these Certificates of Pending Litigation should be removed by October 31, 2001 and therefore will not act as a hindrance to potentially interested parties wishing to pursue this property.

## 2.0 PROPERTY DESCRIPTION

#### 2.1 Location, Access, Infrastructure and Physiography

The McKinnon Creek property (the "Property") is located 45 km north of the town of Revelstoke, in the Revelstoke Mining District of southeastern B.C. Access to the Property is provided by provincial highway 23 north from Revelstoke for 35 km, and then east via the Carnes Creek Forestry Road for 11 km to the Property boundary. This dirt road is generally well maintained by a local forestry company and in the past this cost has been shared equally with the Property operator. (See Figure 1).

The main watercourse on the Property is Carnes Creek, which transects the area and sources from the Durrand glacier. McKinnon Creek is a tributary of Carnes Creek. The area surrounding the intersection of these two creeks has been the focus of the majority of work to date.

The Property is situated in rugged, mountainous terrain with elevation ranging from 700 to 3,050 metres a.s.l.. Steep topography resulting from recent glaciation has caused talus covered valley slopes of 30-40 degrees with near vertical bedrock slopes, depending on lithology. Area vegetation varies from alder, devil's club and dead fall in the valley floors through stands of timber on the mountain sides to sub-alpine and alpine meadow at approximately 1,980 m. The Carnes and Tumbledown glaciers are within the Property boundary.

The town of Revelstoke is a regional centre, where all necessary amenities are available in terms of exploration support.

#### 2.2 Mineral Tenure

The Property is comprised of 28 mineral lode claims totalling 285 units units, and 10 single unit Crown Grants, for a total size of 68.5 sq. km, or 6,850 hectares. The Property is currently held





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Table 1

# McKinnon Property Mineral Claim Summary with Annual Holding Costs

1

Claim Name	Tenure Number	In Good Standing To	Units	Work Value (or Cash in Lieu)	Cash Filing Fee	Total Cost Each Year Renewal	
Shannon 100	247815	Dec. 17, 2001	12	\$2,400	\$120	\$2,520	1 (
Shannon 200	247816	Dec. 17, 2001	12	\$2,400	\$120	\$2,520	1)
Shannon 300	247817	Dec. 17, 2001	16	\$3.200	\$160	\$3,360	1
Shannon 400	247818	Dec. 17, 2001	20	\$4,000	\$200	\$4,200	
Shannon 500	247819	Dec. 17, 2001	20	\$4,000	\$200	\$4,200	
Shannon 600	247820	Dec. 17, 2001	16	\$3,200	\$160	\$3,360	
Shannon 700	247821	Dec. 17, 2001	18	\$3,600	\$180	\$3,780	
Shannon 800	247822	Dec. 17, 2001	8	\$1,600	\$80	\$1,680	
Shannon 900	247823	Dec. 17, 2001	20	\$4,000	\$200	\$4,200	
Shannon 1000	247824	Dec. 17, 2001	10	\$2,000	\$100	\$2,100	
Shannon 1100	247825	Dec. 17, 2001	6	\$1,200	\$60	\$1,260	
Burke 1	247877	Sept. 30, 2002	9	\$1,800	\$90	\$1,890	-
Jake 2	332732	Nov. 17, 2001	15	\$3,000	\$150	\$3,150	7,
Barrett 3	332733	Nov. 17, 2001	15	\$3,000	\$150	\$3,150	1
Sam	247903	Nov. 30, 2001	8	\$1,600	\$80	\$1,680	\$
Sam 1	247904	Nov. 30, 2001	8	\$1,600	\$80	\$1,680	
G.D.	247749	April 17, 2002	16	\$3,200	\$160	\$3,360	-
Min	247750	April 17, 2002	8	\$1,600	\$80	\$1,680	
Tom	247751	April 17, 2002	20	\$4,000	\$200	\$4,200	
Kirk	247752	April 17, 2002	20	\$4,000	\$200	\$4,200	20
Mary	247899	Nov. 30, 2001	1	\$200	\$10	\$210	
Mary 1	247900	Nov. 30, 2001	1	\$200	\$10	\$210	17
Mary 2	247901	Nov. 30, 2001	1	\$200	\$10	\$210	(8
Mary 3	247902	Nov. 30, 2001	1	\$200	\$10	\$210	6
Mary 4	247765	Oct 10, 2002	1	\$200	\$10	\$210	0
Mary 5	247766	Oct 10, 2002	1	\$200	\$10	\$210	
Mary 6	247767	Oct 10, 2002	1	\$200	\$10	\$210	
Mary 7	247768	Oct 10, 2002	1	\$200	\$10	\$210	
FOTAL:			285	\$57,000	\$2,850	\$59,850	
TOTAL: Me	cKinnon Prop	erty Mineral Cl	Table 2 aim Sum	\$57,000 mary with Annu	\$2,850	\$59,850 Costs	Ý
Crown Gr	ant I	Lot(s)	Paid To	Tax Folio N	lumber	Annual Tax	0
Goat Fraction Goat No. 2 Fr.	L1482	21-L14829	2001	#0934	16	\$178.94	1

# McKinnon Property Mineral Claim Summary with Annual Holding Costs

Crown Grant	Lot(s)	Paid To	Tax Folio Number	Annual Tax
Goat Fraction	L14821-L14829	2001	#093416	\$178.94
Goat No. 2 Fr.	ũ.			
Goat No. 3 Fr.				
Goat No. 4 Fr.				
Goat No. 5 Fr.	×			
Goat No. 6 Fr.				
View Fraction				
View No. 2 Fr.				
Creek Fraction				
Aberdeen	L7408	2001	#092649	\$26.13
TOTAL:				\$205.07

by the Estate of T.E. Arnold. The Property was the subject of protracted litigation between Arnold's estate and Weymin Mining Corporation which has recently been settled on behalf of the Estate. Table 1 & 2 summarize the current status of the 28 mining claims comprising the Property. (See Figure 2).

Nineteen of the twenty-eight claims comprising the Property expire in November/December, 2001, and require a total of C\$41,600 in assessment expenditures or cash payments by the indicated dates, (plus C\$2,080 filing fees). As of 2002, the mineral claims will require an annual assessment expenditure of C\$57,000 to be maintained in good standing, (plus C\$2,850 filing fees).

As part of the Estate's settlement, Weymin has transferred a total of C\$213,856 in Portable. Assessment Credits ("P.A.C.") to the account of "T.E. Arnold, the Estate of". If required, the Estate will use these P.A.C. dollars to cover the above required assessment costs.

As outlined below, the annual taxes payable on the ten Crown Grants comprising the Property total C\$205.70 due each. As of August 2001, taxes for the 2001 tax year are outstanding.

#### **3.0 PROPERTY HISTORY**

The McKinnon Creek property (also known as the historic J & L prospect) has undergone a long history of exploration dating back to 1865. The main J & L zone was discovered in 1912 and development to date has occurred over several work periods and included approximately 1,900 metres of underground drifts, crosscuts, raises and shafts being excavated as well as several bulk samples extracted for metallurgical testing and pilot milling. (See Table 3).

Theodore E. Arnold acquired the Property in 1934. Mr. Arnold died in 1994 and the Property became part of the T.E. Arnold Estate which has various beneficiaries.

Between 1983 and 1993, the Property saw approximately C\$12.5 million in exploration work, largely focused on gold discovery. Pan American Minerals Limited, BP Selco Canada Limited, ("BP Selco"), Equinox Resources Ltd., ("Equinox"), and Cheni Gold Mines Inc. completed programs during this period, which included geological mapping, prospecting and trenching, surface diamond drilling, underground development, underground drilling, geophysical work, bulk sampling, and metallurgical test work.

In 1989, Equinox completed a Mining and Milling Study with detailed cost estimates. The conclusion of this study report was favourable, but contingent on selective mining of a larger reserve base. In 1991, Equinox completed two extensive drill campaigns over the deposit, and defined a proven, probable and possible resource on the "Main Zone" and the "Yellowjacket Zone". A further mining study was completed by Cheni Gold Mines Inc. in 1991.

From 1994 to 1999, Weymin Resources Limited ("Weymin") completed geological mapping, geochemical reconnaissance and contour sampling, three diamond drill holes, and metallurgical test work. In 1996, Weymin commissioned H.A. Simons of Vancouver to complete 2 detailed

# McKinnon Creek Project History

	Date	Comp	pany/Individual	Location/Showing	Property Development							Other				
From	To	Owner	Optioner				Su	rface					Underground	i		
					Geologic Mapping	Prospecting	Geochemical Surveys	Geophysical Surveys (Type / Amount)	Trenching (Number/Total	Surface Drilling (Number/Total	Adit Number/Level/T otal Length)	Shaft (Number/Total Length)	U/G Drilling (Number/Total Length)	Raises (number / length)	Metallurical Bulk Sample (amount)	
1865	189	98 up to 5 companies		Carnes Creek	T											Placer mining (up to 10,000 people)
1896		Roseberry Consolidated		Original Claims												Jim & Lee stake the property
1887	190	0 Carnes Creek Consolidated		Roseberry							3/272	?				
1906				Carnes Creek												Stop of placer mining
1912				J&L	1						986 L. / 108	2/46	-			Discovery of J & L
1922		A.Kitson & E. McBean		A&E												Name of claim group
1922		E. McBean			1											B.T. O'Grady M of M Report
1925		E. McBean	Porcupine Goldfields Dev. & Fin.	J&L					30 pits		2/43				and and an all the	
1926	-	E. McBean	Porcupine Goldfields Dev. & Fin.	J&L											26 kg	metallurgical studies - DoM - Ottawa
1927		E. McBean		J&L												M.E.Hurst - GSC Bulletin - Arsenic Deposits
1927																Big Bend road completed to Carnes Creek
1928		E. McBean		J&L		ě										Dr. H.C.Gunning -GSC survey of the area
1929	193	A.Kitson & E. McBean		A&E					342299		short adit					
1929		E. McBean	Piedmont Mines Ltd.	J&L					C1 1 1 1 4 7							
1934		T.Arnold		J&L												converted to crown granted claims
1935	1946	T.Arnold	Raindor Gold Mines	J&L							986 L. / 44	2				log cabins erected
1942		T.Arnold		J&L												Patented crown granted claims
1952		T.Arnold	Asarco	Main/North												
- 1958		T.Arnold	Denver Equipment Ltd.	J&L								8			187 kg	metallurgical sample from dump material
1962		F.J.Beruschi	Mr. Stairs	A&E										-		Optioned property
1963		F.J.Beruschi	Mr. Stairs	A&E												Helicopter assisted program
1964		T.Arnold	Westairs Mines Ltd.	A&E	1:400						2 - 179		4 - 428		112 kg	
1965		T.Arnold	Westairs Mines Ltd.	J&L	2010		1				830 L 297					First road to the property
1979		T.Arnold	Stelladoro Mines Ltd.	Main												No work
1980		T.Arnold	Pan American Energy Corp.	Main												
1981	1985	T.Arnold	BP-Selco Ltd.	Main			a	ir - EM			830 L. / 1.024		64/2,640			metallurgical studies
1986	1987	T.Arnold	Noranda Mines	Main											56 t	metallurgical studies, ore reserves
1987	1988	T.Arnold	Pan American Minerals	Main							830' L. / 170		/ 1,904	4/120		metallurgical studies
		T.Arnold	1	Main										1/30		
1988	1989	T.Arnold	Equinox Resources Ltd.	Aain									32/2,985	3	270 t4	metallurgical studies, feasibility study
1989		T.Arnold	Equinox Resources Ltd.	4 & E												
		T.Arnold F	Placer Dome	Main ·	-											metallurgical study
1990		T.Arnold	A	fain/Yellowjacket												discovery of Yellowjacket Zone
1991	1	T.Arnold C	Cheni Gold Mines	fain/Yellowjacket			1			32				43		
1996 pr	esent	T. Arnold estate	Weymin Resources Ltd.	fain/Yellowjacket					2/200	3/503				7/70	120 t	metallurgical studies

Table 3

reports; "Technical Review of the J&L Property", and "Project Opportunities for the J&L Property". Ross Glanville & Associates, in March, 1996, completed "A Valuation of the J&L Property". In March, 1998, H.A. Simons completed the "McKinnon Creek Property Scoping Study". Weymin summarized their property work in their assessment report titled, "Report on the 1997 Exploration Program, McKinnon Creek Project", (January 1998).

The Property has been idle since late 1999, pending the recent outcome of the litigation process.

#### 4.0 **PROPERTY GEOLOGY**

The Property lies near the north end of the Kootenay Arc, a northerly trending belt of Late Proterozoic to Late Paleozoic stratigraphy which is characterized by tight to isoclinal folds and generally west verging thrust faults. The Property is underlain by north to northwest striking, moderate to steeply east dipping metasedimentary and metavolcanic rocks. These consist, for the most part, of sheared to intensely folded impure quartzites, quartz sericite to sericite to chlorite schists and phyllites, and grey banded to carbonaceous limestones. (See Figure 3).

The following is a brief description of the Property's main geological units.

## 4.1 Stratigraphy

#### The Hamill Group

The Hamill group rocks are predominantly interbedded medium brown to green black sericite and/or chlorite quartzites and phyllites with minor layers of argillite and graphite, likely Lower Cambrian in age. The unit has a gradational upper contact with the Mohican/Badshot Formations and forms part of the footwall and hangingwall of the Main Zone deposit.

#### Mohican Formation

This unit is located on the southern and eastern boundary of the Property and is Lower Cambrian in age. It is characterized by limonite-rich, sericite, chlorite, calcareous phyllite and quartzite, interlayered with narrow layers of marble. It is thought to be a transitional unit between the quartz-rich Hamill and carbonate-rich Badshot Formations. The Mohican Formation is found in the hangingwall of the Main Zone.

#### **Badshot Formation**

The distinctive Lower Cambrian Badshot Formation is comprised of white to grey, fine to medium grained limestone/dolomite/marble. This unit varies in silica content which is thought, in the case of higher SiO2 content, to be a control of mineralization. The Yellowjacket zone is contained completely in this unit and the Main Zone crosscuts it.



Figure 3

After : Logan, J. M., Colpron, M. and Johnson, B.J. 1997: Geology and Mineral Occurences of the Downie Creek Area, Northern Selkirk Mountains, British Columbia Geological Survey Branch, Open File No. 1996-2

#### Lardeau Group

The Lardeau Group is divided into several units including the Index Formation, Micaceous Quartzite Unit and Jowett Formation. Two subunits of the Index Formation occur on the Property; a calcareous, graphitic, black phyllite unit is found in the footwall of the Main Zone and in the northern Property area around the A&E showing plus a greenstone unit of plagioclase-rich diorite sills. The micaceous quartzite unit is predominantly found in the western Property area and varies from quartzites to quartz muscovite schists. The Jowett Formation is found in the first kilometre of the Carnes Creek Forestry Service Road and is comprised of green metavolcanic and non-carbonaceous marble.

#### 4.2 Structure

The stratigraphy is intensely folded and faulted with the dominant strike to the NW (about 300 degrees), dipping towards the northeast (about 50 degrees). The Badshot in the vicinity of the deposits is recumbently overturned with tectonic strain sufficient to cause the formation of boudinage structures. Near the southern edge of the Property stratigraphy is found to strike a more east-west orientation (about 290 degrees) and dipping to the northeast (about 40 degrees). This deviation is thought to be part of the Carnes creek anticline or late stage deformation. Two thrust sheets are identified on the Property, striking northwest and dipping to the east.

#### 5.0 PROPERTY MINERALIZATION AND RESOURCES

The two known deposits on the Property are the Main Zone and the Yellowjacket zone. The Main zone is strataform, structurally controlled massive sulphide which crosscuts stratigraphy at a low angle, the majority of which occur within the Badshot Formation limestones and dolomites. The Yellowjacket zone is a lead-zinc carbonate replacement deposit and occurs totally within a silicified section of the Badshot Formation carbonates. Both deposit types commonly occur as clusters, and have demonstrated ability to form significant tonnage/grade profiles in other Cordilleran environments.

#### 5.1 The Main Zone

The Main Zone is a nearly continuous, tabular, structurally controlled arsenopyrite-precious metal bearing massive sulphide body, hosted in a low angle, intensely sheared structure that locally crosscuts the host carbonate and phyllite lithologies. The zone strikes northwest and dips to the northeast at 55 degrees. It has been traced on surface and underground for over 3 km, and currently has a drill-indicated strike length of 1.8 kilometres. The thickness of the Main Zone averages 2.5 m, and locally swells to 10 m. The zone is open at depth.

Mineralization within the zone occurs as closely spaced bands of massive sulphides which frequently coalesce at its widest parts. Structural analysis has demonstrated that the mineable sections of mineralization are localized in an echelon series of northwest plunging lenses. Mineralization sulphides include pyrite, pyrrhotite, gold-bearing arsenopyrite, sphalerite and galena. Distribution ranges from predominantly arsenopyrite with high gold content to mixed

arsenopyrite and massive sulphides to massive sphalerite with no arsenic component. Recent geochemical work has extended the Main Zone on surface another 300-400 m to the northwest.

A drill indicated geological reserve for the Main Zone as calculated by Equinox in 1991 and was later published in H.A. Simons' work in 1996, as shown in Table 4.

Main Z	405	Row 03				
Category	Tonnes	Au g/t	Ag g/t	Pb %	Zn %	+ 34 2
Proven & Probable Total:	1,700,000	7.38	75.9	2.64	4.43	
Possible:			×			
Upper Projection	271,000	5.27	62.8	1.81	2.70	
Lower Projection	969,000	6.44	113.6	4.63	4.59	
Western Projection	102,000	5.90	47.9	2.81	2.81	
Eastern Projection	565,000	<u>9.39</u>	<u>55.1</u>	<u>1.89</u>	<u>2.07</u>	
Possible Total:	1,907,000	7.12	85.5	3.32	3.48	
Total Resource:	3,607,000	7.24	81.0	3.00	3.93	

Table 4							
Main Zone:	Proven,	Probable	and	Possible	Reserves		

This calculation is based largely on underground drifting and 17,000 m of diamond drilling from the 830 m level underground and from surface. See Figure 4.

#### Expansion of the Main Zone

Past work by BP Selco (1985) estimated the Main Zone to contain up to 12.4 million tonnes based on the entire surface trace area and an average ore thickness of 1.6 m. Equinox work hypothesized that the orebody could be 8 million tonnes if 50% of the known mineralized area was delineated as ore grade.

Exploration of the Main Zone to date has included drifting along ore on the 830 m level and the 986 m level, diamond drilling from crosscuts driven north off the 830 m level, drilling from surface and trenching of surface outcrops. In the 'Project Opportunities Report' by H.A. Simons Ltd., March (1996, the potential expansion of the Main Zone down dip and to the east was NoNo commented on as follows:

"It would be possible to double the proven and probable reserve base from the current 1.7 million tonnes to 3.4 million tonnes (assuming ore maintains the estimated average width of 2.3 m) by duplicating the exploration methodology used on the 830 m level. Short cross cuts could be driven north through the ore and into the hanging wall from this ramp, establishing drill platforms to explore the orebody from the hanging wall side. These holes would have to be fanned on plan view as well to provide sufficient coverage of the brebody.' They should be ther.



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Simons also commented on a potential up dip extension of mineralization adding another 700,000 tonnes to expanded reserve, increasing the proven and probable resource to 4.1 million tonnes.

#### 5.2 The Yellowjacket Zone

The Yellowjacket Zone was discovered in 1991 by Cheni Gold Mines Inc. and is hosted in silicified limestone and dolomites of the Yellowjacket Unit, ('YJU'). Carbonate replacement lead-zinc mineralization is comprised of patchy yellow brown to reddish brown sphalerite and medium grained, disseminated galena which is texturally foliated/laminated along cleavage surfaces. As well, low amounts of pyrite and pyrrohotite occur in the YJU and in general gold and arsenic values are very low. Darker coloured sphalerite and coarser galena are associated with the top of the zone, possibly related to structural remobilization. Fluorite is common in most mineralized sections, particularly in the higher grade sections towards the top of the zone.

The mineralization is confined to several discrete siliceous subunits within the YJU and can be traced laterally over several hundred metres. The zone is believed to be stratabound and follow the shape of a tight anticline, plunging to the southeast with its hinge terminating approximately 50m SE of McKinnon Creek. Drill work by Weymin in 1997 reported extending the Yellowjacket Zone mineralization up plunge to the northwest.

Equinox estimated a drill indicated geological reserve for the Yellowjacket Zone in 1991 as shown below in Table 5.

Category	Tonnes	Ag g/t	Pb %	Zn %
Probable	693,000	52.3	2.45	7.06
Possible	337,000	53.1	2.50	7.15
<b>Total Probable &amp; Possible</b>	1,030,000	52.5	2.47	7.07

# Table 5Yellowjacket Zone: Probable and Possible Reserve

This resource is based on 23 holes. The zone is reportedly still open with good potential to expand known mineralization.

## Expansion of the Yellowjacket Zone

To date no in situ Yellowjacket mineralization has been found to outcrop on the Property and all geological interpretation is based on drill data. Several large, angular to slightly-rounded boulder hosting Yellowjacket mineralization have been noted by Equinox immediately west of McKinnon Creek. Grab samples returned up to 182.2 g/t Ag, 6.04% Pb and 16.20% Zn. Importantly a tetrahedrite rich boulder was found southwest of the portal area returning 0.87 g/t

Au, 659.9 g./t Ag, 0.17% Pb and 0.76% Zn. Equinox considered this find to have importance in showing the siliceous carbonate units potential to host a wide variety of metals.

Based on the slope of topography and the presence of mineralized boulders, it is reasonable to assume the zone projects west across McKinnon Creek. Efforts to locate this projection in the past have been hampered by severe topography and extensive overburden cover.

## 6.0 ENGINEERING AND MINING STUDIES

Several reports have been commissioned to determine the best case processing scenario for the McKinnon Creek Property. The McKinnon Creek ores are polymetallic and complex mineralogically. In the Simons' Scoping Study (1998), six processing scenarios were considered. These included heavy media separation, bioleach and biosulphidization, and pressure oxidation processing alternatives being completed at McKinnon Creek. The additional option of using the Imperial Metals Corporation's decommissioned Goldstream processing facility was also considered.

Based on the 6 scenarios analyzed, two were considered favourable. The first option is a base case of 1,500 tpd production with all processing at McKinnon Creek whereby run-of-mine material is crushed, then wet screened, and the screen oversize is subjected to heavy metal separation, the float material being rejected as tailings and the sink material combined with the wet screen fines as feed to grinding. The cyclone overflow from primary and secondary grintling is targeted at a P80 of 65 microns and subjected to differential floatation to recover lead, pyrite, zinc and arsenopyrite selective concentrates. The arsenopyrite concentrate is then processed by pressure oxidation and cyanide leaching for gold and silver recovery.

The second favourable option is 1500 tonne per day production with conventional processing at Imperial Metals Corporation's decommissioned Goldstream facility. The heavy media screen sink fraction combined with the wet screen fines would be transported from the McKinnon Creek facility 58 kms north along Hwy 23 to the Goldstream Mine site for traditional processing by grinding and differential floatation and pressure oxidation to recover gold and silver components. The Goldstream facility was closed in 1996 and, according to Simons, could be made operational easily with minor refurbishing.

Simons' summarized the economics for these two proposed scenarios as follows in Table 6.

Estimated Costs/Returns	Case 1 (On-Site Processing)	Case 2 (Goldstream Processing)
Processing Rate, tonnes/day	1,000	1,500
IRR as Discounted at zero NPV (%)	13.8	18.0
Net Cash Flow (\$x10 <sup>6</sup> )	\$75.7	\$103.8
NPV @ 5% Discounted Rate (\$x10 <sup>6</sup> )	\$36.0	\$58.7
Net Smelter Return(NSR)/tonne ore	\$179	\$179
NSR in Equivalent oz/tonne Au (@ USD 350/oz)	0.36	0.36
Total operating Cost/tonne ore	\$87	\$65
Operating Cost/oz Au Equivalent Recovered	\$242	\$180
Net Revenue/tonne ore	\$94	\$116
Expected Years of Production	11	8

 Table 6\*

 A.J. Simons: Proposed Mining/Processing Scenarios (1998)

*The IRR and NPV based on:		Versus	Current:		
Au - US\$/oz	\$350		Au - US\$/oz	\$280	
Ag - US\$/oz	\$6		Ag - US\$/oz	\$4.50	
Zn - US\$/lb.	\$0.55		Zn - US\$/lb.	\$0.35	
РЬ - US\$/lb.	\$0.30		РЬ - US\$/Ib.	\$0.22	
Discount Rate	5%				
\$Cdn/\$U\$ 0.70			\$Cdn/\$US 0.63		

The earlier studies by Simons' had considered processing rates of 750 tonnes per day and 1,000 tonnes per day. However, in completing the 1998, study Simons' found these to be economically marginal options and added the process alternative of 1,500 tonnes per day. An increase in the size of reserves would have to be realized to support this mining rate from the current 1.7 million tonnes to 4.0 million tonnes.

# 7.0 ADDITIONAL EXPLORATION POTENTIAL

#### 7.1 Regional Potential

The major structural feature which hosts the Main Zone can be traced for a total length of 9 km from the Roseberry prospect, to the J&L (Main Zone) underground working and surface trace, to the Mastodon Mine (off the Property) to the southeast. (See Figure 5).

The Roseberry prospect is located approximately 5.5 km NW of the Main Zone and consists of historic working dating back to the late 1800s located on the southwest slope of Roseberry Mountain. The workings are located just below the contact of Lardeau graphitic schists and Badshot Formation limestones with mineralization comprised of coarse disseminated to semi-massive arsenopyrite in discontinuous quartz carbonate veins hosted by intensely sheared





graphitic schist. Chip sampling of the prospect area have returned values as 15.03 g/t Au, 37.4 g/t Ag over 0.3m. Sample descriptions note a close resemblance to Main Zone mineralization. Work by Equinox along trend 1.6 km southwest of the Roseberry found a Pb-Zn showing and soil gossan, with another Pb-Zn showing, the West Creek Showing, located a further 400 m SW.

The A&E prospect is found on the northeast slope of Roseberry Mountain, approximately 2 km km NE of the Roseberry occurrence, and consists of a number of historic workings. Mineralization is related to sheared schistose zones with intense deformation and complex folding, interlayered with or at contact with limestones and is reported to be similar to that of the Main Zone. Work in this area dates from the 1930s with Equinox resampling in 1991. The "A" zone area of the prospect contains 2 adits. The average value of 4 muck samples taken from the No 1 Portal returned 11.01 g/t Au, 356.7 g/t Ag, 10.75% Zn, 5.48% Pb. The "B" Zone is 125 m south of the A Zone on the cliff of a cirque, at the contact between limestone and graphitic and chlorite schists with sulphide minerals of arsenopyrite, pyrite, sphalerite and galena. The gossan of this zone is evident from the air and has a vertical extent of 50 m and is 200 m long. The "C" zone is to the north of "B" on the western cirque face and was discovered by BP Selco. It is an occurrence of disseminated chalcopyrite and tetrahedrite in a belt of brecciated limestone.

Numerous mineralized showings have been discovered along the NW-SE trend from the Roseberry to the Main Zone and beyond leaving this area regionally prospective for future exploration. The mineralization noted at the Roseberry, A&E and Main Zone occurrences is consistent in its planar and sheet-like style, forming numerous en echelon mineralized zones within shear structures and in spatial relationship with the contact of limestone units. The Roseberry and A&E prospects may themselves be larger examples of en echelon or fault repeated mineralization found in a long structural corridor. Specific targets within this corridor are described as follows.

#### 7.2 Northwest Extension

The northwest extension area is described as the area to the NW of McKinnon Creek (from the 830 m level Adit) and along strike with the Main Zone and Yellowjacket Zone. Work by Asarco and then BP Selco investigated showing areas northwest of McKinnon Creek on the southern slopes of Roseberry Mountain. The North Zone is the major showing area, located approximately 700 m NW of the 830 m level. The showing consists of several narrow arsenopyrile, sphalerite, pyrrhotite +/- galena stringers over an area of 15X50 m. Significant sample results include 17.27 g/t Au, 19.7 g/t Ag, 0.15% Pb, 1.48% Zn over 0.1m and 2.09 g/t Au, 15.8 g/t Ag, 0.17% Pb and 0.04% Zn over 2.0 m. Equinox's work in this area discovered several mineralized occurrences along strike including a thick sequence of Badshot Formation 200 m NW of the North Zone hosting several thin sphalerite bands occurring at the contact with sericite phyllite (0.83 g/t Au, 43.2 g/t Ag 2.22% Pb and 13.6% Zn over 0.2 m). Equinox felt that there was considerable potential at depth below this area based on drilling and the presence of a moderately strong EM conductor correlating with the western extension of the Main Zone.

Weymin completed two trenches and 3 NQ diamond drill holes (totalling 582 m) during the 1997 season. The trenches attempted to excavate the NW extension of the Yellowjacket zone but failed largely due to extensive overburden cover. The three drill holes were completed from the

same collar location. These holes were drilled to test the continuity of the Yellowjacket Zone both down dip and to the NW past previous 1991 drilling by Equinox. All three holes intersected Yellowjacket mineralization with the best interval being 4.7 m (true thickness) 2.4% Pb and 15% Zn. An arsenic-gold zone, possibly the a northwest extension of the Main Zone was also intersected in all three holes.

# 7.3 Southeast Extension

Previous trench work by BP Selco extended the Main Zone southeast along strike from the main workings area at McKinnon Creek to the southern limit of the Goat Fraction crown grant, on the west side of Goat Mountain.

Recent work by Weymin following this trend further to the southeast, found intermittent, shear hosted, massive sulphide occurrences for an additional 2.5 km along strike. Weymin prospected this trend with limited sampling, identifying the Zink (sic) Creek, Hill Creek and Y Creek showings. The Zink Creek Zone is 250 m in length and consists of five previously unsampled Au-Ag-Pb-Zn-As sulphide showings hosted within a shear zone about 750 m from the limit of the Goat Fraction. A second unmineralized shear was noted 15 m vertically below the first. Samples from this site returned values up to 0.172 oz/T Au, 3.21 oz/T Ag, 11.21%, Zn, 6.44% Pb. The Hill Creek Zone 325 m further east hosts another rusty stained shear zone with a galena bearing (5%) quartz vein. The Y Creek Zone is located another 400 m further east and is 200 m long hosting 3 parallel sulphide zones and other vein occurrences. This zone has a vertical extent of 150 m and appears to be comprised of a series of en echelon shear zones with Au-Ag-Pb-Zn-As as well as arsenopyrite only and phyrrotite only mineralization. A sample from the Y Creek zone returned 0.025 oz/T Au, 1.06 oz/T Ag, 3.48%, Zn, 0.97% Pb. Weymin noted rusty shear structures continuing SE past the Shannon 700 claim boundary and subsequently expanded the Property by staking the Dave 1, Marcus 1 and Chris 1 claims, (forfeited in Nov. 1999), and the Locojo 1 & 2 claims, (forfeited in Nov. 2000).

Southeast extension of the Main Zone mineralization is found along trend for 3 km. Although work to date has found the mineralization to be thin and locally discontinuous on surface, it does confirm the persistence of the Main Zone shear structure and the possibility of parallel mineralization. This lack of continuity may be due in part to the difficult mapping conditions encountered on the talus covered north face of Goat Mountain. Further work may be warranted to identify thicker zones of mineralization at depth and along strike.

# 7.4 McKinnon Creek Area

Exploration to the northeast along McKimon Creek has been limited even though massive sulphide mineralization has been found within the hanging wall strata overlying the Main Zone. The East Zone and the Far East Zones are located 10 and 800 m NE of the Main Zone on Goat Mountain plus Westairs Mining Ltd. reportedly found 4 parallel mineralized zones NE of the Main Zone varying from 0.2-3.0 m in width in the 1960s. All assay results from these showings have return low metal values but illustrate the potential for existing zones of mineralization parallel to the Main Zone.

The copper Zone is located 150 m southwest of the Main Zone in the footwall, on the east side of McKinnon Creek. Here narrow sulphide mineralization is found in sheared quartzite with an arsenopyrite band traced for 225 m horizontally and 80 m vertically. Equinox chip sampling returned values up to 3.55 g/t Au, 21.7 g/t Ag, `1916 ppm Cu over 1.0 m from this area.

## 8.0 CONCLUSIONS

McKinnon Creek represents a mature polymetallic prospect in S.E. British Columbia. The project is metallurgically complex but close to available processing facilities with good infrastructure and local support. There appears to be substantial potential to increase reserves for both the Yellowjacket and Main Zones by way of the existing workings. There are several exploration targets that remain to be tested on the Property and excellent potential for an expansion of mineralization along strike both to the southeast and northwest.

Under certain terms, the T.E. Arnold Estate would be willing to consider the outright sale of the Property or an option to purchase. The application of Portable Assessment Credits by the Estate would reduce tenure costs considerably for the near future. The Estate possesses an extremely comprehensive package of exploration data for this Property dating from the early 1900's up to and including the Weymin digital Surpac database. David Makepeace, a past consultant to Weymin, has indicated his availability to interested parties wishing to review the McKinnon Creek Property and/or its technical data in more detail.

All of the technical data attached as Appendix I is available for review in Geographe's Vancouver office.

# Appendix I

McKinnon Creek Property Technical Data

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# **APPENDIX I**

# McKinnon Creek Property Technical Data

Box #	File Boxes
7101	Metallurgical data: 1992 - 1998, Metallurgical work proposals
	Metallurgical data: 1990-91 including Sante Fe Engineering Capital
	and Operating Cost Report for BRGM - 09/90, Bacon Donaldson
	Results of Redox Process Floatation Concentrates - 03/91, Lakefield
	Separation of Arsenopyrite and Pyrite from Samples - 03/91, Bacon
	Donaldson Floatation Concentrate of J&L Complex Sulphide Ore -
7102	05/91, Bacon Donaldson Variability Testing - 12/91
	Historic J&L exploration data including; 1and and legal 1988-97, 1990
	metallurgical data plus Lakefield Proposal for Hydrometallurgical
74.00	Treatment - 11/90, Lakefield Thickening and Filtration Testwork -
/103	102/90, Lakefield Recovery Progress Reports - 01/90
7404	J&L Correspondence Files, Permitting, Assessment
/104	Correspondence/mings
	storage/inventory report Lakefield Research Recovery Zn. Bb. report
	Storage/Inventory report, Lakenetic Research Recovery 211, PD, report -
7105	106/02, Lakened Mineralogical Examination, Progress Reports 1 & 2 -
/ 105	Metallurgical data: 1983-85 including: Lakefield Recovery Progress
	Reports 4 5.6 BP Selco Metallurgical Report on 6 Ore Types - 07/85
7106	BP Selco Mineralogical Study on 6 Ore Types - 07/85
	Metallurgical data 1987-89 including: Bacon Donaldson Preliminaty
	Report - 11/87. Coastline Arsenopyrite Concentrate Report - 11/97.
	Cashman Process Report - 09/87, Met Engineering Metallurgical
	Report - 11/87, Noranda Research Metallurgical Report - 87, Smith &
	Assoc. Metallurgical Report - 02/88, Lakefield Pb, Zn, Au, Ag Recovery
7107	Report - 05/89, Pilot Plant Report - 12/89
	Area Mineral Property Reports, (Goldstream, Jordan River, Duncan
7111	Lake, Mastadon/Adair)
	Project administration files - 1997-99 including; ore reserve data files,
	BRGM Evaluation Report 09/90, BRGM/Cheni Memorandum on J&L -
7112	12/91, Canrock Engineering Mine and Mill Design Report - 04/98
	Weymin exploration files including; airphotos, Surpac data
	(hardcopies), Placer Dome Project Evaluation Report - 1990, CESL
7444	Evaluation Report - 06/91, B52, Equinox J&L Conceptual Study -
/114	05/89, Cheni Mines J&L Conceptual Study - 09/91
	Equinox exploration data - 1991, including unit logs, assays, progress
7116	neports, Equinox Jac Summary Report - 00/90, 1. Murato Memo -
	181 drill logs (surface and underground) - 1990/91" Vincent Executive
7117	Summary Report - 07/90 Placer Dome Geological Evaluation - 03/90
	Historic J&L exploration data: 1988-89 including: Equipox Summary
7118	Report - 11/89 Equinox Completion Report - 06/89
	Historic J&L exploration data: 1983 - 1988; including drill logs (1988).
	assay certificates (1983-85), underground mapping, grid mapping, face
7119	mapping originals (1983)
	Historic J&L exploration data: 1981 - 1983 including: Airbourne EM
	Survey Report - 09/82, Selco Inc. Summary Report & Maps+B12 -
l l	01/83, Selco Inc. Summary Report - 01/81, Heard & Assoc. Summary
7120	Report - 01/81

# APPENDIX I

# McKinnon Creek Property Technical Data

	Historic J&L exploration data: 1917 - 1983 including miscellaneous
	reports, plus 1983 program mineralogy, drill Logs and ground
7121	geophysics files
ļ	Historic J&L exploration data: 1983-84 including UG reports, surveying
	data, petrographic reports, assay results, BP Selco Summary Report -
7122	03/84, BP Selco Summary Report Appendices IV - VI - 03/84
	BP Selco Summary Report - 02/85, BP Selco Summary Report:B1
7123	Plan Sections 1 -74- 02/85, BP Selco Summary Report - 03/84
	BP Selco Summary Report - 02/85, BP Selco Summary Report:
	Appendices and Plan Sections 1-10; - 02/85, Weymin 1997 Exploration
[	Report - 01/98, Weymin Notice of Work filings, 1997 Exploration
7124	program proposals
7125	BP Selco Summary Report Plans 1-10, 11-26 - 02/85
	Historic J&L exploration data: 1985-87 including; BP Summary Report
	12/85, Heard & Assoc. Summary Report - 02/85, BP J&L JV Report -
	07/85, Integrex Engineering Summary Report of Work - 03/87, drill
7126	logs, assays, raise data
	Historic J&L exploration data: 1984 including; Heard & Assoc. J&L
	Report - 02/85, McKinlay Thesis, BP Minerals Statistical Analysis and
	J&L Lithogeochemical Data Report - 09/84, UG sampling,
7127	lithogeochemical work, original face sketches, Main Zone sketches
	Weymin environmental work, test results, Tailings Deactivation,
7128	Archeological study, Water Level reports
	Historic J&L exploration data: 1983-96 including; water sample data,
	BP Selco Waste Management Report - 1984, Equinox Geochemistry
7129	and Hydrology Report - 11/90, B41
	Equinox J&L Conceptual Study - 05/89, Cheni Mines J&L Conceptual
	Study - 09/91, CESL Evaluation - 06/91, Wright Capital Study - 04/89,
7131	B44, BP Selco Financial Analysis
	AJ Simons Technical Review of J&L - 02/96, AJ Simons Scoping
	Study - 10/98, Canrock Mine and Mill Design - 04/98, Beattie
	Yellowjacket Floatation Testing - 01/98, AJ Simons Project
7132	Opportunities - 03/96, BP Selco Summary Reports - 02/85 & 03/84
7133	AJ Simons Scoping Study - 10/98
7137	Original field notes and sample tags
	J&L Reports including; PRA Metallurgical Test Report - 06/98, AJ
	Simons Technical Review of J&L - 02/96, AJ Simons Project
	Opportunities - 03/96, Glanville Valuation Report - 11/91, Weymin
	1997 Exploration Report - 01/98, PRA Heavy Media Separation Study -
	02/98, Kootenay Subregion Community Profile - 1998, Weymin
7150	Compilation of Surrounding Projects - 1998
	Equinox Exploration Reports Volumes   & II - 11/91, Equinox
7160	Exploration Report - 08/91, Transient EM Survey Report08/91
TOTAL	30 Boxes

# **APPENDIX I**

# McKinnon Creek Property Technical Data

Roll #	Maps
1	Weymin presentation maps
	Misceelaneous plan maps from various operators including land title,
	forestry requirements, plan sections. Original mapping of ore
2	zone/showing areas. Misc. mylar report maps
	Topographic maps, geachemistry mylars, geology compilation plans,
3	cross sections, regional geology
	Equinox long sections with polygonal reserve and values. Plan
4	sections.
5	Equinox drill sections with geology and assays 1:500 and 1:250 scales.
	Cheni Mines longitudinal sections with assay results, sectional reserve
6	maps, plan maps, topographic maps, ug sample/assay maps.
	Equinox-Pan American sections 1:250 and 1:400 scales, drill hole
7	plans, proposed UG development, UG engineering drawings for raises.
	Cheni Mines sections with geology and assay data, 1:250 and 1:500
8	scales, longitudinal sections.
	Equinox longitudinal sections, polygonal reserve, proposed UG
9	development.
10	Miscellaneous BP Selco surface maps.
11	BP Selco cross sections 1:2250, 1:500 scales, UG olan maps.
	BP Selco water quality, survey control, surface and UG proposed
12	development 1:10,000 scale.
	BP Selco UG and suface lengitudinal sections, reserve longitudinal
13	sections at various scales.
14	BP Selco McElhanny orthophotos mylars 1:10,000 scale.
15	BP Selco Level plans 1:50 with UG sampling.
	BP Selco Main Zone EM and mag. 1:2500, Dighem II Survey airbourne
16	geophysical maps at 1:10,000.
1/	BP Selco Level plans 1:50 with geology and assays.
18	Questor Survey topographic maps and ortho photos, 1:10,000.
10	BP Seico topographic maps, geology maps 1:500. Equinox geolog
19	1:10,000, Seico geology 1:5000, Stairs Exploration geology, 1":400'.
20	Equinox longitudinal sections with assays 1:1,000, ratio maps.
21	
TOTAL	21 items

	Other	 	
Surpac Digital data			

