## Assessment Report 1997 Diamond Drilling Program Mack Property



Skeena Mining Division British Columbia NTS 104B/9W-10E

Latitude: 56°37' Longitude: 130°30'

Work Performed By:

HOMESTAKE CANADA INC. P.O. Box 11115 1100-1055 West Georgia St. Vancouver, B.C. (604) 684-2345

for

PRIME RESOURCES GROUP INC. P.O. Box 11115 1100-1055 West Georgia St. Vancouver, B.C. (604) 684-2345

> Submitted by T.M. Fraser, I. Cunningham-Dunlop, P. Pacor (P.Geo)

CECLOGICAL SURVEY BRANCH

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#### Abstract

The 1997 drilling program on the Mack property operated from August 21 to September 13, 1997. One deep hole, MP97-01, was collared in the central syncline area of the Prout Plateau to test for Hazelton Group stratigraphy underlying Bowser Lake Group sediments. A total of 1114.04 meters of NQ-2 core was drilled.

MP97-01 consisted of a thick package of interbedded Bowser Lake Group conglomerates and mudstones. No mineralization was evident and the underlying Hazelton Group stratigraphy was not penetrated.

Recommendations for 1998 include drilling further to the southeast, in an area adjacent to the Argillite Creek Fault, potentially avoiding structural thickening of the interior Prout Plateau. Detailed mapping of the Bowser Lake Group outcrops near 1998 targets prior to drilling may aid in the interpretation of sub-surface features which could shorten the length of proposed holes in future.

## Introduction

#### Location and Access

The claims that comprise the Mack property lie approximately 83 km northwest of Stewart, British Columbia. The property is accessible by the paved Stewart-Cassiar Highway (37) which heads north from Meziadin Junction. The Eskay Creek mine road joins Highway 37 a few kilometers south of Bob Quinn. The Mack claims can be accessed by driving the 58.5 km gravel mine road constructed along the eastern flank of the Iskut River and utilizing a helicopter from there. The property is approximately 4.5 km southwest of the Eskay Creek minesite (Figure 1).

#### Property Tenure

The Mack property owned 100% by Prime Resources Group Inc., is comprised of 24 mineral claims recorded in the Skeena Mining Division and includes Mack 1 through 23 and the Mack 26 fraction. The Mack property claims were grouped with adjacent claims and mining leases held wholly or partially by Prime Resources Group Inc. The configuration of the claims is given in Figure 2. Current claim status and expiry dates are outlined in Table 1:

Claim	Record #	Units	Area	Record Date	Expiry Date*
Name			( <u>h</u> a)		
Mack 23	329241	20	500	1994.07.21	2005.07.21
Mack 1	329244	1	25	1994.07.21	2005.07.21
Mack 2	329245	11	25	1994.07.21	2005.07.21
Mack 3	329246	1	25	1994.07.21	2005.07.21
Mack 4	329247	1	25	1994.07.21	2005.07.21
Mack 5	329248	1	25	1994.07.21	2005.07.21
Mack 6	329249	1	25	1994.07.21	2005.07.21
Mack 7	329250	1	25	1994.07.21	2005.07.21
Mack 8	329251	1	25	1994.07.21	2005.07.21
Mack 9	329252	1	25	1994.07.21	2005.07.21
Mack 10	329253	1	25	1994.07.21	2005.07.21
Mack 11	329254	1	25	1994.07.21	2005.07.21
Mack 12	329255	1	25	1994.07.21	2005.07.21
Mack 13	329256	1	25	1994.07.21	2005.07.21
Mack 14	329257	1	25	1994.07.21	2005.07.21
Mack 15	329258	1	25	1994.07.21	2005.07.21
Mack 16	329259	1	25	1994.07.21	2005.07.21
Mack 17	329260	]	25	1994.07.21	2005.07.21
Mack 18	329261	1	25	1994.07.21	2005.07.21
Mack 19	329262	I	25	1994.07.21	2005.07.21
Mack 20	329263	l	25	1994.07.21	2005.07.21
Mack 21	329264		25	1994.07.21	2005.07.21
Mack 22	329265	1	25	1994.07.21	2005.07.21
Mack 26 FR	329363		25	1994.08.03	2005.08.03

Table 1. Summary of Claim Data

\* Expiry dates indicated are subject to change based on approval of the 1997 assessment report.





Scale (Kilometres)

# **Location Map**

Figure 1

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#### Physiography, Vegetation and Climate

The area west and north of the Argillite Creek is characterized by a plateau of rolling NNE trending ridges and gullies (25 m). Prout Plateau elevations range from 1300m to 960m.

Vegetation varies due to elevation, water supply and slope. At higher elevation, the vegetation consists of stunted balsam, heather and grasses. Steep areas are covered by slide alder, devil's club and skunk cabbage. At lower elevation, spruce, fir and hemlock prevail.

Annual precipitation at Eskay is heavy and ranges from 2-3.5 meters. Most of the precipitation falls as snow between the months of November and April. The accumulated snow pack does not fully disappear until early August.

#### History and Previous Work

The Eskay Creek property and surrounding area has been the focus of many exploration programs which date back to 1932. The most recent geological mapping on the Mack property and Prout Plateau has been completed by Peter Lewis (1995) and Roland Bartsch (1993) who submitted a Master's thesis on the regional geology and facies interpretation. A Bachelor's thesis on the geology and structural complications of the Prout Plateau area was completed by Phillips (1996).

## Geology

## **Regional Geology**

The Eskay Creek area is underlain by rocks of the Mesozoic Stikinia and Bowser Overlap assemblages. Geologists of the British Columbia geologic survey and the Geological Survey of Canada have subdivided the Stikinia assemblage into two groups; the Bowser Lake and Hazelton groups. The Hazelton Group has been further divided into four rock formations: Unuk River Formation, Betty Creek Formation; Mt. Dilworth Formation and the Salmon River Formation. The following units in Table 2 are summarized from Anderson and Thorkelson (1990):

Formation/Group	Lithologies	Age (Ma)
Ashman Fm.	Shale, siltstone, greywackes, quartz arenites and	156-163 Ma
(Bowser Lake Group)	chert pebble conglomerates.	
Salmon River Fm.	(ii) black siliceous shale, white reworked tuff	163-187 Ma
(Hazelton Group)	turbidite; pillow lava and limy to siliceous	
	shale-siltstone; andesitic volcanics	
	(i) thin belemnite-rich calcareous sandstone and	187-193 Ma
	mudstones.	
Mount Dilworth Fm.	White-maroon grey weathering welded to non-	?
(Hazelton Group)	welded felsic tuff and tuff breccias. Commonly	
	aphyric, flow-banded and spherulitic. Dacite-	
	rhyolite composition.	
Betty Creek Fm.	Maroon to green volcanic siltstone, greywacke,	193-196 Ma
(Hazelton Group)	breccia with common sedimentary structures	
	and jasperoid veins.	
Unuk River Fm.	Rusty white-orange weathering, thinly bedded	198 Ma
(Hazelton Group)	siliciclastic calareous siltstone dominates the	
	unit.	

## Property Geology

The Bowser Lake Group comprises a thick sequence of Middle Jurassic to Late Jurassic sedimentary rocks. Sediments are believed to be eroded from the uplifted surrounding volcanic terranes.

Stratigraphy in the Bowser Lake Group consists of monotonous sequences of black mudstones with grey siltstone laminae. Generally there is only insignificant amounts of pyrite present, in occasional fragments and laminae. Fossils are rare and mainly consist of 1-2cm carbonate-replaced belemnites. The northern end of the Prout Plateau contains thick sequences of medium to coarse grained pale grey conglomerates (Figure 3). Conglomerates are clast-supported, poorly sorted with clast composition dominated by chert. Mapping by Phillips (1996) has identified rapid thickness changes within conglomerate over the extent of the Prout Plateau and the presence of graded bedding and cross-bedding. Locally the conglomerates grade into well sorted coarse sandstones.

The Prout Plateau is bounded to the east and west by regional scale faults that cut through both the Hazelton Group and Bowser Lake Group stratigraphy. The western edge of the Prout Plateau is bounded by the Unuk-Harrymel Fault while the eastern flank is bounded by the steeply northwest dipping Argillite Creek fault.

In this area both the Bowser Lake Group and Hazelton Group rocks have undergone significant amounts of east-west shortening. Shortening has been accommodated by varying amounts of faulting and folding. Mapping on the Mack and GNC claims has defined a series of syncline-anticline pairs with fold axes trending in a northeasterly direction and dipping moderately to the north. Folds are symmetric with interlimb angles of nearly 90° (Phillips, 1996).

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## The 1997 Mack Exploration Program

#### Introduction

The 1997 diamond drill program of the Mack property was initiated to test the Hazelton Group stratigraphy below Bowser Lake Group mudstones and conglomerates for Eskay Creek-type mudstone and rhyolite mineralization.

Drilling along the western margin of the GNC claims has yielded insignificant mineralization to date. However, the depth of the Bowser Lake Group and Hazelton Group contact underlying the Prout Plateau is extremely variable due to topography and deformation. Phillips (1996) has interpreted the depth to the Hazelton contact to range from 450m to more than 950m.

#### **Drill Hole Summary**

A 4-man drilling crew was mobilized by Hy-Tech Drilling, Smithers, B.C. Drilling was completed using a modified Boyles F-15 hydraulic drill and NQ-2 sized core. Drilling commenced on the Mack claims on August 21, 1997 and continued through to September 13, 1997.

Drilling crews and geologists worked out of the established Homestake Exploration Camp located at Km 45 on the Eskay Creek Mine access road. Equipment and crews were mobilized to and from site by a Hughes 500D helicopter provided by Northern Mountain Helicopters based out of Prince George, B.C. All diamond drill core was processed at the Eskay Creek Mine core logging facility and then stored at Km 45.

Drill core was logged directly into lap-top computers using the in-house logging program, DLOG. All lithologies are coded using a 4-character field and textural descriptions, colours and structures are summarized using a 2-character field. Primary and secondary geologic intervals are described separately. A remark field is used to take detailed notes on bedding orientations, presence of fossils and descriptions which are not coded for elsewhere. All data input into DLOG is then interpreted into meaningful descriptions when the diamond drill log is printed. The DLOG program was used to collect information which was subsequently imported into AutoCad and MapInfo for data plotting as maps and cross-sections.

The Mack hole, MP97-01 was collared in alpine terrain on the Mack 23 claim in the core of a Prout Plateau syncline trending 033 degrees, with stratigraphy dipping moderately to the northeast. The hole was located approximately 800 meters northwest of a fence of 6 holes drilled on the GNC property in 1992 and 1993. Drill hole specifics are tabulated below (Table 3) for the 1997 drilling.

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Hole Number	UTM Northing	UTM Easting	Elevation	Azimuth	Dip	Length
MP97-01	6276980.1 N	408590.2 E	1187 m	145°	-88°	1114.04m

All previous holes in the area were drilled to the southeast, targeting east of the Argillite Creek Fault. GNC holes were collared to target Hazelton Group volcanic and clastic rocks which host the stratigraphically controlled mineralization in the Eskay area. Hazelton Group rocks are generally assumed to be in fault contact with the overlying Bowser Lake Group stratigraphy along the Argillite Creek drainage.

MP97-01 was collared within a monotonous sequence of interbedded mudstones, siltstones and sandstones of the Bowser Lake Group. Black mudstone is laminated with silty horizons. Bedding is generally consistent throughout and scour marks, graded bedding, rare cross-bedding and ripple marks indicate that the Bowser Lake Group stratigraphy in this hole is an entirely younging upwards sequence (Figure 4). Bedding may be slightly warped, with possibly only an indication of a flexure. No overturned beds were identified.

Siltstone and sandstone horizons are generally pale grey and also tend to exhibit graded bedding from pebble sized fragments to fine grained sand and silt component.

White quartz and occasional quartz-carbonate veins are present in disrupted areas and usually form 1mm to 1.5cm wide veins occurring parallel to bedding or as narrow discordant fracture fill.

Also quite prevalent in MP97-01 is a sequence of heterolithic, coarse conglomerates typical of Bowser Lake Group - pebble conglomerates with white to grey to black cherty rounded fragments and trace mudstone clasts. Fragments within the conglomerate range from 1-25cm in size and show some degree of size sorting. Generally the conglomerate contains rare mudstone clasts which are commonly larger and more angular than the chert fragments. Some fragments may also have a volcaniclastic component. Occasional sandstone layers are interbedded with conglomerate.

Several thin gray-green andesite dykes were noted. These dykes have well developed chill margins and amygdules. Rarely some exhibit flow-banding. All of these late dykes are strongly magnetic and are probably of Tertiary age, associated with the King Creek dyke swarm.

MP97-01 was terminated at 1114.04 meters when mudstone fault gouge was encountered. It was abandoned prior to reaching the Hazelton Group stratigraphy due to poor ground and difficulty drilling. No significant mineralization was encountered and as a result, no samples or assays were obtained.



## **Conclusions and Recommendations**

The MP97-01 diamond drill hole both collared and terminated in Bowser Lake Group stratigraphy at a depth of 1114.04 meters. However, it was noted that minor pyrite laminations gradually became more prevalent and generally replaced grey siltstone beds below 877 meters. This may reflect proximity of the Bowser Lake Group contact with the Salmon River Formation.

Since the Hazelton Group stratigraphy was possibly not penetrated and no mineralization was encountered, no sampling or assaying was performed. All graded bedding, scours, ripple marks and cross-bedding indicated a younging upwards direction.

Within the central core of the syncline on the Prout Plateau east of Tom McKay Lake, the targeted horizon is deeper than anticipated. Hazelton Group rocks are at least one kilometer from the surface.

It is recommended that future drilling be initiated in the southeasterly portion of the Mack claims in order to decrease the depth to target. Also, mapping future proposed areas in detail prior to drilling may provide more structural information needed to interpret the depth to Hazelton Group stratigraphy more accurately. Improved drill capacity will allow re-entry of and completion of the hole.

## References

- Anderson, R.G. and Thorkelson, D.J. (1990): Mesozoic Stratigraphy and Setting for Some Mineral Deposits in the Iskut River Map Area, Northwestern British Columbia; *in* Current Research, Part E, *Geological Survey of Canada*, Paper 90-1F, pp. 131-139.
- Bartsch, R.D. (1993): Volcanic Stratigraphy and Lithogeochemistry of the Lower Jurassic Hazelton Group, Host to the Eskay Creek Precious Metal Volcanogenic Deposit, Northwestern British Columbia; unpublished M.Sc. thesis, *The University of British Columbia*, 178 pages.
- Lewis, P.D. (1995): Field Report: Mack Claims, TOK Claims Structural Geology; internal report prepared for Homestake Canada Inc, *Lewis GeoScience Services Inc.*, 15 pages.
- Phillips, M.R.A. (1996): The Structure and Stratigraphy of the Prout Plateau, Iskut River Map Area, Northwestern British Columbia; unpublished B.Sc. thesis, *The University of British Columbia*, 72 pages.

Appendix A

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Statement of Expenditures

## Statement of Expenditures

Project Name: M	Description Title SALARIES Technical T. Fraser Geologist I. C-Dunlop Senior Proj. Geologist P. Pacor Senior Proj. Geologist Temporary/Seasonal/Contract T. Lydiatt Geotechnician ORILLING inc. drilling supplies, mud, fuel ANALYSIS, ASSAY, METALLURGICAL Geochemical analysis & assay	т	\$155,706.00			
	ure: August 2	0 to September 13,	1997.			
Description	Title	Period	Amount	Rate (\$)	Net	Total
I. C-Dunlop	Senior Proj. Geologist		25 2 2	272 400 344	6800 800 688	
• •		Aug. 20 - Sept. 13	25	272	6800 Subtotal:	\$ 15,088.00
DRILLING inc. drilling	supplies, mud, fuel	Aug. 21 - Sept. 13			103021.00 Subtotal:	\$ 103,021.00
		-			0 Subtotal:	\$-
4 Hy-Tech T. Fraser 1. C-Dunlop P. Pacor			100 25 2 2 25	54 54 54 54 54	5400 1350 108 108 1350 Subtotal:	\$ 8,316.00
		) Aug. 20 - Sept. 13	39	750.80	29281.00 Subtotal: TOTAL	\$29,281.00 <b>\$155,706.00</b>

Apportionment of assessment work:

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\$131,400 applied to the claims listed in Table 1 with the balance applied to Prime Resources Group Inc.'s P.A.C. account.

Appendix B

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Diamond Drill Log: MP97-01

#### HOMESTAKE CANADA

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## DIAMOND DRILL HOLE LOG

MP971

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PROJECT: Eskay Creek Project	Date Commenced: 08/21/97	Contractor: HY-TI	ICH		    Logged b	by: TF
DRILL HOLE: MP971	   Date Completed: 09/13/97				∥ ∥ Geotech	by: TL
LENGTH: 1114.04	Core Diam: NQ-2					
Collar Location				· · · · · · · · · · · · · · · · · · ·		
Exploration Grid Mine (023)	Grid					
Northing: 6276980.10 5921983.56						
Easting: 408590.20 ***********************************						
	L				-	
្រ នបករ 	МАКУ	Depth	DOWN HOLE Azim	SURVEYS Inclin	Mine Az	Method
113.19-128.63 INTER   128.63-154.51 CONGLA   154.51-162.35 INTER   162.35-170.58 CONGLA   170.58-175.97 INTER   175.97-182.54 CONGLA   182.54-201.80 INTER   201.80-270.43 CONGLA   270.43-283.51 INTER   283.51-298.57 CONGLA   298.57-327.67 SILTS*   327.67-389.55 CONGLA   399.55-488.78 INTER   488.78-685.90 CONGLA   685.90-691.50 INTER   691.50-710.75 CONGLA	ATED MUDSTONE BEDDED MUDS./SILTSTONE OMERATE BEDDED MUDS./SILTSTONE OMERATE BEDDED MUDS./SILTSTONE OMERATE BEDDED MUDS./SILTSTONE OMERATE BEDDED MUDS./SILTSTONE OMERATE BEDDED MUDS./SILTSTONE OMERATE BEDDED MUDS./SILTSTONE OMERATE BEDDED MUDS./SILTSTONE OMERATE BEDDED MUDS./SILTSTONE OMERATE BEDDED MUDS./SILTSTONE	0.00 868.68 1114.04	145.00 258.50 296.50	-89.00 -84.50 -74.20	122.00 235.50 273.50	ESTIMATE SPERRY SUN SPERRY SUN

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## HOMESTAKE CANADA - Eskay Creek Project

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	; 14677	1				~~						,	
FROM	то	DESCRIPTION	Sample	Interval	Width	Au gpt	Ag gpt	Pb %	271 %	Cu %	As %	Hg ppm	Sb %
.00	6.10	CASING	0	0.00-0.00	0.00		i I	i I	İ	i i			
	113.19	LAMINATED MUDSTONE	1	1			1				1		1
.10	113.19			1		t			i		i	i	
		Black, laminated	ł		1		1		ł	1		1	, 
		bedding 35°			i I	1	-		1			i	1
		Frs=4/m :Vns =3/m	ł				1	Ì	ł		1		i
		2% graphite - coatings 2% gz veining - vein	ł		1	ł	1	i i	ì	i	i	1	i
		2% qz veining - vein 1% qz-carb veining - vein		1				i i	ł		ł	i	i
				1		1	1	1	i	i	i i	i	i
		1% pyrite - laminations Black to dark grey finely laminated mudstone			i	1		i -	ł		ł	i	ì
		interbedded with minor gray siltstone horizons. Some				l	i		ł	1	ì	i	i
		of the silt horizons display crossbedding. With depth		1		1		1	Ì	i	i	1	i
		the silty horizons have an increasing sand sized	1			1	1	i	1	ł	1	i	i
							1	Ì	i	i		i	i i
		component. At 69.0m there is some graded bedding with 0.1cm size				1		i	1	ł	ł	ł	i i
		grains at the base, up to a dark muddy horizon at the				1	1	ł	ł		i	i	i
						1	ł		i	1	Ì	i	ì
		top. Graded bedding indicates younging upwards. At 95.0m there is a coarse sandstone horizon with grains				1	ł		1	ì	ł	i	1
		up to 0.5cm, quartz grains dominate but there are a				1	1		ł	1			i i
		large number of mudstone and pyrite fragments. At				1	ł	ł	1	i	í	ì	i –
		74.35m there are scour marks where a sandy layer is				ł	ł		ì	i	i	i	i
		filling scours in the underlying mudstone, this also			Ì	ł	1		1		ł		i
		indicates younging up hole				1	ì		Ì	1	i	ì	i
		From 7.68-19.40m, 30.23-31.55m and 72.00-74.00m the	1			1	ł	1	1	1	ł	i	i
		mudstone has been intensely fractured and broken with		1	1	1	ł				ì		i
		carbon alteration developed on the fracture surfaces.					1	ļ		i	ł		ì
		Many of the fractures have also been filled by			l	1	i	i	í	ł	i	i	
		veining.				Ì	1		ł	i i	í	í	i i
		Quartz annd quartz carbonate veining is most common			i I	ł	ł	i		i	i	i	i
		through the fractured zone. Veins vary in size from	ł		i	Ì	i i	i	i		1	i i	i
		0.1-1.5cm.	1		Ì	i	i i	ł	i	İ		i	i
		Pyrite occurs as occasional bands parallel to the				ł	ł	i	i	i	í	i	i
		bedding or as discrete blebs that are elongate			i	i	1	i	1	Ì	i	i	i
		parallel to the laminations. More rarely pyrite occurs		1	ł	1		1	i	1	i		i
		as clusters of scattered grains. A single blob of			i	i		i	i	í	i	í	í
		sphalerite was observed at 10.90m in a quartz filled	l l		i	i		ì		Ì	i	Ì	i
		fracture.	i		ì	i	í	1		i	i	i	í
		The bedding direction appears very consistent even			i	i -	i	Ì	í	i	i		i
		through the fractured zone. The following core to	Ì			i	i	i	i	i	i	i -	i
		bedding angles were measured;	İ		i	i	i	i	i	i	i	i	i
		6.40m 33degrees 94.60m 40degrees			i	i	i	i	i	İ	i	i	i
		13.45m 35degrees 109.30m 28degrees	l	i	i	i	İ	i	i	i	i	i	i
		23.85m 35degrees	i	i	i	i	i	i	i	i	i	i	i
		36.30m 38degrees	i	i	i	i	1	i	1	í	i	Ì	i
		48.45m 35degrees	i	ì	í	i	1	i		i	í	i	i
		io.iom openation		i	i		í	1	í	i	i	i	.i

HOLE: MP971

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## HOMESTAKE CANADA - Eskay Creek Project

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FROM	TO	DESCRIPTION	Sample	Interval	Width	Au gpt	Ag gpt	Pb %	Zn %	Cu 🗞	As %	Hg ppm	Sh %
		57.40m 41degrees			1		1	Ì	Ì	1			
		67.35m 38degrees	i i		I	ļ		1	1	1		1	1
		79.30m 35degrees	i i		1	1		1				1	1
		86.60m 37degrees	i i		Í	İ				1			
			i i		i	i	i	i	İ	Ì	Ì	ļ	ļ
13.19 1	L2B.63	INTERBEDDED MUDS./SILTSTONE	ļ ļ		ļ	ļ				ļ	ł		
		Grayish-black, bedded, laminated				ļ	1	1					
		bedding 33°	. I 1		ļ	ļ	ļ	ļ					1
		Frs=5/m :Vns =2/m	ļ		1	ļ	ļ				ļ		
		2% qz veining – vein			ļ		ł			!	1		1
		1% qz-carb veining - vein					ļ			1	1	ļ	ļ
		1% pyrite - disseminated			1	l			1	1			
		Grey siltstone interbedded with black laminated			Ì	1	1					1	
		mudstone. Siltstone displays weak crossbedding and					1						
		graded bedding indicating the interval is younging up	1 1		1	1							
		hole. The siltstones are composed of quartz and			1		1				1		
		mudstone grains. Siltstone horizons grade up to sand			1	1	1				1	1	
		and pebble sized fragments.			Í	1	1					1	1
		At 114.35m there is a intense fracture with some	i i		Í	Ì	1 I		1	1			1
		associated gouge developed. Between 127.45-127.95m	i i		1	i	Ì	Ì	Ì	1	1		1
		there is a fracture zone.	i i		i	1	Í	ł	1	1	1	1	1
		From 120,59-121.72m mudstone horizons have been	i i		i	i	1	Í	i	Ì	1	1	1
		subjected to soft sediment deformation. This produces	i i		i	i		Í	i i	1		1 I	1
		a zone of highly distorted mudstone rip up clasts in a	i i		1	i	i	i	i	i	Ì	Í	Í.
		silt to sand matrix.			i	1	i	í	i		i	i	1
		Quartz and quartz carbonate veins vary from 0.1-1.5cm			i	1	i	i	i -	í	í	i	ì
		in width. They either form parallel to bedding or as			i	i	i	ì	i	i	i	Ì	i
		narrow discordant fracture fill.				i	i	i	i	i	i	i	i
		Pyrite is not common through this interval, however it			1	ł	1		ł	i	i	1	i
		does occur as fine disseminated grains in the					l I		ł	1	1		i –
		—					ł	ł	ł		i		ł
		laminated mudstone. Also as rare fragments in the				1	ł			ì	ł	í	1
		coarsest sandy horizons and occasionaly along				1	1		i	ł		ł	i
		fractures.				1	1		ł	ł			i i
		Bedding measurements in this interval are:			ł	1			ł	1	i		1
		116,20m 36degrees			ł	1							1
		121.85m 28degrees				-			ł	-	-		i i
		128.50m 35degrees						I		1		1	
28.63	154.51	CONGLOMERATE				i	1	i	i	i	i		i
		Gray, clastic, bedded	i		Ì	İ	Ì	1	1	1	1	1	1
		bedding 35°	i		Í	i	İ	1	Ì	1	Ì	1	1
		Frs=1/m :Vns =2/m	i i		i	i	İ	i	i	Ì	Ì	1	İ
		1% gz-carb veining - vein			ì	í	í	i	i	i	i	İ	i
		1% qz-carp vennig - venn 1% pyrite - clasts			i i	i	i	í	i	i	i	i	i
		Grey polymictic conglomerate with sandstone interbods.			í	i	i	i	i	i		í	i
		Associated with the sandstone beds there are minor		1		1	i	i	i	i	i	i	i
				1		1			ì	ł		1	ł
		mudstone horizons.				1		1	1	1	1	1	1

## HOMESTAKE CANADA - Eskay Creek Project

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FROM	то	DESCRIPTION	Sample	Interval	Width	Au gpt.	Ag gpt	Pb %	Zn %	Cu %	As %	Hg ppm	Sb %
		Fragments in the conglomerate vary in size up to 5.0cm		······································	·			<u> </u>	+	- <del> </del>	<u>+</u>		<b> </b>
		and tend to show some degree of size sorting. Mudstone					1	1 1		l f	i		1
		fragments are commonly larger and more angular than			1	1		ł			1	-	1
		the surrounding fragments. The most common fragments			i	1	1		4	ł		1	1 
		are quartz, mudstone, rhyolite and chilled andesite.			ł	ì	i		ł	ł	ł		i i
		Less common are pyrite clasts, calcareous shell	i i		i		1	ł	1	ł	i	i	}
		fragments and well rounded blue chert pebbles.			i	í	i	ł	Ì	1	ł	1	1
		Quartz carbonate veins vary from 0.1-0.5cm and fill	- i - i			i -	i	i	i		1	1	1
		fractures that are discordant to bedding and	i i		i	i	i	i	Ì	i	i	i	i
		occasionally out individual clasts.	i i		i	i	1	i	;	i	;	;	]
		Bedding measurements for this are:	i i		i	i	i	Ì	i	ì	i	ł	1
		140.85m 35degrees			į	ļ	1	ļ	1	ļ	ļ	ļ	
54.51	162.35	INTERBEDDED MUDS./SILTSTONE				1		1				1	1
		Gray, bedded, laminated					Ì	İ	Ì	Í	Í.	Í	i
		bedding 40°				Ì	Ì	Ì	İ	İ	Ì	i	i
		Frs-4/m :Vns =5/m			1	1	Ì	İ	Ì	Ì	i	Ì	i
		1% graphite - coatings			1	Ì	Í	Ì	1	1 I	j	i	i
		2% qz-carb veining - vein			Ì	Í	Í	i	İ	Ì	Í	í	í
		1% pyrite – blobs			1	1	Ì	1	Ì	1	Í	Í	İ
		Grey siltstone interbedded with black laminated	1 1		1	1	1	1	İ		Í	i	Í
		mudstone and less commonly sandy and pebbly horizons.						1	1		Í	i	1
		There is graded hedding at 160.50m indicating younging			Í	1	ĺ	1	1	1	1	1	Ì
		up hole. Some ripple marks and crossbedding are also				1	1	1				1	
		visible. In some of the silt/sand horizons there are				1	1	1			1	1	
		rip up clasts of mudstone.					1				1		
		At 106,15m there is what appears to be a small fold	1 1			ł	1	1	ļ		1	1	ļ
		hinge with graded bedding in a sandy horizon on the				ļ			1	ļ	1	!	I
		limbs indicating younging toward the core, this is not			ļ	ļ	1		ļ				1
		a major feature. Rama munita fauna na dianasta blaba da bba da b			l	ļ	ļ		ļ		1		
		Rare pyrite forms as discrete blebs in the mudstone horizons.			1	ļ	1	ļ	}	ļ	ļ	1	ļ
		Quartz carbonate veining varies in width from				ļ			ļ	1	ļ		ł
		0.1-1.0cm and is discordant to bedding. From				1	ļ		ļ		1	ļ	
		158.45-159.30m there is a fracture zone contained							ļ		1	1	ļ
		largely within a mudstone horizon. There is some				1	-	ļ	ļ	1	1		
		associated graphite alteration developed on the				1			ļ		!		ļ
		fracture surfaces and veining is more common in this								-	1	!	
		area.			1	1			1				1
		Bedding measurement:				1		1		l (			1
		160.65m 40degrees			I		1						
62.35	170.58	CONGLOMERATE				1	1	1					1
		Gray, clastic	1			}	}				1	1	5 1
		Frs-3/m :Vns =4/m			ì				1		í		1
		1% clay alteration - coatings							ł	1	1		 
		1% graphite - coatings				Ì		}			1		1

HOLE: MP971

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HOLE: MP97					1			1			1	1
FROM TO	DESCRIPTIÓN	Sample	Interval	Width	Au gpt	Ag gpt	₽b %	Zn %	Cu %	As %	lig ppm	sb %
2	3% qz-carb veining - vein			i			Ì	İ	į	į –	1	ĺ
	1% pyrite - clasts			1	ļ			!	ļ	1	ļ	!
	A grey polymictic conglomerate with pubbles of flow			I	1	I					ļ	ļ
	banded andesite, chilled andesite, quartz and				1	1			1		1	ļ
	mudstone. Less commonly are pyrite and blue chert	1 1			]			1			ļ	
	fragments. Clasts range up to 5cm in size and are				1				1			
	moderately sorted. Clasts are well rounded to			1	1						•	ļ
	sub-angular.			ì	1			1		1		ļ
	Quartz carbonate veins are discordant through				1							
	individual clasts. They vary in width from 0.1-5.0cm.	1 1			Į	1						
	At 166.75m and 169.45m the widest veins are associated	1 1		1	1	Į						1
	with small fracture zones and minor clay alteration on	i 1		I	1	1				1		
	fracture surfaces.	i i			1				1	1		
	Minor carbon alteration is visible on the fracture	i i		Ì	1	I				1	1	
	surfaces of the larger mudstone clasts.	1			1	1						
	-	j j		I	1	1	1		1		I	1
0.58 175.97	INTERBEDDED MUDS./SILTSTONE	i i		1		1	1		1			
	Blackish-gray, bedded, laminated	i i		1	Ì	1		1			1	
	bedding 25°	İ		i i	1	1	1	l I		1		
	Frs=8/m :Vns =5/m	i i		i	Ì	1	1			ļ	1	!
	3% graphite < coatings	i i		i	1	1 I	Ì	1	1			1
	4% gz-carb veining - vein					1	1	1				
	Grey siltstone interbedded with black laminated	Ì		Í	Ì	1	Ì	Ì	1	1		
	mudstone.	Í		Í	i	1	1	1		ł	1	
	Locally silty horizons are sandy and include sub	i i		i	1	1		1				
	rounded mudstone and quartz pebbles. There is a	i		Í	1 I							
	disrupted mudstone band through the siltstone at	Ì		i	i	i	Í	Ì	1		1	
	172.60m and indicates soft sediment deformation.	İ		i	i	í		1			1	
	From 173.61-174.43m there is a broken and fractured	i	Ì		i	i i			Ì	1	1	1
	area of mudstone associated with carbon alteration on	İ	Í	i	i	i	i i	Ì		1		1
	fracture surfaces and more frequent quartz-carbonate	Ì	İ	i	i	i	Ì	Ì	Ì	1	1	
	veining.		İ		i	1	i	i	Ì	1		1
	Quartz-carbonate veins are 0.1-0.7cm in width and form	Ì	Ì	i	i	í	Ì	Ì	1	Ì	Í	1
	parallel to bedding or in discordant fractures.	i i		Í	1 I	Ì	Ì	Ì	Ì	1		1
	Bedding measurements are:	l	Ì	i	1	i	Ì	1 I	Ì	1 I	ĺ	1
	172.60m 20degrees	i	İ	i	i	i	i	i	Ì	Í	1	1
	1/1.55% 100051005			i	i	i	i	Ì	1	Í	Ì	Í
<172.92-173	.52> ANDESITE DYKE/INTRUSIVE	i	İ	i	i	Ì		Ì	Ì	Ì	1	1
	Grayish-green, chilled margin	i	i	i	İ	i	Ì	Ì	1	1		1
	contact 45°	i	İ	i	i	1	Ì	1		1	1	1
	:Vns =1/m	į	i	i	1		i	Ì	İ		1	1
	1% gz-carb veining – vein	í	i		Í	Ì	i	İ	1	Ì	1	1
	Grey-green andesite dyke with chilled margins at both	i	i	i	i	İ	i	i	Ì	1	1	1
	ends and becoming increasingly coarse grained toward	i	i	í	i	1		i	Í		Ì	1
	the center.	i	i	i	i	i	i	i	i	1	i	İ.
	Very minor carbonate veining of 0.1cm width occurs as	i i	i	Ì	í	i	i	i		Í	Ì	Í
	fracture fill.	ľ	, I	i	i	í	i	i	i	i	i i	i
	LINGUUID IIII.		1	1	i	i	i	í	i	i	í	i

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FROM TO	DESCRIPTION	Sample	Interval	Width	Au gpt	Ag gpt	Pb %	Zn %	Cu 😵	λs ₹	Hg ppm	Sb %
	The contact with siltstone at 172.92 is at 40 degrees.			+		 	<u>}</u>	† 	 	<del> </del> 	- <b>}</b>	
175,97 182.54	CONGLOMERATE			1		1	ļ					
	Gray, clastic			ł	1	1	1					
	bedding 70°			}	1	1	1	!	!		!	
	:Vns =2/m				1	ĺ	ĺ	[	[	[	!	ļ
	1% qz-carb veining - microveins			1				!	ļ	1		
	1% qz-carb verning - migroverns 1% pyrite - blebs				l	ļ		ļ				
				ļ				ļ				
	Grey polymictic conglomerate with clasts of mudstone,	!!!		1	ł	1	1	ł	1	1	1	ł
	banded rhyolite, andesite and quartz. Less common are	ļ l					1		1			1
	small blue chert pebbles. The largest fragments are			1			1	1		1	i –	Ì
	mudstone and are up to 8.0cm across.	1 1		1		1		Ì		i	i i	i
	At 178.13m there is an abrupt change to 10cm of	1 1		1	1	ł	Ì	1	Ì	i -	i i	ì
	siltstone with hedding of 70 degrees to the core axis,				ĺ	Ì	i	1	i	i	i	i i
	Pyrite is only visible as discrete blebs in rhyolite				İ	Í	Ì	Ì	İ	i	i	í
	pebbles.	I İ		İ	Ì	i	i	i	ì	i	i	i
	Carbonate veining is from 0.1-0.2cm in width and cuts	i i		i	ì	i	i	i	i i	ì	j –	1
	across individual pebbles.			į	ĺ	ļ	l	İ	í	1	i	ļ
82.54 201.80	INTERBEDDED MUDS./SILTSTONE				l		1					
	Blackish-gray, bedded, laminated	i i		i	1	1	1	Ì	;	;		
	bedding 35°	i i			; I	1	1	1	ł	-	l i	
	Frs=5/m :Vns −10/m				1	1		1			-	1
	2% chlorite alteration - pervasive				1	1	1	1		!		
	2% graphite - coatings				1	1						ļ
	5% qz veining ~ vein				ſ	1	1	ļ	!	!	!	ļ
	2% qz-carb veining - vein				ļ							l
	Grey sandstone interbedded with black mudstone,					ļ				l		ļ
	siltstone and pebbly horizons. Pebbly horizons include	, j			ļ	ļ	1					1
	sincscone and peoply norizons, report norizons include			[ [		[	ſ	i	í	l	1	1
	clasts of mudstone and rhyolite. Mudstone clasts are				l						ļ	
	up to 8.0cm across.					Į	l				1	
	From 188.10-189.03m and from 191.48-192.21m there is a				Į	]			]		1	1
	fractured area that features more common veining	1 1		1 1	ł	1	1	1	l	1	1	1
	(including chlorite) and the development of graphite									l		1
	alteration on fracture surfaces.						1		1			Í
	Veining forms as erratic quartz and quartz-carbonate				1		1		ĺ	İ	i	i
	veins from 0.1~6.0cm in width. At 192.00m the veins	1 1		( i	ſ	í		ĺ	Ì	i	i	i
	appear to have a minor chlorite component.			1			ĺ		i	Í	Ì	i
	There may be some chlorite alteration of the sandstone			i i			Ì	Ì	i	İ		l
	associated with the quartz chlorite veining between			i i			i	İ	Ì		1	1
	191.60-192.05m.	1 1		i i		į	ł	1	1	i	;	1
	Bedding measurement:	i i		į i		ĺ	ļ		1		1	 
	186.90m 35degrees	i i		i i		l	ļ	, 	ĺ	ι 	1	ь 
01.80 270.43	CONGLOMERATE			ļ	ļ	ļ	ļ	ļ	ļ	Ì	1	į
	Gray, clastic, bedded									l	[	ĺ
	bedding 38°									l		
	Deauting 30	1			l						1	

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ROM TO	DESCRIPTION	Sample	Interval	Width	Au gpt	Ag gpt	₽b %	Zn %	Cu *	As 🕅	Hg ppm	Sb 9
	;Vns =1/m			<b></b>	ł	+ 		1	1	1	1	
	:vns =)/m 1% gz-carb veining - vein				ĺ	ì	i	i	i	İ	İ	1
	1% pyrite - clasts	i i		i	i	i	1	1	1		1	
	Grey polymictic conglomerate with minor sand and	i i		i	i	i -	1 - Contraction of the second se	1	Ì	1		1
	siltstone interbeds. Clasts are up to 23.0cm across,			i i	i	Í	i –	1 I	1		1	1
	the larger clasts are subangular mudstone, the smaller	i i			Ì	i	i	Ì	1			1
	clasts are much more rounded. Clasts include mudstone,	i i		i	Ì	i	Í	1				
	rhyolite, quartz and reworked conglomerate. Less	i i		İ	Ì	1		1	1		1	
	commonly there are calcareous fossil fragments,	i i				Ì	1	1	l			
	rounded blue chert pebbles and sulphides.	i i		Í	Ì	i	1			ļ		
	The most common sulphide is pyrite, it forms	i i		1	1	1		1				
	subrounded clasts of massive pyrite. Less commonly	i i		Í	1		1					ļ
	pyrite forms discrete blebs contained within rhyolite	i i		1 I	1	1			1		ļ	1
	clasts or as laminations in the larger mudstone	i i		Ì	1	1						
	fragments. At 226,90m there is a single large	i			1	]	1				1	ļ
	sphalerite clast with minor galena inclusions.	j i		l.	1	1			1		ł	
	Quartz carbonate veins are 0.1-2.0cm in width and fill	Í		1	1		1		ł	1		ļ
	fractures that are discordant to bedding and cut	İ			1	ļ	1	Į	1	1		
	individual pebbles.	İ		1	1						•	
	Core to hedding measurements for this interval are:					1						
	210.64m 34degrees	Í			1	1				1		
	220.58m 40degrees	ļ			1		ļ		1			
70 43 293 51	INTERBEDDED MUDS./SILTSTONE		i	1			l		Ì	i		i
0.45 205.51	Gravish-black, bedded, laminated	i		i	1				1			
	bedding 31°	i		Ì	Ì	1		1	1	1		
	2  Vns = 2/m	i		1	1	1						
	1% graphite - coatings	1		1	1					1	ļ	1
	1% gz veining - vein	ĺ		Í	1	1		1				
	1% qz-carb veining - microveins	Í		1	1	1	1					
	1% pyrite - laminations			I	1	1	ļ		1			
	Grey siltstone interbedded with black laminated	i i		1	1	1		1		1		1
	mudstone and pebbly sandstone. The pebbly horizons	i			1				1			
	have clasts up to 1.5cm in width, and are dominated by	i	ĺ		i	1	1	ļ	ļ		1	
	quartz, mudstone and rhyolite fragments. Between	i	ĺ		1	1						
	280.65-283.10m there are flames of mudstone		1	1	1					1		
	penetrating into the overlying siltstone indicating	ĺ	Ì		1	1				ļ		ļ
	the interval youngs up hole. Also in the same area			1	Į	1			1			
	there is evidence of crossbedding.	Ì	1		1			1	1	1	ļ	!
	Between 273.72-273.89m there is a fracture zone	Ì	1	1	1	1				ļ	ļ	ļ
	through a mudstone horizon which has produced graphite		1		1		1			1	ļ	I.
	alteration on fracture surfaces.	İ	1	Į		1			1	1		!
	Pyrite occurs as bands of fine disseminated grains	Î	1			1	ļ					ļ
	parallel to bedding.	l l	1				I	I		1	1	ļ
	Quartz and quartz carbonate veins are discordant to	1	1		ļ		ļ	ļ		1	ļ	ļ
	bedding and range in size from 0.1-0.5cm in width.	j –	1		1		1		1		ļ	1
	Quartz veins are most common around the fractrure	Ì	1	I	1	1				1		Ļ

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FROM TO	DESCRIPTION	Sample	Interval	Width	Au gpt	Ag gpt	₽b %	Zn %	Cu ℁	As %	Hg ppm	Sb %
	zone.		_		 		Ì	1	1	ļ	l .	
	Core to bedding measurements for this interval:	1 1		ĺ	ſ	[	1	1	1	!		ł
	270.85m 27degrees	1 1				1		ļ		ļ		ļ
	283.10m 35degrees			1	1					1	1	
83.51 298.5	7 CONGLOMERATE				Ì		Ì	1	1	1		
	Gray, clastic, bedded			1	1				1			
	bedding 38°	1		1	í	(	1	1	ł	1	1	1
	Frs=1/m :Vns =2/m					1						
	1% qz veining - vein				1		1			1		
	l% qz-carb veining - microveins			ļ	1	1					1	
	1% pyrite - present				1	1	ł	1	1	1		1
	Grey polymictic conglomerate interbedded with	1 1			1	1			1	1		1
	sandstone. The conglomerate contains clasts of	1 1		1	1	1	1	1	1	}	1	ł
	mudstone, quartz, and rhyolite with rare blue chert	<u> </u>				1		1	1	1	1	1
	pebbles. The largest pebbles are of mudstone and are				1						1	
	up to 17.0cm across, they are usually angular to			1	1	1	İ			1		1
	sub-angular.			1	1	1		1			1	
	A repeated sequence of graded bedding at 284.00m	Í Í		Ì	1	1	1	1	1	1	1	1
	indicates the interval is younging up hole.	1 1		1	1	J	J	J		ļ		i i
	Pyrite occurs as laminations in the larger mudstone			1	1	1	1					
	clasts, as blebs in rhyolite clasts and as pebbles of	1 1		1	1	1	1	1			1	
	pure sulphide.			Ì	1	1				1	1	
	Quartz carbonate veins are 0.1-0.7cm in width and are					I			1	1	1	1
	discordant to bedding and cut individual pebbles.	i i		Ì		1	Ì		1	1	1	l
	Core to bedding measurements for this interval:	1 1		J	1	j	1		1		1	
	288.85m 37degrees				Ì	1	Ì		1	l		1
898.57 327.6	7 SILTSTONE							1	1	ì		
	Gray, bedded			I	1	1	1	1		1		
	bedding 25°	1 1		1	1	1	1					
	Frs=2/m : $Vns = 5/m$	) )		1	1					1		
	1% clay alteration - coatings			1	1	1			1	1		
	1% graphile - coatings	1		Į	1	1		1	1			
	1% qz veining – vein	l i			1	1				ļ		1
	l% qz-carb veining – vein	1 1				ļ		1	1			Ļ
	1% pyrite - laminations			1			1			1		1
	Massive grey siltstone interbedded with sandy	}					1					
	conglomeratic and minor mudstone horizons, Flame	1		Í	1	1	1	1	1	1	1	1
	structures and graded bedding through the interval				1	1		ļ	1	1		
	indicate younging up hole. Ripple marks are clearly			1	1			1	1			
	visible at the contact between a sandy and mudstone	1 1			ł			ļ				1
	horizon at 308.02m indicating younging up hole.				1	1	1	1		1		1
	Pebbles are up to 3.0cm in width and are of mudstone,						1					1
	quartz and rhyolite, the larger clasts are mudstone.	í í	Ì		1	1	1	1	1	1	1	1
	At the base of the andesite dyke there is a highly				ł	1			1		1	
	fractured zone which is infilled by quartz carbonate	1 1	1		1	1		1	1	1		

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FROM TO	DESCRIPTION	Sample	Interval	Width	Au gpt	Ag gpt	Pb %	Zn %	Cu 🗞	As %	Hg ppm	Sb %
^	veins.						1	-{	1	1		1
	Veining consists of discordant quartz and quartz	i i		i	İ	i	j	i	İ	Í	i	i -
	carbonate veins from 0.1-1.0cm in width.	i i		i	i -	i	Ì	Ì	i i	İ	Í	
	Pyrite occurs as laminations in the mudstone horizons	i i		i	1	1	i	Í	i	Ì	1 I	Ì
	and less commonly as pebbles in the conglomerate.	i i		i	İ	1	ì	Ì	i	Ì	1	ĺ.
	At 298.72m and 303.78m there are thin fracture zones	i i		i	1	i	Í	j	1	Ì	1	ĺ.
	infilled with clay and graphite alteration.	i i		i	i	1	İ	Ì	Í	Ì	1	Ì
	Core to bedding measurements for this interval:	i i		Í	Ì	İ	Ì	İ	1	Ì	1	1
	307.39m 29degroes	1 1		1	1		1	1		1		
	322.38m 22degrees	( (			1	Į	1	1	1	{	1	 
<319.04-32	21.77> ANDESITE DYKE/INTRUSIVE				1				1		1	
	Grayish-green, chilled margin	- I İ			1	1	1	1	1	1		
	contact 30°	1 1		1			1	i	ļ	i	1	
	Frs=1/m : $Vns$ =18/m			I	ļ	1	1	I	ł	1		!
	1% qz veining - vein	I 1		ļ		1		1	1			
	10% qz-carb veining - vein	1 1			1	1					1	
	Massive green-gray andesite dyke with chill margins at	1 1				1	1			1		i
	the contact with the surrounding siltstones. In the				l			ļ			1	1
	centre of the dykes there are scattered randomly	<u> </u>			ļ				1			
	oriented carbonate altered laths.					1		1	1	1	1	(
	from 319.87-320.45m the two dykes are separated by a						ļ	ļ				ļ
	highly fractured interval of siltstone. Fractures are						Í			!		1
	commonly infilled by quartz and quartz carbonate					1	ļ		1	!		ļ
	veins.				l (		+	ł	ł	1	}	l T
27.67 389.5	55 CONGLOMERATE	i i		i			j	i		i -	ì	i
	Gray, clastic, bedded			1	1			1	i			
	bedding 33°					1	1	i i		1	ļ	
	Fra=3/m ;Vns =3/m					1						
	1% clay alteration - coatings	1 1		1	ł	1	1	1	1	1	ļ	
	1% graphite - coatings	I I				1						
	1% carbonate veining - microveins									1		i
	2% qz-carb veining - vein			ļ	1	ļ						ļ
	1% pyrite - clasts			ļ		1	ļ			1	1	ļ
	Grey polymictic conglomerate with mudstone, quartz and			}		1	ļ		ļ		ļ	j.
	rhyolite clasts. Less common are blue chert pebbles,			ļ	ļ	ļ					1	
	calcareous fossil fragments and pyrite fragments.				1	1	!		!	1	1	ļ
	Locally the malrix has been replaced by white								!			ļ
	carbonate. Pebbles are up to 12.0cm across, more				1	1	1		!			1
	commonly they average between 0.5-2.0cm. The larger	!!			1	ļ	1		ļ	1		ł
	fragments are usually of angular to subangular	ļļ					1	1				1
	mudstone.								ļ	1		ļ
	Interbedded with the conglomerate are sandstone and				ļ	1				Į.	1	!
	siltstone horizons and occasionally mudstone.								1	1		ļ
	Sandstone horizons at 360,65m and 370,60m display			ļ	ļ	ļ	ļ	ļ	ļ	ļ	!	!
	graded bedding that indicates the interval is younging				1	1	1		!	Į.	[	[

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HOLE: MP971

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FROM TO	DESCRIPTION	Sample	Interval	Width	Au gpt	Ag gpt	Pb 😵	Zn 🗞	Cu 😵	As %	Hg ppm	Sb %
	up hole. Mudstone from 378,60-378.75m has pyrite									1	l	
	laminations parallel to the bedding.	i i		Ì	l	Í	1	1	1	1	1	[
	From 382.60-382.80m there is a narrow chilled andesite	i i		1	1	1	1	1		1		1
	dyke.	i i		Ì	1	1	1		1		1	l
	Discordant quartz-carbonate and carbonate veins also	1		1		1	Į	1		1		
	cut individual clasts. Veins range in size from			1	1		1	1				1
	0.1 0.7cm in width, the larger veins are of quartz	J J			Į.	1						
	carbonate.			1		l				[	1	ĺ
	Pyrite occurs as pebble-sized fragments of pure				1	Į	1	1				
	pyrite, laminations in mudstone clasts or horizons and				I	1		I		1		
	as blebs in some rhyolite fragments.				1	1	1	1				
	Between 328.75-328.95m there is a large broken zone			Į								ļ
	that in part represents a large mudstone clast.				ļ	1			ļ		1	1
	Between 352.18-352.52m a broken zone associated with a				Ì	1		ļ		ļ	[	[
	large mudstone clast also has some associated graphite				ļ	ļ		ļ		1		ļ
	and clay alteration.				ļ	1				!	ļ	
	Core to bodding angles for this interval are:			ļ	1	!						
	335.90m 27degrees			ļ	1	1	1				!	ļ
	346.10m 33degrees			1	ļ	ļ	!		ļ			
	360.50m 22degrees	[ [		1	ţ	!	1	1	1	!	-	1
	378.70m 40degrees					1		1	1		1	
<386.16-389	.55> ANDESITE DYKE/INTRUSIVE	i i		ĺ	i		1	Ì	1	İ	Ì	į –
	Grayish-green, chilled margin, clastic	1 1			1		1		1			
	contact 35°	I I			ļ			Į				
	Frs=1/m :Vns =2/m	1 1		ł	1	1	1		1	1	Į	1
	1% qz-carb veining - vein			I	1	ļ						
	Three grey-green andesite dykes intruded the				ļ		ļ				1	ļ
	conglomerate described in the main interval. The dykes				1	1	1					
	are from 386.16-387.10m, 388.10-388.55m and	ļļļ		I	1	ļ	ļ			ļ		ļ
	389.21-389.55m. The dykes have large chill margins and			ļ	1	ļ	ļ	Į				1
	amygdules. There is some banding developed in the			ł	1	!	}	ł	1	1	1	1
	dykes that is parallel to the contact with the	ļ		ļ	1	ļ	ļ				ļ	ļ
	surrounding conglomerate. Red oxide is developed as	ļ		ļ	1	ļ	ļ					
	discrete blebs through the dykes. The dykes are	ļ				ļ	ļ	ļ	!	ļ		1
	strongly magnetic. The upper contact with the	I I				1					ļ	1
	conglomerate has a core to bedding angle of 35	ļ				-	-					1
	degrees.					-	-	1		1		1
	Quartz carbonate veins are preferentially formed in			1	1	-				ł	-	ł
	the conglomerate and range in width from 0.1-2.5cm.			1	1					1	l	
9.55 488.78	8 INTERBEDDED MUDS./SILTSTONE			1	į	İ	ļ		Ì	i	į	Ì
	Grayish-black, bedded, clastic							1		1		ļ
	bedding 33°	1					1	1	1	ļ		1
	Frs=2/m :Vns =3/m				1	1	1	1		[	[	ĺ
	1% carbonate alteration - matrix				1		1	1		ļ	1	1
	1% clay alteration - coatings			1	1							

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ROM TO	DESCRIPTION	Sample	Interval	Width	Au gpt	Ag gpt	Pb %	Zn %	Cu % 	As %	Hg ppm	SD % 
	1% graphite - coatings	l I			l	i	ł					į
	1% gz veining - vein			1		1	1				1	ļ
	2% gz-carb veining - vein	i 1			1		1			ļ	ļ	ļ
	1% pyrite - clasts	i i			1	1		1	1	1		1
	Grey sandstone and siltstone interbedded with black				1		1		1	ļ		
	mudstone and grey conglomerate horizons. The	i i			1	1						
	sandstones and siltstones are only weakly bedded and				1	1						
	the mudstone tends to be massive. The conglomerate				1							
	horizons are predominantly composed of mudstone,											1
	rhyolite and quartz fragments with minor amounts of			1		ł				1		!
	pyrite and blue chert pebbles. Mudstone clasts are	1 1				1	ļ					ļ
	generally extremely angular and locally have the				1	1	i	1	ļ			
	appearance of rip up clasts.	1		1		1	1	1				ļ
	The largest clasts are up to 13cm across, they are			l	1	1	1				l.	
	usually midstone. Locally the siltstone-sandstone and				1	1						ļ
	conglomerate horizons have a carbonate matrix. Some				1	1						ļ
	siltstone-sandstone horizons display crossbedding and								ļ			ļ
	scour marks into the underlying mudstones, the general				1	1			1			
	sense is that the interval is younging up hole.			1					ļ		}	!
	Below 418.35m the conglomerate horizons become more						1					ļ
	common and the mudstone horizons become more				I	1			1			ļ
	laminated. Also in this area some conglomerate				1					1	ļ	ļ
	horizons have a mudstone matrix.				1	1	1					ļ
	From 434.48-434,69m there is a small andesite dyke	I 1			1	ļ						1
	that displays internal banding and coarse feldspar.				1	1				ļ		
	From 393.12-394.44m at 424.35m, 454.52m, 460.90m and	1 1			ļ			ļ	ļ	ļ		İ
	470,50m the core is very fractured and associated with					1				1		ļ
	clay and graphite alteration.			1		1						1
	Quartz and quartz-carbonate veins are from 0.1-7.0cm				1	ļ	1	ļ	1	1		
	in width. Some quartz veins display cockscomb growth				1	1	ļ					1
	in from the vein walls, these are commonly infilled by	1 1			1						ļ	ļ
	carbonate. The veins are most common around the					ļ		ļ			1	!
	fracture zone at 393.12-394.44m and in a sandstone						ļ	ļ				!
	horizon toward the end of the interval.				1	1		ļ	ļ		ļ	ļ
	Pyrite occurs as fragments in the conglomerate	1 1			1	ļ	ļ	ļ	ļ			ļ
	horizons or as minor weakly developed laminations in							ļ	1		ļ	ļ
	the mudstones.				1	ļ	ļ	1			ļ	1
	Core to bedding measurements for this interval are:				1		1	ļ	ļ			!
	398.60m 27degrees				1	ļ					1	!
	426.50m 35degrees	i l				1	ļ	-	1	ł		
	441.80m 33degrees	1		ļ	1	1			!	ļ	ļ	1
	470.40m 45degrees			ļ		1		-	1	1	1	1
	488.70m 42degrees	i		l						1		
B.78 685.90	CONGLOMERATE					ĺ					i	į
	Gray, clastic, bedded	<u> </u>		ļ	1	1	1		1	-	ļ	ļ
	bedding 40°			1	ļ	1	1	1				1

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FROM TO	DESCRIPTION	Sample	Interval	Width	Au gpt	Ag gpt	թե ե	Zn %	Cu %	As ¥	Hg ppm	Sb %
	Frs=1/m :Vns -3/m				<u>↓</u>		+	+	1	+ I	<u> </u>	<u> </u>
	1% carbonate alteration - matrix	i i		i i	1	í	i	i	i	i	1	i
	1% Clay alteration - coatings	i i		i i	i	Ì	ł	ļ	i	1	i	ł
	1% graphite - coatings	i i		i	i	ł	ļ	ĺ	i	1	i	
	1% Carbonate veining - vein	i i		i i		1	i i	Ì	i		ł	
	1% qz-carb veining - vein	i i			i		i	i	1	í		I I
	1% pyrite - clasts	i i		j	;	j	1	Ì	i			ł
	Grey polymictic conglomerate consisting of mudstone,	i i		i	i	1	i	ĺ	í	ĺ	í	í
	quartz and rhyolite fragments with minor amounts of	i i		1	1	i -	i i	Ì	i	i i	ł	i
	pyrite fragments and blue chert pebbles. Interbedded	i i		Ì	i	í	i	i		i	i i	ł
	with the conglomerate are occasional sandstone	i i		í	1	i	i i	1	i	1	ł	i
	horizons. The sandstone and conglomerate horizons show	i i		i	1	i -	i	i	ł	ł	i	ł
	large scale graded bedding that indicates the interval	i i		í	ļ	i	i	i	, 	i	1	1
	youngs up hole. Locally the matrix of the conglomerate	i i		i	i	i -	i	ł	i i	ł	i	ł
	has been replaced by carbonate.	i i		i		i	í	1	i	1	ł	ł
	Between 492,19-493,19m there are two large mudstone	i i		1	;	j	j	j	ł	1	ļ	
	clasts separated by a thin conglomeratic layer. The	i i		i i	l	i	i	1	1	í	í	1
	upper contact with the conglomerate appears	i i		í	1				ł	ł	ł	I
	conformable but the lower contact clearly truncates	i i		1	1	ì	i	i		1	i	ł
	the laminations in the mudstone.	i i		í	i I	i	i	Ì	i i	i	ł	1
	Elsewhere the largest mudstone clast is 20.0cm across,	i i		i	1	i -	1	i	i	i	ł	i
	mudstone forms the largest clasts and they tend to be	i i		i	1	í	i	Ì	i	i	i	i -
	angular. The larger mudstone clasts have carbon	i i		ì	i	i	ì	i	i	i	i	i
	alteration on their fracture surfaces.	i i		i	i	i	i	Ì	i –	i	ì	i
	From 543.10-543.48m there is a fault zone through a	i i		i	i	i	į –	i	i	i	j –	}
	siltstone horizon. Associated with this there is	i i		i	i	í	i	i	i	1	i	i
	intense fracturing, clay and graphite alteration,	i i		i	ĺ	i	i	i	i	Ì		ł
	Between 573.85-574.80m, 594.75-595.30m at 578.05m and	i i				i	i	i	i	i	i	Ì
	579.75m the core is broken and associated with minor	i i		Ì	i	i -	í	i	ì	i	i	
	clay and carbon alteration on the fracture surfaces.	i i		i	i	i	i	i	i	i	i	ì
	At 590.70m there is a small zone of intense carbon	i i		Í	Ì	i	i	i	i i	i	i	i
	alteration apparently associated with a fracture that			i		i	İ	Í	i	í	i	i
	has been filled by a quartz carbonate vein.	1 1		1	Ì	Ì	İ	Í	i	i	i	i
	From 546.57-549.08m the conglomerate has a muddy	1 1		j.	j	j –	1	j	i	i	Ì	i
	matrix. This is associated with mudstone and siltstone					1	Ì	1	i	i	Í	í
	horizons.			I	ĺ	Ì	1	Ì	i	i	Í	i
	Veining consists of erratic quartz-carbonate veining	1 1		1	1	1	Ì	Í	i	İ	İ	i
	with vein widths from 0.1-1.0cm. Veining cuts across			1	1	1	1	Ì	i	i	i	i
	individual pebbles.	1 1		ſ	1	1	Î	Ì	i –	i	i	i
	Pyrite occurs as blebs in rhyolite fragments or as	I I				1	1	1	1	1	Ì	i
	pebbles of sulphide throughout the conglomerate.	1 1				1		1		Ì	i	i
	Core to bedding angles for this interval:				1	1	1	i	1	i i	Ì	İ
	499.95m 41degrees	1 1		1	1	1	1	1	j.	1	j	j
	511.20m 45degrees			1		1	1	İ	i	İ	i	i
	521.20m 39degrees	1 1		1		ł	1	1	1	i	i	i
	551.20m 37degrees	1 1			1	1	Ì	i	i	i	i	i
	582.35m 40degrees	1 1		1	ĺ	1	1	i	i	i	i i	i

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FROM	то	DESCRIPTION	Sample	Interval	Width	Au gpt	Ag gpt	Pb %	Zn %	Cu 🕏	As %	Hg ppm	5b %
		A small andesite dyke, from 629.30-630.03 m,				<u>  ·· · ·</u>	1			1		1	1
		interjects a portion of the larger grained	i i		i	ĺ	Í	i	Ì	Ì			
		conglomerate.	ÌÌ		Ì		Ì	Ì	Ì	1		i	1
		Several fining upwards sequences occur within the	i i		i	İ	i	Ì	1	1			1
		interval, some of which run from coarse pebble	1 1		I	1	1	ł	1	1			•
		conglomerate to fine black mudstones.			I		1					1	1
		Contact angles include 50 degrees to c.a.			I		1	1	1		ļ		
		Another andesite dyke occurs between 608.92 and 609.55			1	ļ	1						
		m.								1			
85.90	691.50	INTERBEDDED MUDS./SILTSTONE			i			1	i			i	ì
		Grayish-black, bedded	1 1		1	1							1
		bedding 50°	1		I		1						ļ
		Frs=1/m :Vns =1/m			1		1						1
		1% carbonate veining - vein					ļ		1				
		1% pyrite - laminations			ļ		1				ļ	ļ	ļ
		Grey to black laminated and interbedded mudstones and				ļ					!		!
		sandstones.					1	!				ļ	!
		Pyritic laminae within the mudsLone range in thickness					1	!	1			1	1
		to 1 cm, and are generally at 50 degrees to c.a.			-				-				
		Minor amounts of carbonale veining to 1 cm in					-		-	1			
		thickness occur sporadically within the interval.			-								-
		Sandstones range from grit size to 1 mm in diameter,							1				
		and includes some larger fragments of mudstone. Bedding contacts are at 50 degrees to c.a.			1			ł			1		1
		Upper contact is at 50 degrees to c.a.			ł								ł
		upper concact is at 50 degrees to t.a.			l		1	i	i		1	l	ì
91.50	710.75	CONGLOMERATE	1 1			ļ			1	1		1	1
		Gray, clastic			1							-	
		Frs=3/m :Vns =10/m											
		10% carbonate alteration - vein			ļ								
		10% carbonate veining - vein Grey polymict pebble conglomerate, fining to mudstone	1						1				
		in sporadic areas of the interval.			ł						1		ł
		Chert, mudstone, and andesite pebbles are set in a			Ì	1			1			ł	ł
		slightly carbonaceous matrix.			ł	Ì		ł		ł		ł	1
		Fragments are typically rounded to subangular in			ł	1	1	Ì				1	1
		shape.	i i		ł	Ì		i				ì	i
		Carbonate veining to 1 cm is found throughout the	i i		i	ì		i	i	i	i	i	i
		interval, oriented randomly.	į į		Ì		ļ	Ì	į	Ì	ļ	1	į
10.75	1112.68	B LAMINATED MUDSTONE		I		1	1		1		1		ł
		Black, laminated	i i		í	í	i	i	i			i	i
		bedding 40°:bedding 01°	i i		i	i		i	í	i	Ì	i	i
		Prs=2/m :Vns =2/m	i i			i		i	i	í	í	í	í
		1% carbonate alteration - vein	i i			i	i	i	i	i	i	i	i
		1% clay alteration - gouge	i		í	i	i	i	í	ì	i	i	i

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FROM TO	DESCRIPTION	Sample	Interval	Width	Au gpt	Ag gpt	Pb 🕏	2m %	Cu %	As %	Hg ppm	Sb ≵
	5% graphite - coatings				1		Ì	1	1	1	1	
	1% carbonate veining - vein	i i		i	İ	İ	Ì	i	i	i	i	i
	1% pyrite - laminations	i i		Í	i	i	Í	i	Í	Í	Ì	ĺ
	Black ash laminated mudstone (Bowser). Minor	i i		i	İ	i	Ì	İ	i	i	i	İ
	crossbedding is visible in the grey ash laminations.	i i		i	Ì	İ	Ì	1	Ì		1	į.
	At 778.50m there is a siltstone horizon that shows				Ì	Ì	1	1	Ì		İ	
	graded bedding and flame structures from the	i i		1	Ì	Ì	Ì	Ì	Ì	Í	1	
	underlying mudstone. These indicate that the interval				1	1	1		1	1	1	
	at that point youngs up hole. Below 886m there are				1	ł	1				1	
	occasional flame structures developed between mudstone	1 1		1	1		1	1			1	1
	and ash horizons, these also indicate the interval				1	I	1				1	
	youngs up hole. Below 945m there are occasional					1	1	1	1	1	+	1
	dropped pebbles that deform the underlying mudstone				1	1		ļ				
	and indicate the interval youngs up hole.					1	1	1	1	1	1	
	Carbonate veins up to 1.0cm in width are commonly				1	1	1	•	1	1	1	
	associated with fracture zones in the mudstone.				1	1			1	1		ļ
	From 819.70-820.45m, 841.25-842.05m, 844.12-844.44m,				1	1	1		1			
	856.33-859.40m, 910.30m, 1054.55-1055.05m, 1066.55-				1	1	1					
	1067.57m and 1106.69-1106.96m, Lhere are major				1	1	1			1	1	
	fracture zones that are associated with common					1					1	
	development of carbon alteration and less commonly				1	ł		1				
	clay gouge alteration.					1						
	Minor amounts of pyrite occur as bedding parallel					1	1		1	1	ļ	
	laminations, those appear more regularly below 877m				1	1	1		1	1		
	replacing pale grey ash laminations. Locally pyrite									ļ	ļ	
	forms layers of euhedral crystals up to 0.3cm.				1	1				ļ.		ļ
	Carbon alteration is present along many of the			1				1		1	ļ	
	fracture surfaces.				1	1		1				
	The cast of a small snail like fossil is seen on the				ļ	1		ļ				
	bedding surface at 809.35m.			ļ	ļ	ļ		1	ļ	ļ		
	Core to bedding angles for this interval:			ļ	1	ļ			1	1		ļ
	740.30m 22degrees 904.55m 27degrees	ļļ		ļ	ļ	1						
	758.98m 24degrees 918.45m 17degrees				ļ	ļ	ļ	ļ	ļ	ļ	ļ	
	780.09m 29degrees 932.45m 37degrees				ļ			ļ	!		ļ	
	792.30m 38degrees 956.95m 22degrees				ļ	1		!	ļ	ļ	1	ł.
	812.90m 7degrees 981.30m 25degrees				!	i i	ļ	ļ	ļ	ļ		!
	820.55m Odegrees 999.52m 35degrees				!	ļ		ļ	!	ļ		Į.
	825,75m 8degrees 1017.78m 19degrees	ļ			ļ	ļ	ļ	1	ļ	ļ		
	B32.45m 8degrees 1039.00m 1Bdegrees	ļ ļ		!		1	ł	1	!	!	ļ	1
	837.65m Odgerees 1063.51m 33degrees	ļ		!		1	1	Į.	1	ļ	ļ	ļ
	846.60m 27degrees 1078.75m 70degrees			!				1	!	ļ	ļ	1
	853.25m 38degrees 1084.78m 70degrees	ļ		!		ļ		ļ	1	ļ	ļ	
	865.20m Odegrees 1103.07m 69degrees	ļ		!	!		1	!		1	!	ļ
	877.50m 25degrees 1109.70m 67degrees	ļ		!	1	1	!	!	1	1	ļ	!
	Bedding becomes parallel to the core axis at B20.55m	ļ		!	1		1	1			ļ	!
	indicating a fold axis. The bedding becomes parallel	ļ		!	1	1	!	!			ļ	!
	to the core axis at 837.65m but this is associated			1	ļ	!	ļ	!	ļ	1	ļ	1

HOLE: MP971

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## HOMESTAKE CANADA - Eskay Creek Project

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## PAGE 14 of 14

PROM TO	DESCRIPTION	Sample	ínterval	Width	Au gpt	Ag gpt	Pb %	Zn %	Cu %	As %	Hg ppm	Sb %
	with a fracture zone and may not be a true fold axis.	——————————————————————————————————————			+	- <del> </del>	+	+	+	+	<u> </u>	
	The interval appears to consistantly young up hole so	i i		l l	ł			1	1	1		1
	the folding may simply be a flexure. The unit shows a	i i			i			1				1
	steady steepening in the bedding to 65-70 degrees from	i i		1			1	1				1
	1080.00 m to the end of the unit.			1	ì		1	1	}	ŀ		1
	Scattered graphitic slips with local fault gouge at 20			ł		1	4		1	l L		
	to 40 degrees to the core axis are present from			ł	4							
	1104.70-1107.18 m.				i i		1		1			ł
		i i		í					ì	Į		}
112.68 1114.0	4 MUDSTONE FAULT GOUGE				ļ		İ	1	i	İ	i	İ
	Black, gouge				ł			İ	i	í	i	Í
	:Vns =15/m				È	1	i	i	i	i	i	i
	5% carbonate alteration - vein	l İ		Ì	Í	Í	í	i	i	í	ì	ļ
	5% carbonate veining - vein	1 1		Í	i	i	i	i	i	i	1	i
	1% pyrite - disseminated			i		İ		i	i			
	Zone of black graphitic fault gouge cutting the unit	i i			i				¦.	1	1	) 
	at 20-30 degrees to the core axis. Core is highly	i i		i i	i			}	ł		1	1
	friable with local rubbly sections and can be easily	i i		i i	i –				1	ł		1
	cut by a knife.	i i		1	i			1	1	1		1
	The unit displays scattered thin white	i i		}	;	1	}	}	1	1	1	1
	quartz-carbonate veins up to 1.0 cm in width following			1	i	i	1	1	1	1		[
	the fabric and also cross-cutting at 40-50 degrees -	i i					1					
	becoming quite fragmented in places.			i i			1	1	1	1		
	Drill rods became stuck with a fault at 1114.04 m and						1	1	ł	1		
	the hole was terminated.	i i			1		1	1	1	1		
(eoh)				1	1		1	!	!	!		

01/26/98

Appendix C

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**Statement of Qualifications** 

## **Statement of Qualifications**

I, THERESA M. FRASER of 301-1296 West 70th Avenue, Vancouver, British Columbia, do hereby certify that:

1. I am presently employed by Homestake Canada Inc. of 1100-1055 West Georgia Street, Vancouver, British Columbia as a Geologist.

2. I graduated from Queen's University, Kingston, Ontario (1992) and hold a B.Sc. (Honours) in geology.

3. I graduated from The University of British Columbia, Vancouver, British Columbia (1995) and hold a M.Sc. in geology.

4. I have been employed in my profession as an Exploration Geologist in Canada since graduation.

5. I have no interest in the property described herein, nor in the securities of any company associated with the property, nor do I expect to acquire any such interest.

Signed at Vancouver, British Columbia this 4th day of March, 1998

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THERESA M. FRASER, M.Sc.

#### STATEMENT OF QUALIFICATIONS

I, Ian R. Cunningham-Dunlop, of the City of North Vancouver, Province of British Columbia do hereby certify that:

- 1. I am a professional geologist residing at 2537 Sechelt Drive, North Vancouver, British Columbia, V7H 1N7.
- 2. I am a graduate of Queen's University, Kingston, Ontario with a B. Sc. (Eng.)(1984) degree in geological engineering.
- 3. I have been practicing as a geologist for over 17 years.
- 4. I am familiar with the material covered by this report having reviewed the data and personally supervised the field work from the 1997 field season.
- 5. I do not have any direct or indirect interest in the Mack Property nor do I expect to receive any in return for conducting the work or preparing this report
- 6. Permission is granted for the use of this report, in whole or in part, for assessment and qualification requirements, but not for advertising purposes.

Dated at Vanouuver, British Columbia This 4<sup>th</sup> day of March, 1998



#### STATEMENT OF QUALIFICATIONS

I, PERCY PACOR of 1457 Paisley Road, in the municipality of North Vancouver, British Columbia, hereby certify that:

- 1. I am a graduate of the University of British Columbia (1978) and hold a B.Sc. in Geology.
- 2. I am a fellow of the Geological Association of Canada.
- 3. I am a Member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- 4. I am a Licensee in good standing of the Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories.
- 4. I have been employed in my profession as an Exploration Geologist in Canada and Papua-New Guinea since graduation.
- 5. I am presently employed by Homestake Canada Inc. of 1100-1050 West Georgia Street, Vancouver, B.C. as a Senior Project Geologist.
- 6. The work described in this report was personally supervised by the author in the field..

Signed at Vancouver, British Columbia this 4th day of March, 1998

PERCY PACOR B.Sc., P.Geol., P.Geo., F.G.A.C.

