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REPORT OF ACTIVITIES ON THE CONTACT CREEK PROPERTY (Canyon 26 to 29)

LIARD MINING DIVISION NTS: 104 G 4

OWNERS: Homestake Mineral Development Company1000 - 700 West Pender StreetVancouver, B.C.U Image: Street Street Vancouver, B.C.

and

Equity Silver Mines Ltd. Suite 13 - 1155 Melville Street Vancouver, B.C.

OPERATOR: Homestake Mineral Development Company

Darcy Marud May, 1990

> Distribution HMDC - original Equity - 1 copy Gov't - 1 copy

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7.0 SUMMARY AND RECOMMENDATIONS

The Contact Creek property is located approximately eighty - eight kilometers southwest of Telegraph Creek, B.C. and four kilometers east of the Stikine River. The property is comprised of the Canyon 26, 27, 28 and 29 mineral claims totalling eighty units.

Exploration on the Contact Creek property returned one sample containing 0.207 oz/ton gold and 3.3 ppm silver from a two to three meter wide quartz vein located near the centre of the property. The extent of the vein is not fully known due to overburden and talus cover. The remainder of the property did not return any significant results.

A program of mapping, rock sampling, soil sampling and ground geophysics should be implemented on a flagged grid to further assess the economic potential of the area that returned 0.207 oz/ton gold from a two to three meter wide quartz vein. If warranted, the vein should be trenched and sampled. The area north of Contact Creek should be prospected in an attempt to find the source of the skarn boulders found in the valley of Contact Creek.

1.0 INTRODUCTION

1.1 LOCATION

The Contact Creek property is located approximately 88 kilometres southwest of Telegraph Creek (Figure 2.1 and 2.2). The claims are centered at 57° 10' north latitude and 131° 37' west longitude on NTS map sheet 104G/4.

1.2 PHYSIOGRAPHY

The claims cover a very steep sided mountain on the north side of Jack Wilson Creek. Elevations vary from 240 meters at Jack Wilson Creek to 1490 meters at the mountain peak. Treeline is around 1060 meters on the south facing slope but drops to 700 meters on the north and east slopes. Vegetation includes spruce trees with alders and devil's club forming a dense undergrowth. The Stikine River is located three kilometres to the west.

1.3 ACCESS

Access to the property is via helicopter from Telegraph Creek, which is connected to Dease Lake by an all-weather road and serviced by fixed wing flights from Smithers, B.C. The Stikine River provides navigable water access from Wrangell, Alaska north to Telegraph Creek. A gravel airstrip capable of handling aircraft as large as DC-3's is located at the Galore Creek camp just south of the Scud River.





2.0 CLAIM STATUS

The Contact Creek property consists of four claims totalling sixty - six units. The claims were recorded on June 28, 1988 and are owned by Homestake Mineral Development Company and Equity Silver Mines Ltd. Current claim data is as follows:

CLAIM	UNITS	RECORD#	RECORD	EXPIRY
Canyon 26	20	4730	28/06/88	28/06/90
Canyon 27	20	4731	28/06/88	28/06/90
Canyon 28	20	4732	28/06/88	28/06/90
Canyon 29	20	4733	28/06/88	28/06/90

3.0 EXPLORATION HISTORY

There are no records of previous work on the property, but the area immediately to the east has seen a lot of work both past and present. An anomalous stream sediment sample from the B.C. Regional Geochemical Sampling program of 1988 is located just east of the property on Jack Wilson Creek.

4.0 **REGIONAL GEOLOGY**

The property lies on the boundary between the Coast Plutonic Complex and Intermontane Belts and is underlain by rocks of the Stikine terrane. The terrane in this area can be divided into four tectonostratigraphic packages: a Late Palaeozoic to Middle Jurassic island arc suite represented by the Stikine assemblage of Monger (1977) and the Stuhini Group (Kerr, 1948); Middle Jurassic to early Late Cretaceous successor-basin sediments of the Bowser Lake Group (Tipper and Richards, 1976); Late Cretaceous to Tertiary volcanic arc assemblages of the Sloko Group (Aiken, 1959); and Late Tertiary to Recent post - orogenic plateau basalts of the Edziza and Spectrum Ranges.

Three stages of plutonism are recognized in the area. The Hickman batholith is composed of Early to Middle Triassic quartz monzonite to quartz diorite. The Yehiniko and Galore Creek Intrusions are composed of quartz diorite to syenite of Early to Middle Jurassic age. Numerous dykes and sills of monzonite to diorite of Tertiary age occur throughout the project area.

These rocks have undergone multiple stages of deformation, forming a complex structural pattern which is complicated by large differences in the competence of the different units. North and northwest trending normal faults are dominant and are cut by narrow west - trending extensional faults (Souther, 1972).



5.0 PROPERTY GEOLOGY

The property is underlain by sediments and andesitic volcanic rocks of the Upper Triassic Stuhini Group. These rocks are intruded by medium grained diorite of the Coast Intrusive complex. Locally, at the intrusive contact, the sedimentary rocks are hornfelsed.

6.0 EXPLORATION PROGRAM

6.1 GEOLOGIC MAPPING AND LITHOGEOCHEMICAL SAMPLING

Geologic mapping on the Contact Creek property consisted of traversing all major creek drainages and areas of good rock exposure. Altered and mineralized zones and prominent intrusive contacts were followed up in more detail. All lithologies and major structures were plotted on base maps at a scale of 1:10,000 (Figure 4).

During the course of the program, a total of thirty - two rock samples were collected from altered and mineralized zones. All sample locations are plotted on Figure 5g.

The exploration program was carried out as a follow up of work completed during June, 1989 (B.C. Assessment Report 19064).

6.1.1 Results and Interpretations

The western half of the property, (Canyon 26 and 27), is underlain by a medium grained hornblende diorite. The intrusive is generally massive and is composed of approximately 50% plagioclase, 15% K-spar, 20% quartz, 10% hornblende and 5% biotite. Occasionally, the unit is cut by white bull quartz veins containing a trace pyrite. Samples 31761, 31085 and 31806 were collected from veins of this type and returned .059 oz/ton, <5 and <5 ppb gold respectively. Values for all other elements were not anomalous.

Along the north south claim line separating Canyon 27 and 28 and Canyon 26 and 29, the diorite has intruded sedimentary rocks at the north ends of the property and volcanic rocks at the south. Sedimentary rocks are typically hornfelsed and weather a rusty orange to yellow which can be caused by oxidation of 1 to 5%, fine-grained disseminated pyrite. Sampling of the hornfelsed rocks returned the following results:

SAMPLE NO	Au (ppb)	Ag (ppm)	Cu (ppm)
31724	<5	<0.2	53
31725*	378	1.36 opt	95
31726	<5	0.3	64
31727*	6	<0.2	13
31728	<5	0.2	54
31768	<5	<0.2	168
31802	<5	0.2	8
31803	7	0.2	134
31804	9	0.3	43
31964	<5	<0.2	74
31965	55	4.3	65

* Denotes quartz vein.

Volcanic rocks are exposed on the Canyon 28 and 29 claims and consist of fine - grained andesitic tuffs that are locally siliceous to silicified. They generally contain traces of pyrite and pyrrhotite but in siliceous and silicified sections, pyrite content can be as high as 5% and pyrrhotite, 1%. Sampling of this lithology returned generally poor results for all elements. Sample 31751, however, returned 0.207 oz/ton gold and 3.3 ppm silver. This sample was taken from a 2 to 3 meter wide, milky white, east-trending quartz vein. The vein was traced for approximately 50 meters before it was lost under talus cover.

Numerous skarn boulders were discovered in the valley of Contact Creek. The boulders varied in size from 0.5 to 1.0 meter in size and were generally rounded. Typically the boulders contained an assemblage of calcite, actinolite, quartz \pm epidote with 10 to 40% massive pyrrhotite, 1 to 5 % pyrite and trace to 5% chalcopyrite. The boulders appear to be sourced somewhere north of the Canyon 27 claim. Sample results are tabulated below:

SAMPLE NO	Au (ppb)	Ag (ppm)	Cu (ppm)
31663	6	0.5	284
31701	10	1.7	1928
31744	51	4.1	135
31746	24	6.8	3382
31766	11	1.2	118
31767	162	1.9	953

Other samples of interest on the property include:

31745:Float sample from Canyon 28 consisting of brecciated quartz and calcite with traces of galena, chalcopyrite and pyrite. The sample returned: Au 18 ppb, Ag 9.3 ppm, Cu 188 ppm, Pb 197 ppm.

31730:Float sample from Canyon 29 consisting of quartz-carbonate veined, malachite stained andesitic tuff. The sample returned: Au 230 ppb, Ag 3.2 ppm, Cu 12339 ppm.

In general, the most promising values come from milky white, quartz veins that crosscut all lithologies on the property.

8.0 **REFERENCES**

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Ney, C.S. and Hollister, V.F. (1976): "Geological Setting of Porphyry Deposits of the Canadian Cordillera" in Porphyry Deposits of the Canadian Cordillera, Special Volume 15, pg 21 - 30

Souther, J.G. (1972): "Telegraph Creek Map Area, B.C.", GSC Paper 71-44.

APPENDIX I

(Sample Descriptions)

CONTACT CREEK (CANYON 26 - 29)

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	SAMPLE	NO	TYPE	DESCRIPTION	MINERALIZATION
	CC-28	31663	float	quartz boulder	40% po,trace cpy and py
		31701	. float	diopside-actinlite skarn	40% po, 1% cpy
	CC-29	31702	grab	gossanous granodiorite	2% po, 2 to %5 py
		31722	grab	quartz vein	
	CC-28	31723	silt		
-		31724	grab	greywacke	5 to 7% f.g. py stringers
		31725	grab	quartz vein	1% galena, 3 to 5% py
		31726	grab	greywacke	3 to 4% f.g. diss py
		31727	grab	qtz vein in greywacke	trace to 1% py on fracs
		31728	grab	greywackes	1% f.g. po
		31729	grab	quartz vein	trace to 1% py
		31730	grab	andesitic tuff	
		31731	grab	andesitic lapilli tuff	2 to 3% galena and cpy,1% py
		31740	silt		
-		31741	silt		
		31742	silt		
		31743	grab	4 meter wide quartz vein	trace py
		31744	float	quartz-calcite-actinolite skarn	50 to 60% po, trace po
		31745	i float	quartz-czlcite breccia vein	trace galena, py and cpy
		31746	float	diopside-actinolite skarn	semi-massive po, 1 to 2% cpy
		31747	grab	quartz vein 0.8 meters wide	
		31748	float	quartz vein (diorite host)	trace py
		31750) float	rusty quartz vein(30 cm) in mafic volcs.	trace cpy
		31751	grab	white c.g. quartz vein	
		31752	grab 🛛	quartz breccia and vein	trace cpy
	CC-27	31760) grab	granular quartz vein	trace py
		31761	grab	white quartz vein in granodiorite	
ة	CC-28	31766	float	blue gray chalcedonic quartz vein	1 to 2% py, trace cpy
		31767	float	quartz-calcite-diopside skarn	15 to 20% po, trace py and cpy
		31768	grab	carbonate altered zone	trace to 1% f.g. diss py
		31801	grab	intermediate volcanic	trace to 1% diss py
ò	CC-27	31802	grab	intermediate volcanic	trace py
		31803	grab	silicified argillite	trace py and malachite
		31804	grab	carbonatized volcanic	2 to 34 diss. py
		31805	grab	gossanous intrusive	trace to 1% diss py
	1	31806	grab	diorite intrusive	trace py
	CC-28	31964	grab	silicified hornfels	2 to 10% diss py
		31965	grab	rusty quartz vein	trace py, 1% diss po
			-		••• •

APPENDIX II

(Sample Results)

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Geochemical Lab Report

985-0681 Telex 04-352667

REPORT - UR9	7					PROJECT: 5711CC PAGE				GE 10		
SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPN	As PPN	Ba PPN	Be PPN	Bi PPN	Cd PPN	Ce PPN	Co PPN	Cr PPH	Cu PPN
	31733 🖉	34	<1.2	34	96	<0.5	5	2	10	6	9	26
√ 51, CH- <u>30</u> -2 ∶	31754 🏋	28	0.2	46	219	<0.5	6	1	25	12	22	37
-11 CC-28-3	31723	28	0.2	14	170	<0.5	<2		20	14	13	39
-11 CC-28-3	31740	12	<0.2	<5	130	<0.5	3	<1	20	11	9	25
- 11 CC-28-3	31741	18	n.9	38	140	<8.5	3	<1	31	19	18	98
-11 CC-28-3	31742	1	0.2	20	104	<0.5	5	<1			12	37
R2 CC-27-1	31760	6	<0.2	<5	21	<1.5	<2	<1	27	1	147	22
R2_CC- 27-1	31761	1526	1.4	s	126	<0.5	<2	<1	< 5	<1	290	17
-12 CC-27-1	31801	19	<1.2	s	435	<0.5	<2	<1	32	1	142	7
-R2 CC-27-1	31802	<5	0.2	<5	38	<0.5	</td <td><1</td> <td>19</td> <td><1</td> <td>160</td> <td>8</td>	<1	19	<1	160	8
- R2 CC-27-1	31803	7	1.2	8	336	<0.5	3	<1	24	14	27	134
-R2 CC-27-1	31804	9	0.3	11	117	<0.5	5	<1	21	15	13	43
R2.CC-27-1	31805	< 5	<11.2	<5	24	<1.5	<2	<1	< 5	9	35	99
12 CC-27-1	31806	<\$	<0.2	8	42	<1.5	<2	<1	12	<1	167	4
RZ CC-28-1	31663	6	a. 5	12	11	<1.5	6	<1	<5	41	246	284
P2 05-28-1	21701	40	4 7	20	2(<u></u>	40			244	20	4020
	3179/	72	1.1	1.4/25	20	\U.J ∠0 5	10		0 0	40	27	1170
A2 CC-28-1	31127	278	50 0 T	1001 18	JI 14		4	29	0 /S	0 CT	17 201	ູງງ
	3170L	J/0 /5	<u>- 1 2</u>	.30 40	102	X0.J	6	21	2/	1(271 67	<i></i>
	31720	6	(1.) (1.)	10 <5	8	<0.5	4	<1 <1	24 75	<u>ک</u> 10	261	04 17
R2 CC-28-1	31728	ৎ	0.2	ও	52	<0.5	5	<1	10	14	72	54
- R2 CC-28-1	31729	<5	0.3	24	10	<0.5	5	<1	<5	12	300	184
-1 2 CC-2 8-1	31730	230	3.2	ৎ	30	<0.5	<2	<1	9	28	42	12339
R2 CC-28-1	31731	43	8.6	ৎ	67	<0.5	5	35	< 5	12	295	9 56
R2 CC-28 -1	31743	24	<0.2	<5	42	<0.5	<2	<1	15	1	162	26
-12 CC-28-1	31744	51	4.1	25	10	<0.5	8	<1	ৎ	22	4	135
₩ - 1 2 CC-28-1	31745	18	9.3	6	50	<8.5	2	<1	19	4	239	188
-#2 CC-28-1	31746	24	6.8	31	7	<0.5	16	12	10	28	59	3382
-R2 CC-28-1	31747	6	<0.2	ৎ	14	<1.5	<2	<1	ও	8	200	101
-#2 CC-28-1	31748	22	0.2	<5	28	<0.5	<2	4	ও	2	374	230
R2 01-28-1	31750	19	1.5	<5	112	<0.5	(7	<1	<5	8	297	736
-R2 01-28-1	31751	41.90	3 3	~~ <5	97	<0.5	()	<1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2	227	129
·12 CC-28-1	31752	13	۵.S	11	> 2 000	(1.5	0	~	š	 	247	75
R2 CC-28-1	31766	11	1 2	57	34	<0.5	8	< <u>``</u>	š	4	87	118
- R2 CC-28-1	31767	162	1.9	73	22	<0.5	10	4	9	580	12	953
				······································								
R2 CC-28-1	31768	<5	<0.2	6	219	<11.5	<2	<1	23	15	38	168
-172 CC-28-1	31964	ৎ	<1.2	ৎ	42	<0.5	2	<1	16	16	80	74
₩ /R2 CC-28-1	31965	55	4.3	14	53	<0.5	<2·	1	ৎ	9	208	65

Samples 31702+31722 with Conyon 30 samples. * Samples 31722+31754 halon to the 20 minut

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Geochemical Lab Report

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	Sample NUMB ER	ELEMENT UNITS	Ga PPN	La PPN	Li PPN	tto PPN	Nb PPN	Ni PPH	Pb PPH	Rb PPN	Sb PPN	Sc PPN	Sn PPM
	S1 CN-30-2 31	733	<2	7	3	<1	36	12	28	36	9	4	<20
	S1 CN-30-2 31	754	<2	12	7	<1	18	19	54	47	<s< td=""><td>10</td><td><20</td></s<>	10	<20
	T1 CC-28-3 31	723	5	11	7	<1	3	13	3	<20	<5	4	<20
	T1 CC-28-3 31	740	5	11	5	<1	2	8	4	<20	<5	3	<20
	T1 CC-28-3 31	.741	7	16	12	2	2	21	19	<20	<5	6	<20
	T1 CC-28-3 31	742	5	6	7	2	15	13	3	58	<5	3	<20
Í	R2 CC-27-1 31	760	<2	17	<1	9	<1	3	<2	<20	<5	<1	<20
	RZ CC-27-1 31	.761	<2	<1	<1	<1	<1	4	18	<20	<5	<1	<20
	RZ CC-27-1 31	801	<2	22	<1	13	<1	3	3	<20	<5	<1	<20
Ĭ	KZ CC-2/-1 31	802	<2	9	<1	3	<1	3	3	<20	<5	<1	<20
	R2 CC-27-1 31	803	9	11	2	<1	6	17	5	80	<5	6	<20
	R2 CC-27-1 31	804	11	9	5	<1	7	3	3	<20	< S	8	<20
	RZ CC-27-1 31	805	3	2	2	2	1	4	<2	<20	<5	1	<20
;	R2 CC-27-1 31	806	<2	10	<1	<1	<1	4	<2	<20	< S	<1	<20
	RZ CC-28-1 31	663	<2	<1	<1	2	<1	108	<2	<21)	<5	<1	<20
	R2 CC-28-1 31	701	8	<1	<1	3	3	10	<2	133	<5	1	<20
	R2 CC-28-1 31	724	10	3	20	4	8	22	<2	118	<5	3	<20
	R2 CC-28-1 31	725	<2	<1	1	<1	<1	7	7212	52	8	<1	<20
,	R2 CC-28-1 31	.726	<2	10	6	3	<1	21	27	<20	<5	3	<20
	RZ CC-28-1 31	727	3	<1	2	<1	1	5	8	<20		<1	<20
ļ.	R2 CC-28-1 31	.728	9	4	10	2	4	15	16	<20	<5	2	<20
	R2 CC-28-1 31	729	<2	<1	<1	5	<1	6	<2	<20	۲S	<1	<20
	R2 CC-28-1 31	.730	16	4	16	2	6	7	20	43	<5	8	<20
a zá	R2 CC- 28-1 31	731	<2	<1	2	<1	<1	6	3704	<20	<\$	<1	<20
	R2 CC-28-1 31	.743	3	15	<1	4	<1	3	16	<20	<5	<1	<20
	R2 CC-28-1 31	744	<2	<1	<1	5	<1	6	<2	43	< <u></u>	<1	<20
	R2 CC-28-1 31	.745	6	8	1	4	2	4	197	<20	52	2	<20
	R2 CC-28-1 31	.746	6	1	2	10	3	28	24	<20	ও	1	<20
	R2 CC-28-1 31	.747	<2	<1	1	1	<1	5	<2	43	< S	1	<20
<u> </u>	R2 CC-28-1 31	.748	<2	<1	<1	<1	<1	6	<2	85	ও	<1	<20
	R2 CC-28-1 31	.750	<2	<1	7		<1	11	5	<20	<u>رج</u>	2	<211
-	R2 CC-28-1 31	.751	<2	<1	<1	1	<1	6	7	35	· C	<1	<20
	R2 CC-28-1 31	.752	<2	<1	<1	2	<1	6	<2	<20	36	3	<20
	R2 CC-28-1 31	.766	<2	<1	14	62	<1	28	<2	37	S	2	<20
<u>-</u>	R2 CC-28-1 31	.767	<2	<1	1	7	<1	186	<2	<20	ও	<1	<20
-	R2 CC-28-1 31	.768	5	11	1	1	5	7	5	61	5	۲	<20
	R2 CC-28-1 31	964	<2	8	5	3	<1	18	3	64	ँ	1	<20
	R2 CC-28-1 31	965	0	1	2			<u></u> 8.	195	25	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		20 200







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	SAMPLE	ELFRENT	Sr	Ta	Te	Ų COM	¥ ۳۵۲	Y	Zn	Zr			
	NUTBER	01/112	P70	PPN				<u>РРЛ</u>		PP1			
	SI ON-30-2 31	733	22	<1D	<18	20	<11	18	120	 ?			
	S1 CN-30-2 317	154	26	<10	<18	89	<10	19	233	2			
	T1 CC-28-3 31	723	45	<10	<10	59	<10	6	67	2			
	T1 CC-28-3 31	740	45	<10	<10	45	<10	5	41	2			
	T1 CC-28-3 31	741	55	<10	<10	96	<10	12	123	3			
	T1 CC-28-3 31	142	98	<10	<10	41	<10	8	60	2			
	R2 CC-27-1 31	760	5	<10	<10	2	<18	2	9	3			
	R2 CC-27-1 31	761	6	<10	<10	3	<10	<1	15	<1			
	R2 CC-27-1 31	801	22	<10	<10	2	<10	3	15	2			
.	R2 CC-27-1 31	302	3	<10	<10	1	<10	1	5	2			
	R2 CC-27-1 311	803	454	<10	<10	33	<10	10	87	1			
	R2 CC-27-1 318	304	297	<10	<10	50	<10	11	66	1			
	R2 CC-27-1 31	805	52	<10	<10	42	<10	6	10	2			
	R2 CC-27-1 318	306	16	<18	<10	2	<10	2	-° S	<1			
	RZ CC-28-1 310	663	13	<10	<10	18	<10	<1	14	1			
	R2 CC-28-1 317	701	25	<10	<10	36	<10	3	29	7			
	R2 CC-28 -1 317	124	106	<10	<10	82	<10	7	62	2			
	R2 CC-28-1 317	125	119	<10	29	6	60	1	6313	<1			
_	R2 CC-28-1 317	126	32	<10	<10	45	<10	9	54	4			
سير	R2 CC-28-1 312	127	23	<10	<10	15	<10	<1	17	<1			
	R2 CC-28-1 31		47	<18	<10	47	<u></u>	6	59			· · · · · · · · · · · · · · · · · · ·	
	RZ CC-28-1 31	129	3	<10	<10	4	<10	4	12				
	R2 CC-28-1 317	130	189	<10	19	185	<10	6	63	1			
	R2 CC-28-1 317	731	16	<10	<10	13	12	2	1310	4			
	R2 CC-28-1 31	143	34	<10	<10	3	<10	1	9	<1			
-	02 00 20 1 21			(10)									
	82 CC-20-1 31	/44 1/5	4	<10 210	<18 240	כ ד	<1U <10	2	12	1			
	R2 (C-20-1 31)	143 162	01 179	×10 ×18	<10 <10	22	<10 <10	4	45	1			
	R2 CC-20-1 31	140	44	210	210	52 97	×10	4	42	3			
	R2 CC-28-1 31	148	8	<10	<10	4	<10	4	13	<1			
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	R2 CC-28-1 31	750	22	<10	<10	30	<10	3	42	<1			
	R2 CC-28-1 31	751	5	<10	<10	3	<10	<1	5	<1			
	RZ CC-28-1 31	752	245	<10	<10	14	<10	2	33	<1			
	RZ CC-28-1 31	166	7	<10	<10	21	<10	3	121	2			
	RZ CC-28-1 31	767	31	<10	<10	14	<10	3	27	3			
	R2 CC-28-1 31	768	336	<10	<10	49	<18	9	67	<1			
	R2 CC-28-1 31	964	55	<10	<10	40	<10	7	28	2			
	R2 CC-28-1 31	9 65	74	<10	<10	9	<10	2	158	4			
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REPO RT: V89-N6199.5]			PROJECT: 5711CC			PAGE 1			
SAMPLE NUMBER	ELEMENT UNITS	UT G	WT-100 G	HT+100 G	Au DUP Opt	au dup Opt	Au AVG Opt	Au+100 OPT	Au+100 NG	Au Tot Opt		
R6 CC-27-1 R6 CC-28-1	31761 31751	29.17 29.17	969 979	13.07 16.03	0.040 0.158	0.047 0.139	0.044 0.149	1.17 3.78	0.5 26 2.078	0.0 59 0.207		
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Certificate of Analysis

	R/100 /			DATE PRINTED: 12-0CI-8	2
WEPUK1: V87	-16199.6			PROJECT: 5711CC	PAGE 1
SAMPLE	ELEMENT	Âg			
NUHRER	UNITS	• OPT			
R2 CC-28-1	31725	1.36			
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APPENDIX III

(Sample Methods)

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SAMPLING METHODS

Rock

Approximately one to two kilograms were collected with a rock hammer with care being taken to sample as much unweathered material as possible. The sample was placed in a 3 mil plastic sample bag and shipped to Acme Analytical Labs or Bondar-Clegg & Company for 30 element ICP and geochemical aanalysis of gold.

Stream Silt

The samples were collected with a hand trowel or by hand and placed in kraft sample bags, air dried and shipped to Acme Analytical Lasb or Bondar-Clegg and Company for analysis of 30 elements by ICP and gold by geochemistry.

Heavy Mineral

Stream sediment was sieved through a 20 mesh screen and collected in large 3 mil plastic sample bags. A standard sample weight of 8 kilograms was used. The samples were shipped to C.F. Mineral Research Ltd. of Kelowna, B.C. for heavy mineral and magnetic separation of the -150 mesh and 150-60 mesh fractions. The heavy non magnetic fractions were then shipped to Acme Analytical Labs for analysis by 30 element ICP and gold by fire assay. A portion of each sample was retained and sent to Acme where it was analyzed in the same manner as the stream sediment samples.

Soil Samples

Samples were collected from the B horizon using a maddock, placed in kraft paper bags and air dried. The samples were shipped to Acme Analytical Labs or Bondar-Clegg and Company where they were analyzed by 30 element ICP and geochemical gold.

In all instances, sample locations were marked in the field with orange flagging tape and metal tags bearing the sample number, date and samplers name.

APPENDIX IV

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(Analytical Methods)

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Determination of Elements by Plasma Emission Spectroscopy

Lefort Aqua-regia Digestion

The samples of 0.5 grams in weight are digested in test tubes with concentrated nitric and hydrochloric acids. These tubes are heated in hot water baths for two and one-half hours. The sample is then diluted and mixed. This solution is analyzed on the Plasma Emission Spectrograph by using the appropriate emission line for each element. The emissions are compared to standard solutions to determine the amount of each element that is present.

Multi-acid Digestion

A sample weight of 0.5 grams is transferred to a teflon test tube. It is then treated with a mixture of hydrofluoric, nitric and perchloric acids. The sample and acid mixture is heated in an aluminum block until the volume is reduced and there are strong perchloric fumes. The residue is dissolved with hydrochloric acid and the solution is then diluted to 20 ml. with demineralized water and mixed. These solutions are analyzed on the Plasma Emission Spectrograph using the appropriate emission line for each element. The emissions are compared to standard solutions to determine the amount of each element that is present. These are run within one hour of digestion in order to minimize precipitation problems.

Contamination Prevention

The test tubes are used for DC Plasma analysis only and are discarded after use. A solution of de-ionized water or dilute acid is run between samples to prevent contamination during analysis.



Bondar-Clegg & Company Ltd. 130 Pemberton Ave. North Vancouver, B.C. V7P 2R5 (604) 985-0681 Telex 04-352667

PROCEDURE FOR ASSAY AU ANALYSIS

FIRE ASSAY PROCEDURE:

A prepared sample of one assay ton (29.166 grams) is mixed with a flux which is composed mainly of lead oxide. The proportions of the flux components (the litharge, soda, silica, borax glass, and flour) are adjusted depending upon the nature of the sample. Silver is added to help collect the gold. The samples are fused at 1950 F until a clear melt is obtained. The 30-40 gram lead button that is produced contains the precious metals. It is then separated from the slag. Heating in the cupellation furnace separates the lead from the noble metals. The normal-sized precious metal beads that are produced are transferred to test tubes and dissolved with aqua-regia. This solution is analyzed using Atomic Absorption by comparing the absorbance of these solutions with that of standard solutions. In the case of high grade samples, greater than 0.200 OPT, the precious metal bead is parted in dilute HNO3 acid to dissolve the silver and the remaining gold is weighed.

COMMENTS:

As part of our routine quality control we run a duplicate analysis for 2 out of each batch of 24 as well as a standard. These total about 12% of the samples. Also, all samples which are over 0.20 OPT on the original fusion are run again to verify the results. If a sample gives erratic results, such as 0.10, 0.020, 0.30, we will indicate this on the report. We suggest that a new split should be taken from the reject for preparation and analysis by our metallics sieve procedure. Certified standards and in house pulp standards as well as synthetic solution standards are run with each report or batch of samples.

PROCEDURE FOR FIRE ASSAY SILVER

- One assay ton (29.16 grams) of homogeneous pulp is weighed into a fireclay crucible and fluxed appropriately with litharge, borax, soda ash and silica.
- 2) No inquart is added, only flour or niter to control button size.
- 3) Fusion takes place in a furnace of about 1900 degrees F. The same procedure is used for fusing gold.
- 4) A standard for silver is run with each silver fusion.
- 5) All buttons are made up to the same weight with silver-free lead foil.
- 6) Controlled temperatures and a watchful cupeller ensure minimal silver losses in cupellation.
- Corrections are applied to final results based on checks and standards.



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SILVER DETERMINATION (WET ASSAY)

A 3.0 gm sample is analytically weighed into a beaker. It is digested with hot nitric, hydrochloric, and hydrofluoric acids which breaks down the ore. Once digested, the sample is boiled in a dilute acid solution, transferred to a flask, and carefully diluted to exactly 100 mls. The samples are analyzed on the atomic absorption unit along with certified standards, in house standards and duplicates.

Total CU, PB, ZN, FE, Ni, Cd, Co BY A.A.

A 0.5 gram sample is weighed into a beaker and digested with HNO3, HC1, and HF on a hotplate. The sample is taken down to dryness and then HC1 is added with water and KC1O3 to boil the sample into solution. The sample is then run on the atomic absorption unit along with pulp standards and synthetic standards. Any sample over 10% will be rerun by titration methods.

APPENDIX V

(Staement of Qualifications)

STATEMENT OF QUALIFICATIONS

I, Darcy Edward Marud, of 2205 Graveley Street, Vancouver, British Columbia, Canada, hereby certify that:

- 1. I am a graduate of the University of Saskatchewan, having been granted the degree of Bachelor of Sciences Honours degree in Geology in 1985.
- 2. I have practiced my profession as a geologist in mineral exploration since 1985.
- 3. I am presently employed as a geologist with Homestake Mineral Development Company of #1000 - 700 West Pender Street, Vancouver, British Columbia.
- 4. The work done in the accompanying report was done under my supervision and with my participation.
- 5. I am the author/co-author of the above report.
- 6. I have no direct or indirect financial interest in any companies known by me to have an interest in the mineral properties described by this report, nor do I expect to receive any such interest.

Dated at Vancouver, B.C. this l' day of

Respectfully submitted

Darcy E. Marud

APPENDIX VI (Statement of Costs)

CONTACT CREEK

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1.0 SALARIES AND WAGES

Project Geologist	5	days	Ø	250/day	1250	
Geologist	8	days	@	180/day	1440	-
Assistant	3	days	Ø	130/day	390	

3180

2.0 GEOCHEMISTRY AND ASSAYING

Geochemistry	36 rock	Ø	17.5/smpl	630
Assaying	1 silver	@	9.75/smpl	9.75
	2 gold	Ø	41.75/smpl	83.5

723.25

3.0 ADMINISTRATION

Travel expenses and airfare	400
Maps, publications and photos	100
Communications	20
Freight and shipping	50

570

4.0 SURFACE WORK

Accomodation			·	1487.5
Field Materials				100
Air Support	6.4 hrs	@	655/hr	4192

5779.5

5.0 MACHINERY AND EXPENSES

Rentals -	Motorola	radios	20
			2

20

TOTAL 10272.75



