DIAMOND DRILLING AND GEOPHYSICAL REPORT ON THE BISMARK PROPERTY

SLOCAN MINING DIVISION, B.C. NTS: 082F/14E LATITUDE 49⁰55'N LONGITUDE 117⁰04'E

for



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February, 1998

SESSMENT REPORT

P & L Geological Services, RR#1, Telkwa, B.C., V0J 2X0 Ph: 250-846-9242

SUMMARY

The Bismark silver-lead-zinc property is located near the town of Kaslo in southern British Columbia. The property has complex shear-breccia-replacement mineralization in a large roof pendant of Slocan Group metasediments within the Nelson Batholith. Past production (1896 - 1970) along a strike length of nine kilometres has been in excess of 210,000 tons of silver ore grading between 100 and 5000 g/t silver plus significant lead and zinc values.

This report presents the results of diamond drilling and geophysical surveys conducted from November 15 to December 15, 1997, on the Cork, Province, and Dublin claims held by Cream Minerals Ltd. Historically, mineralization on the claims exhibit high grade silver, lead and zinc values. This mineralization was confirmed by sampling programs undertaken previously by Cream Minerals (see assessment report dated January 6, 1998).

VLF-EM 16 surveying on the claims mapped a moderately strong conductor which passes through mineralization uncovered in trenching. The conductor has been mapped for 1.2 kilometres strike length. Further exploration of this conductor is required to completely determine it source.

A total of 325.5 metres (1068 feet) of diamond drilling in 5 holes was completed on the claims. Drill hole 97CP-01 intersected graphitic argillite, partly explaining the VLF-EM conductor at this location. Drill holes 97CP-02 to 05 defined the existence of a 7 to 8 metre wide zone of sphalerite-galena with minor pyrite and chalcopyrite mineralization. Samples returned up to 680.3 grams per tonne silver, 12.97% lead, and 23.18% zinc from selected 1 metre samples.

A program of further geological, geochemical, and geophysical surveys, followed by a combination of reverse circulation and diamond drilling, is recommended.

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1) INTRODUCTION

The Bismark Property is a silver-lead-zinc prospect located 12 kilometres west of Kaslo in southern British Columbia. The property was acquired by Cream Minerals Ltd. from vendors Jack and Eric Denny in late 1996.

The Bismark Property lies within a roof pendant of Slocan Series sedimentary and metasedimentary rocks within the Nelson Batholith. A series of small past producing mines lie along a series of subparallel shear-breccia-replacement zones. Most notable of these historic showings is the Cork-Province Mine, while smaller workings on the property include the Dublin, Bismark, Gold Cure, Gibson, Hartford, Connection, Silver Bear, Index and Metropolitan. All of these showings include one or more small adits and numerous surface cuts which were worked sporadically from 1896 to 1970.

This report covers VLF-EM geophysical surveys and diamond drilling conducted on the Cork, Province, and Dublin claims in November and December, 1997. The purpose of this project was to determine the extent of mineralization encountered in previous trenching on the property, primarily in the Cork-Province mine area, following an extensive surface exploration program completed during the summer and fall of 1997 (refer to assessment report by L. Dandy, January 1998). This work was supervised by the author.

2) LOCATION AND ACCESS

The Bismark Property is located along Keen Creek, 12 kilometres west of Kaslo in the Slocan Mining Division of southern British Columbia (Figure 1). The claims cover an area of approximately 20 square kilometres and are centred at latitude 49⁰55'N and longitude 117⁰04'E, all within NTS mapsheet 82F/14.

Access to the property is via Highway 31A for 7 kilometres west from Kaslo, then 4.5 kilometres southwest along Keen Creek Road to the property boundary. The property lies along and to the southeast of the Keen Creek Road for approximately 11.5 kilometres. New logging roads and numerous old mining roads and trails, some of which are heavily overgrown, bisect the property.

CORK/PROVINCE

The Cork/Province mine lies adjacent to the Keen Creek Road at kilometre 8. The millsite, waste dump and tailings are located on the northwest side of the road, while the main adit (No.3) is on the southeast side of the road. The Cork No.2 adit is about 150 metres southeast of the main road along a network of old mining roads, and the Province No.1 adit is adjacent to Ben Hur Creek, approximately 150 metres upstream of the Ben Hur logging road.



3) PHYSIOGRAPHY

The Bismark Property is located in an area of rugged mountainous terrain. Topography on the property is steep with elevations ranging from 1050 metres along the Keen Creek valley to 2200 metres on the Gold Cure ridge.

The Keen Creek valley runs along the northwest boundary of the property, with numerous tributaries crossing the property and emptying into Keen Creek. The major tributaries, from northeast to southwest are Ben Hur, Briggs, Klawala, Kyawats and Desmond Creeks.

Much of the claim area is covered with second growth forest consisting of hemlock, cedar, fir and occasional pine. Thick growths of alder and devil's club are found along many of the creeks.

4)_HISTORY

The Bismark property consists of a number of small mines which were originally discovered and worked near the turn of the century for high grade silver ores during the heyday of the Slocan Mining Camp. Intermittent exploration, development and production took place at various locations on the property since that time, notably in the 1920s and 1950s.

CORK/PROVINCE

The Cork Group was consolidated in 1900 and by 1904 considerable development work, including the No.3 (or main haulage) crosscut had been completed. The adjoining Province Group was being operated independently at this time and a promising ore-body had been developed on the eastern extension of the Cork lode. From 1906 to 1913, the two mines continued to be worked independently, but by agreement, the Province mine used the lower main access and mill of the Cork mine. The Cork and Province were consolidated in 1914, and development work renewed the following year. The development work up to 1920 did not produce satisfactory results, and the mine shut down. Operations were renewed in 1922, with a shaft sunk to explore lower levels where it was proved that the ore-bodies maintained their grade. From 1922 until 1935, production was mainly from the lower No.4 level. During the period 1950 to 1953, an internal shaft was deepened from No.6 to No.8 level and the continuation on dip of one section of the vein was explored. Most of the millfeed was mined from above No.6 level; the oreshoot below No.6 level was not stoped. From 1964 to 1966 the mine was worked mainly on No.7 and No.8 levels where ore which had been blocked out earlier was extracted.

Production commenced in 1903 and shipments were made up to 1909 inclusive, during which 16,000 tons of ore were mined at an average grade of 110 to140 g/t silver and 5% lead. The next period of production extended from 1913 to 1919 during which time over 24,000 tons were shipped averaging about 85 g/t silver and 4% lead. In 1918 and 1919 the shipments also contained 52,000 kilograms of zinc. Production resumed in 1923, and

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up to the end of 1926, included nearly 18,000 tons carrying between 110 to 140 g/t silver, over 5% lead and 2.5% zinc. During 1929, the Cork-Province mill treated nearly 6,000 tons containing net recovered metals as follows: gold 255 grams (0.04 g/t); silver over 567,000 grams (94.5 g/t); lead nearly 188,000 kilograms (3.5%); and zinc over 235,000 kilograms (4.3%). Total reported production of the Cork Mine is listed at 210,996 tons of .009 g/t gold, 70.3 g/t silver, 3.05% lead and 4.72% zinc.

More recently, programs were conducted on the Cork-Province claims by Arctex Engineering Ltd. in 1979 and 1992. In 1979, a program of surface prospecting, soil sampling and geological mapping was conducted on the property. In 1992, the main mine haulage access (No.3 crosscut adit) was reopened and geologically mapped and rock sampled.

There is presently neither machinery nor buildings on the property. The main haulage adit had been backfilled, but could be reopened with a back-hoe.

5) PREVIOUS WORK COMPLETED BY CREAM MINERALS

From July to October, 1997, Cream Minerals Ltd. completed a program of rock and soil sampling and geologic mapping, followed by excavator trenching, throughout the Bismark property. The purpose of this work was to explore the continuity of mineralized shear-replacement structures, and to sample for grades and widths of mineralization. A total of 14 trenches were excavated on the claims. The program also included the collection of 49 rock grab, 186 rock chip (including those collected from trenches), 130 soil, 22 silt and 8 heavy mineral concentrate samples.

Two of the trenches were excavated in the Cork mine area. Trench T97-7 was placed over a crown pillar of the old Cork mine workings. This trench intersected four metres of semi-massive pyrite, sphalerite and galena mineralization hosted within interbedded siliceous argillite and andalusite schist. Rock chip sampling returned values averaging 30.7 g/t silver, 1.27% lead, and 1.08% zinc over the 4 metre section. Trench T97-8 was located 200 metres southwest of T97-7, and approximately 100 metres southwest of the main Cork mine access drift. This trench intersected semi-massive sulphide mineralization over 9 metres. Mineralization in the trench was variable, from blue clay gouge with galena, to iron oxide with galena and sphalerite, to hard resistive massive galena and sphalerite, to banded galena and sphalerite in limestone. Rock chip sampling returned values averaging 136.7 g/t silver, 3.45% lead, and 6.47% zinc over the 9 metres. These values are generally higher than those previously reported in the nearby Cork-Province mine, and indicate that an important new mineralized body exists west of the old mine.

6) CLAIM INFORMATION

The Bismark Property is located within the Slocan Mining Division and consists of 7 modified grid, 13 crown grants, 8 reverted crown grants and 35 2-post claims to total 155 units (Figure 2). Claim information is listed in Table I.

TABLE I

CLAIM INFORMATION

Claim Name	Status	Units	Record No.	Anniversary Date
Bismark	Crown Grant	1	L11273	
Bismark 1	Modified Grid	20	255714	February 26
Bismark 2	Modified Grid	6	256203	March 25
Bismark FR	Two Post	1	266993	September 28
Black Bear	Two Post	1	349555	August 17
Broughton	Reverted C.G	1 .	255499	February 3
Broughton 1	Two Post	1	256397	September 21
Broughton 2	Two Post	1	256398	September 21
Broughton 3	Two Post	1	256399	September 21
Broughton 4	Two Post	1	256400	September 21
Butte	Crown Grant	1	L12410	
Charlie 1	Modified Grid	9	360498	November 9
Charlie 2	Modified Grid	20	360501	November 11
Charlie 3	Modified Grid	20	360502	November 11
Charlie 4	Two Post	1	360499	November 12
Charlie 5	Two Post	1	360885	December 3
Charlie 6	Two Post	1	360886	December 3
Charlie 7	Two Post	1	360887	December 3
Charlie 8	Two Post	1	360888	December 3
Charlie 9	Two Post	1	360889	December 2
Charlie 10	Two Post	1	360890	December 2
Charlie 11	Two Post	1	360891	December 2
Charlie 12	Two Post	1	360892	December 2
Connection	Modified Grid	8	256188	February 11
Connection Fr	Two Post	1	256189	February 11
Cork	Two Post	1	350252	November 9
Cork 1	Two Post	1	350252	September 2
Cork 2	Two Post	1	350251	September 2
Cork 3	Two Post	1	360505	November 12
Cork 4	Two Post	1	360506	November 12
Cork 5	Two Post	1	360507	November 12
Cork 6	Two Post	1	360508	November 12
Cork 7	Two Post	1	360509	November 12
Cork 8	Two Post	1	360510	November 12
Crown Point	Reverted C.G.	1	255460	January 18
Dublin	Two Post	1	255805	November 10
Francis	Crown Grant	1	L14365	
Full Rig	Reverted C.G.	1	255456	December 6
Gold Cure	Reverted C.G.	1	255454	December 6
Gold Cure Fr	Reverted C.G.	1	255455	December 6
Hartford	Reverted C.G.	1	255584	March 2
Highland Laddie	Crown Grant	1	L11275	

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Ida	Crown Grant	1	L14368	
Index 1	Two Post	1	356677	June 16
Index 2	Two Post	1	356678	June 16
Index 3	Two Post	1	360500	November 9
Jennie	Crown Grant	1	L14366	
Last Chance	Two Post	1	349554	August 17
Liberty	Crown Grant	1	L4900	
Manhattan	Two Post	1	318936	July 12
Mastodon	Two Post	1	349553	August 17
Mountain Goat	Crown Grant	1	L11274	
Oxide	Crown Grant	1	L14367	
Province	Two Post	1	328205	July 18
Province 1	Modified Grid	16	351863	October 18
Silver Bear	Reverted C.G.	1	255498	February 3
Silver Bear 1	Two Post	1	255995	October 17
Silver Bear 2	Two Post	1	255996	October 17
Sixteen to One	Crown Grant	1	L4901	
Spokane	Crown Grant	1	L14369	
Stars and Stripes	Crown Grant	1	L4899	
Susquehanna	Reverted C.G.	1	255585	March 2
Wintrop	Crown Grant	1	L12409	

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7) **REGIONAL GEOLOGY**

The Bismark Property is underlain by Triassic Slocan Group sedimentary and metasedimentary rocks. These rocks have been folded into a steeply dipping synclinal wedge bounded on the north and south by Jurassic Nelson Batholith intrusive rocks. Faulting, shearing and metasomatism may have accompanied intrusive activities forming vein, breccia and replacement deposits of silver-lead-zinc (Figure 3).

The Slocan Group consists primarily of argillites, limestones, quartzites and minor schists. Sedimentary strata generally strike 035° to 050° and dip steeply to the northwest or southeast, with common local variations. Argillites are fine-grained, thinly bedded, well indurated and have a slatey cleavage. Carbonate content in the argillites increases at or near the contact with limestone units. Iron oxide staining is common in some areas and minor limestone concretions and inclusions are prevalent. Limestone units are fine-grained, grey on weathered surfaces, white on fresh surfaces and may host iron oxide stained pods of argillite. Quartzites are normally grey, fine-grained, well indurated rocks that are rarely found in areas of sulphide mineralization. Schistose phyllites are found throughout the Bismark property and may be of significance in locating new mineral deposits. The schistose phyllite is considered a metasomatized or metamorphosed argillite and may contain minor amounts of andalusite schist.

The Nelson Batholith is comprised of late Jurassic granitic intrusives which flank Slocan Group rocks to the northwest and southeast. Dykes of aplitic and granitic composition intrude and intersect the Slocan Group on the Bismark Property. Field relationships are unclear; but, it is assumed that these intrusive units are "late stage" events that have little or no bearing on the emplacement of silver-bearing sulphide mineralization.

Lamprophyre dykes of mafic to ultramafic composition containing hornblende, biotite and pyroxene may be associated with the Nelson Batholith intrusives. On exposure, this unit weathers into loose, coarse granular products.

Structurally, the Slocan Group roof pendant which has been folded into a doubly plunging syncline. Old mine workings appear to be near or on the axial plane indicating a major structural control on sulphide localization. Old literature often cites the presence of a "crushed zone" within argillite units where silver-bearing mineralization is present and may reflect on faulting and shearing events.



8) PROPERTY GEOLOGY

Geology and mineralization of the deposits summarized below has, in part, been compiled from Cairnes (1934, 1935), Report of the Zinc Commission (1906) and various government assessment and unpublished company reports listed in the references at the end of this report.

CORK/PROVINCE

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The workings of the Cork-Province mine lie entirely within Slocan Group sediments. The contact with the Nelson batholith lies 300 metres to the north of the mine on the opposite side of Keen Creek. This contact plunges south and probably underlies the Cork-Province group at no great depth and the sediments in the vicinity of the mine are considerably metamorphosed. The strata tend to dip away from the batholithic contact, thereby assuming a position almost at right angles to the general north-westerly trend. Their strike here varies from 055° to 090°, dipping south from 50° to 90°, averaging 75°. The sediments include a large proportion of argillites, mostly characterized by a lesser or greater proportion of andalusite and commonly referred to as andalusite schists. Interbedded with these are some quartzitic beds and a number of crystalline limestone and other beds notably limy in composition. At the intersection of these limestones and limy strata by the main lode, the principal ore bodies have been developed.

The ore-bodies of the Cork-Province mine have been formed along a well-defined lode, designated as the "main vein", striking about 050° and dipping southeast at an average angle of 65° . This lode is a fault-fissure zone cutting obliquely across sedimentary beds of the Slocan series. The ore-bodies in each case have their most pronounced development where this lode intersects beds of crystalline limestone or other notably limy strata. The lode follows the course of a fault and, consequently, the limestone beds are displaced, the hangingwall section of the lode being offset, relatively to the footwall, about 25 metres to the west. The apparent displacement varies somewhat from one limestone bed to another, due to complications set up by numerous other faults of minor throw which angle across or run parallel with the main lode.

The shape of the ore-bodies and extent of ore deposition have been influenced by crossfracturing running mostly in an east direction. These cross-fractures run either from wall to wall of the main lode or connect this lode with nearby faults. They have both directed and facilitated the upward course of ore-bearing solutions apparently originating from the neighbouring batholithic intrusives. Where these solutions have come in contact with limestone or other limy strata they have effected an important replacement of these rocks for distances in places as great as 30 metres or more from the wall of the main lode, the distance being largely determined by the extent of cross-fracturing involving the limy beds.

Ore at the Cork-Province mine consists of an intimate mixture of sphalerite and galena with minor proportions of pyrite and chalcopyrite in a gangue composed largely of ankerite and siderite, but including varying amounts of quartz and calcite associated with altered wall rock. Geological mapping of road cuts in the Cork-Province area show that outcrops tend to be argillaceous andalusite or mica schists and occasional limestone. Bedding/foliation strikes generally east-west, and dips vertically or steeply to the south. Feldspar porphyritic intrusives outcrop along the Dublin road, and meta-intrusive in the form of biotite gneiss (with abundant pyrite and pyrrhotite) occur where the mineralizing structure crosses the main Ben Hur logging road.

DUBLIN

Geologically, the Dublin mineralization appears to be similar to that found in the Cork-Province area. Shear-veins of siderite with varying amounts of galena and sphalerite can be seen in surface cuts and underground workings. These veins, which are 0.5 to 1.0metre in width, strike 060° and dip steeply to the south.

The Cork, Province, Dublin (and adjacent Black Fox) workings lie along a series of shear zones in the Keen Creek valley. These shears have been explored for a strike of about 1.5 kilometres, and are open in both directions and at depth.

<u>9) VLF-EM GEOPHYSICAL SURVEY</u>

A total of 3.12 kilometres of VLF-EM survey were completed on the property. The survey was conducted using a Geonics Ltd. VLF-EM 16. Transmitting station was NLK (24.8 KHz) in Seattle, Washington, which is at a bearing of 255^o from the grid. Readings were taken facing 165^o.

Preliminary VLF-EM surveying over trench site T97-8, located on line 19E, at 50+00N, gave a fraser filtered value of 26%, which is the high for the line. From this, it was assumed that the sulphides exposed in the trench could be traced using the VLF-EM 16. A grid of 100 metre spaced lines and 20 metre spaced stations was established using a base line oriented at 050° .

VLF-EM SURVEY RESULTS

Field data is shown as profiles on Figure 4a. In-phase values were Fraser filtered, and are shown plotted on Figure 4b.

Results of the survey show a moderately strong conductive body which strikes approximately 062°, trending through trench site T97-8 and across the grid from line 14E to line 26E. Follow-up diamond drilling on line 14E, into the conductive trend (at 52+20N), cored into graphitic argillites. This explains the conductivity at this location. Highly variable readings taken along line 20E are due to surface materials (metal water pipes, track rails, etc.) relating to the old Cork-Province minesite. Further exploration of the conductive trend is required in order to conclude which areas of conductivity are due to sulphide deposition as in trench T97-8.

Offsets in the conductive trend suggests cross-faulting with right lateral displacements of 10 to 75 metres. An interpreted offset immediately west of line 19E could influence the continuation of mineralization encountered in trench T97-8, offsetting the trend 50 to 75 metres to the north. A detailed grid was established between lines 19E and 18E, using 25 metre line spacings, in order to clarify the interpreted fault offset. This style of fault offset is documented as common in the Cork-Province mine. Resolving the post depositional faulting in the Cork-Province mine area is important in the exploration of further ore.

10) DIAMOND DRILLING

A total of 325.5 metres (1068 feet) of diamond drilling in 5 holes was completed on the claims. Two different areas were targeted for drilling. Drill hole 97CP-1 was designed to test a VLF-EM conductor on line 14E, centered roughly at 52+30N. The other 4 drill holes were designed to test for the continuation of sulphide mineralization uncovered in trench T97-8, located on line 19E. Core samples were taken from mineralized intervals.

A diamond rock saw was utilized to cut the core for sampling purposes. Samples were placed in poly bags labelled with the corresponding sample number and were shipped to Acme Labs Ltd. in Vancouver for analyses. In the laboratory, samples were crushed to minus 200 mesh and fire assayed for gold and silver, and geochemically analyzed for 30 additional elements by the ICP method. Where ICP results warranted, samples were reassayed for lead, zinc or copper. Several samples returned significantly higher silver and lead values when re-assayed, as these elements often cause interference with each other in the standard multi-element ICP process. Further check analyses of higher grade sections were performed by Chemex Labs Ltd. in Vancouver.

DIAMOND DRILLING RESULTS

Diamond drill logs and assay certificates can be found in the Appendix. Drill hole locations are shown on the grid map with VLF-EM survey results on Figure 4b. A summary of significant results is given in Table II.

Diamond drill hole 97CP-01, drilled to test a VLF-EM conductor, intersected Slocan meta-sediments consisting of limey argillites and mica hornfels to 132.5 metres. From 132.5 to 140.8, and 146.2 to 149.5 metres, the hole intersected graphitic argillaceous schist. The graphite content in this section of core likely explains the conductive aspect indicated in the VLF-EM response. Slickensided surfaces and breccia textures in the core through this section indicate a possible faulting relationship between the conductor and this section of geology. Low percentages of pyrite and minor pyrrhotite were detected in the core. The hole bottomed in andalusite bearing mica schist.

Several check samples were taken from quartz pods or veinlets, and from the graphitic sections encountered in hole 97CP-01. Elevated values of Ag, Pb and Zn returned from the graphitic schists (a high of 1175 ppm Pb and 3357 ppm Zn ,134.6-136.0m), suggest the likelihood of this interpreted shear as hosting mineralizing solutions. A high of 3.5 gm/t silver was returned from 139.9 to 140.8 metres.

Diamond drill hole 97CP-02, drilled to the immediate west of trench site T97-8, intersected andalusite-muscovite-biotite schist throughout the length of the hole. No samples were submitted for analysis from this hole. An interpreted cross fault is thought to have offset the trench T97-8 mineralization some distance to the north from the proposed target area.

TABLE II

DRILL HOLE	METREAGE	Ag g/t	Pb %	Zn %
97CP-03	4.0-5.0	13.8	0.62	1.37
	5.0-5.7	365.9	12.3	8,36
	5.7-7.5	31.2	1.32	2.74
	7.5-8.2	0.9	0.01	0.05
	8.2-9.0	1.8	0.06	0.07
	9.0-10.1	80.9	2.09	4.61
	10.2-11.1	319.9	5.94	23.18
	11.1-11.6	27.3	0.84	1.74
97CP-04	3.9-5.0	293.0	6.95	12.4
	5.0-6.0	353.1	12.16	6.93
	6.0-7.0	488.2	12.97	13.26
	7.0-8.0	220.0	6.85	8.22
	8.0-9.3	203.8	5.97	14.23
	9.3-10.6	35.4	0.57	1.03
	10.6-12.0	90.9	1.78	4.67
	12.0-13.0	52.3	1.13	3.62
	13.0-14.0	620.1	21.16	8.23
	14.0-14.6	90.9	0.64	3.84
	14.6-15.6	680.3	21.25	8.34
	15.6-16.6	127.7	2.85	12.26
	16.6-17.7	287.0	7.98	21.69
	17.7-18.8	210.7	7.45	7.76
	18.8-20.0	199.0	4.65	15.64
	20.0-21.0	63.0	2.27	3.32
	21.0-22.0	60.1	1.21	3.43
	22.0-23.1	60.4	0.89	3.66
	23.1-23.8	83.4	2.52	3.69
	23.8-25.0	20.6	0.74	2.48

Drill holes 97CP-03, 04, and 05 were collared adjacent to the location of trench T97-8. These holes were fan drilled in order to establish the orientation of the mineralized zone uncovered by the trench. Hole 97CP-03, drilled at -50° , intersected andalusite schist and limestone from 3.7 to 4.2 metres. Strong sphalerite-galena with minor pyrite and chalcopyrite in an ankerite-siderite host was encountered from 4.2 to 11.6 metres. The hole bottomed in andalusite schist. Hole 97CP-04, drilled at -70° , intersected strong sphalerite-galena with lesser pyrite and chalcopyrite from 3.9 to 26.1 metres. Hole 97CP-05, drilled at -90° , intersected andalusite schist for the length of the hole. This hole is

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considered to have been drilled into the footwall of the mineralized zone encountered in T97-8, 97CP-03 and -04. A cross section through holes 97CP-03, -04, and -05 is shown in Figure 5. A summary of significant results of analysis from this zone of mineralization are shown in Table II.

The mineralization encountered in holes 97CP-03, -04, and -05 are considered to have been emplaced by replacement of limestone. The small section of limestone cored in hole 97CP-03 indicates the presence of a limestone bed at this location prior to emplacement of sulphides. The zone has an indicated width of 7 to 8 metres. The graphite bearing shear encountered in hole 97CP-01 may have been the conduit for solutions into the limestone. This conductive shear has been traced for some distance, trending through the location of the mineralized zone of holes -03, -04 and -05 (see VLF-EM survey in this report).

11) CONCLUSIONS AND DISCUSSION

The Bismark property lies along a belt of Slocan series sedimentary and metasedimentary rocks, which form a roof pendant in the surrounding Nelson Batholith. Emplacement of the intrusive rocks caused uplift, folding, fracturing and shearing of the Slocan series rocks. Shears and fractures in the sediments act as conduits for mineralizing solutions. In places, the mineralizing solutions have formed replacement deposits in limestone and limey argillites. In other areas, the solutions have deposited as sheared vein deposits. Galena, sphalerite, and lead and zinc carbonates, containing high-grade silver, are present along several subparallel, linear zones which trend northeasterly across the property.

Comparisons to the Bismark property mineralization can be made to other mining camps in the Kootenay Arc. The Whitewater mine at Retallic, roughly 10 kilometres from the Cork-Province, and the Bluebell mine on the east side of Kootenay lake at Riondel, are two of the larger deposits mined in the area. The Whitewater deposit (minfile #083KSW033) consists of an upper zone characterized by veins, and a lower zone characterized by structurally controlled replacements of Slocan Group limestone, and lamprophyre. Ore consists of massive replacement of limestone by sphalerite and siderite, and as masses and lenses in the main structure. Upper productive zones were up to 20 metres thick in sheared and brecciated host rocks. In total, approximately 470,000 tonnes of rock were mined, with recoveries averaging 230 grams per tonne Ag, 3 % Pb, and 5 % zinc.

The Bluebell deposit comprised three main ore zones, the Kootenay Chief, Bluebell, and Comfort (Mineral Inventory #82F-42, 43, and 44), spaced approximately 500 metres apart. These zones are localized along steep dipping cross fractures. Ore consists of sphalerite, galena, and lesser arsenopyrite and chalcopyrite in a siliceous carbonate gangue. Ore shoots ranged in size from irregular pods of a few thousand tons to continuous masses of up to 1 million tons. An average shoot was mushroom shaped arising from a keel of mineralized fractures. The deposits formed as a combination of fracture controlled replacement bodies and infills in dilatant zones in marbles of the Badshot and Mohican formations. The mine produced over 5.7 million short tons of ore containing an average 5.2% lead, 6.3% zinc, and 1.7 ounces of silver per ton.

In summary, over 9 kilometres of shear-breccia-replacement systems, hosting silver-leadzinc mineralization, have been located on the Bismark property. These systems are open to depth and in at least one lateral direction. Numerous old high-grade workings lie along these trends, mainly in areas with good outcrop exposure.

Future exploration programs need to concentrate on tracing the depth, extent and grade continuity along the shear-breccia-replacement systems at and between historically proven areas.

Detailed geological, geophysical (VLF-Em) and soil surveys are recommended along the trace of mineralization in order to determine areas with the most promising structures and grades. These target areas should then be opened by excavator trenching, in areas where this has been proven to be an effective tool, or by a combination of diamond and reverse

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circulation rotary drilling. A misse la mass (down hole I.P.) geophysical survey may be useful in directly tracing sulphides intersected in holes 97CP-03 and -04.

Respectfully submitted,

Perry B. Grunenberg, P.Geo.

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COST STATEMENT

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Salaries & Wages: 2 pers. 54 mdays @ \$287.39	\$15,519.00
Benefits @ 20%	3013.80
Food and Accommodation: 4 pers., 65 mdays @ \$54.78	3560.70
Supplies & Sundry	3312.43
Shipments	1289.93
4wd Trucks: 54 days @ \$46.83	2528.82
Fuel	948.87
Power Saw	192.60
Westgate Diamond Drilling Ltd.: 318.6m (1045.5') @ \$108.81/m	34,673.54
Critchlow Contracting: EX100, JD450	4,815.00
Assays & Analyses: Acme Labs.	
41 Core for 30 elem ICP @ 10.31	422.91
10 Pulp for Ag, Au @ \$14.79	147.87
31 Pulp for Pb, Zn @ \$18.78	582.13
4 Pulp for Se @ \$7.47	29.87
Assays & Analyses: Chemex Labs	
41 Core for Au & 30 elem ICP @ \$25.47	1,044.11
5 Pulp for Ag, Pb, Zn @ \$28.36	141.78
5 Pulp for Ag, Pb, Zn, Cd @ \$39.06	195.28
2 Pulp for Zn, Cd @ \$19.26	38.52
1 Pulp for Se @ \$17.12	17.12
P.E. Walcott Assocs. Ltd. VLF-Em Equipment: 5 days @ \$35	175.00
Report Preparation	1,000.00

TOTAL COSTS \$73,649.28

APPENDIX

CERTIFICATES OF ANALYSES

DIAMOND DRILL LOGS

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ACME ANA	TCAL LABORATORIES LTD. 852	E. HASTINGS ST. VA ASSAY CERT	JUVER	BC V6 TE	A 1R6	PHON	<u> 640)</u> 253-3136	· *#A (004/)	AA
	<u>Crea</u> Box 10435, 1	<u>m Minerals Inc.</u> 610 - 777 Dun, Vancouver B	File SC V7Y 1K5	# 973 Submit	0249 ted by: Ja	ck Denny			TI
	SAMPLE	#	PB %	Zn	Ag** gm/t	Au** gm/t			
	97CP3 97CP3 97CP3 97CP3 97CP3 97CP3 97CP3	4.0-5.0 5.0-5.7 5.7-7.5 7.5-8.2 8.2-9.0	.26 1.30 .01 .06	1.37 8.36 2.74 .05 .07	13.8365.931.2.91.8	<.01 .12 .01 <.01 <.01			
	97CP3 97CP3 97CP3 RE 97C RRE 970	9.0-10.1 10.2-11.1 11.1-11.6 P3 11.1-11.6 CP3 11.1-11.6	2.09 5.94 .84 .84 .81	4.61 23.18 1.72 1.73 1.74	80.9 319.9 25.6 25.4 27.3	.08 .17 <.01 <.01 <.01			
	97CP4 97CP4 97CP4 97CP4 97CP4 97CP4	3.9-5.0 5.0-6.0 6.0-7.0 7.0-8.0 8.0-9.3	6.95 12.16 12.97 6.85 5.97	12.40 6.93 13.26 8.22 14.23	293.0 353.1 488.2 220.0 203.8	.58 .25 .57 .22 .80			
	97CP4 97CP4 97CP4 97CP4 97CP4 97CP4	9.3-10.6 10.6-12.0 12.0-13.0 13.0-14.0 14.0-14.6	.57 1.78 1.13 21.16 .64	1.03 4.67 3.62 8.23 3.84	35.4 90.9 52.3 620.1 90.9	.14 .06 .02 .12 .07			
	97CP4 97CP4 97CP4 97CP4 RE 970 RRE 970	14.6-15.6 15.6-16.6 16.6-17.7 294 16.6-17.7 294 16.6-17.7	21.25 2.85 7.95 7.98 7.76	8.34 12.26 20.43 20.55 21.69	680.3 127.7 269.5 270.0 287.0	.27 .24 .08 .09 .10			
	97CP4 97CP4 97CP4 97CP4 97CP4 97CP4	17.7-18.8 18.8-20.0 20.0-21.0 21.0-22.0 22.0-23.1	7.45 4.65 2.27 1.21 .89	7.76 15.64 3.32 3.43 3.66	210.7 199.0 63.0 60.1 60.4	.06 .08 .03 .04 .33			
	97CP4 97CP4 97CP4 97CP4 97CP4 97CP4	23.1-23.8 23.8-25.0 25.0-26.1 26.1-27.5 27.5-28.8	2.52 .74 .14 .06 .02	3.69 2.48 .13 .09 .04	83.4 20.6 3.6 1.7 1.7	.08 .04 .02 <.01 <.01			
	STANDA	ARD R-1/AU-1	1.30	2.36	101.3	3.41		···	
DATE RECE	1 GM SAMPLE DIG - SAMPLE TYPE: Samples beginn EIVED: DEC 17 1997 DATE REPORT MAI	EESTED IN 50 ML AQUA - REGI CORE AG** & AU** BY FI ing 'RE' are Reruns and 'RR LED: $Dec 24/97$ the client Arms assumes th	IA, DILUTE IRE ASSAY RE' are Re SIGNE	TO 100 M FROM 1 A. sject Reru D BY.	L, ANALYSI T. SAMPLE.	S BY ICP.	C.LEONG, J. WANG; nalvsis only.	CERTIFIED B.C. A	ssayers Fa 7

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ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.

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THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL Samples beginning 'RE' are Reruns and 'RRE' are Reject Rerung. - SAMPLE TYPE: CORE

DATE RECEIVED: DEC 17 1997 DATE REPORT MAILED: /

SIGNED BY D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data # FA

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RRE 97CP1 139.9-140.8 97CP1 146.2-147.9 97CP1 147.9-149.5 STANDARD C3/R-1/AU-1	2 87 15 39 12 38 25 62	7 874 9 27 3 34 2 34	884 291 289 151	3.4 1.0 .8 5.7	91 52 48 36	14 12 10 11	2548 941 1276 736	2.63 3.59 3.18 3.12	214 36 121 54	-0 <8 <8 <8 26	2 2 2 2 2 2 2	3 10 4 19	118 347 439 30	9.1 12.8 10.0 24.5	3 3 <3 21	<3 3 3 20	20 172 169 80	1.97 7.59 11.08 .56	.044 .073 .072 .093	18 14 20	37 45 36 164	.85 1.27 1.01 .63	36<.0 62 .0 52<.0 148	11 3 11 ≪ 11 4 1 23	5 .80 5 1.81 5 1.39 5 1.86	.02 .02 .02 .05	.28 .29 .23 .17	3 <2 <2 23	3.5 .9 .9 100.6	.02 <.01 .02 3.25

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HN03-H20 AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. - SAMPLE TYPE: CORE AG** & AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE. DATE RECEIVED: DEC 17 1997 DATE REPORT MAILED: Dec 24/67 SIGNED BY....D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

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ACME AVALYTICAL	LABORATOR	IES LTD.	852 E. HASTING GEOCHE <u>Cream Mineral</u> Box 10435, 16	s st vi MICAL <u>s Inc.</u> 10 - 777 D	ICP ANAI File ‡ Un, Vancouver	3C V6A 1R6 LYSIS # 9730249R BC V77 1K5	PHONE (6	40)253-315	3 FAX (C4) 2!	53-171 A
			SAMPLE	;#		Se ppm				
			97CP4 97CP4 97CP4 97CP4 97CP4 RE 97C	12.0-1 13.0-1 14.0-1 14.6-1 14.6-1	3.0 4.0 4.6 5.6 6-15.6	.9 2.4 .1 3.4 3.2				
· · · · · · · · · · · · · · · · · · ·			STANDA	RD C3		.6				
	.500 GRAM SA ANALYSIS BY - SAMPLE TY	AMPLE IS DIGESTED HYDRIDE ICP PE: CORE PULP	WITH 3ML 3-1-2 HCL-H Samples beginning (R	NO3-H2O AT E' are Rer	95 deg.C FOR	ONE HOUR AND I	S DILUTED TO 10 uns.	ML WITH WATER.		
DATE RECEIVED:	JAN 15 1998	DATE REPORT	MAILED: Jan	20/98	SIGNED F	sy.C.A	7.D. TOYE, C.L	EONG, J. WANG;	CERTIFIED B.C.	ASSAYER
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All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

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Location:	L14E; 51+20N						Hole No:	97 CP-1
Azimuth:	321*	Dips - collar		- 60 °	Contractor:	West Gate, Potapoff	Property:	Bismark
Elevation:			m		Logged by:	Perry Grunenberg	Claim No.	Dublin
Length:	164.9 m (541 feet)		m	•	Date:	26-Nov-97	Section No.:	L 4884
Core size:	NQ		m	•		to 30-Nov-97	Started:	21-Nov-97
Purpose:	Test on strike cork Province mine/	/LF-EM conductor		-			Completed:	30-Nov-97

Ser	tion			nal	1	r'			Gentech			Reasured	10 cm	1->20 Erecte	5-hard
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au		Mo
m	m		m	m		mm	to core	decreasing abundance	No.			%	a/t	a/t	%
0	10.7	Casing, Ovbdn							Geotech	10.7	11.9	0.7	13	11	3
		- road fill, boulders, broken								11.9	13.1	0.9	16	12	3
		bedrock								13.1	14.0	0.8	12	16	3
		- casing further advanced								14.0	16.5	2.4	22	>20	3
		to 23.5 m to cover open								16.5	17.1	0.7/100%	6	7	4
		fracture in bedrock				Ļ				17.1	19.2	2.1	7	15	4
						ļ				19.2	20.0	0.6	6	7	3
10.7	16.0	Limey Argillite			- minor FeOx	L				20.0	21.3	1.1	3	9	4
		dk grey to black, fg., fine			- patchy py on fract surfs,					21.3	22.6	1.3	4	6	4
		laminated to schistose, dense,			minor diss py.					22.6	23.5	0.8	1	4	4
		mod. hard			- patchy areas carbonate,	1-10	70°	calcite bands,		23.5	24.1	0.4	7	9	4
		- minor feox on fracts			1mm-1cm lamellae, minor x-cut		10°	minor stringers		24.1	24.6	0.4	8	9	3
		- limey throughout some areas			stringers					24.6	25.6	1.1	6	10	3
		5-10 cm core			- magnetic, f.g. diss P 0			······		25.6	26.5	0.7	4	7	3
		banding 65° t.c.a.								26.5	28.7	2.1	2	11	4
		- fracts 35°, 55° t.c.a.							L	28.7	29.0	0.2	3	4	4
		- weakly weathered, some								29.0	29.6	0.6	4	7	3
		softer segments, minor clay								29.6	30.2	0.5	9	11	3
	-	-gradational to next unit					_			30.2	32.0	1.7	19	16	4
		over 30cm, lighter colored													
					- fine banded py/p0 to										
					3% of segments										

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Sec	tion		Inte	erval				VEINLETS]						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Aq	Mo
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
16.0	21.5	musc - bio argillaceous hornfels			- fine bands py/p0, minor										
		- It to med grey, minor brown			diss, tot to 3 - 5%										
		patchy			- minor feox on fract surfs										
		- banded 60° t.c.a.		L	- fracts 40°, 20° t.c.a.										
		brown biotite masses to 20%			more common breaks along										
		- broken banding, minor,			banding plane.										
		lite colors within greys.						· · · · · · · · · · · · · · · · · · ·							
		- gradational to next with		ļ											
		intro of andalusite													
		- brittle breaking, siliceous													
21.5	47.9	biotite - muscovite - andalusite			- minor carbonate stringers	1-3	5 - 20°	warpy, wispy							
		hornfelsed schist						· · · · · · · · · · · · · · · · · · ·							
		- grey, grey-brown fine			- minor << 1% diss py										
		to coarsely banded			- weak magnetite in biotite										
		- biotite to 50% of core			rich segments										
		- minor andalusite masses													
		- minor grey limey sections			- minor feox on fracts				Geotech	From	То	Rec	RQD	Fracts	Hardn's
		- banding 50° - 55° t.c.a.								32.0	32.6	0.6	2	3	4
		- minor folded warpy bands,	24.1	25.6	- minor clay on fracts // t.c.a.					32.6	35.7	3.1	20	> 20	4
										35.7	37.6	1.9	> 20	9	3
		- fracts irreg, fract along								37.6	40.2	2.5	12	11	4
		c.a. 23.5 - 25.6, core	32.0	32.3	- sandy - silty seam?,			· · · · · · · · · · · · · · · · · · ·		40.2	41.8	1.6	5	5	4
		mod to highly broken			wash from reaming?										
		- increasing competence deeper													
		into section													
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Sec	tion		Inte	erval		<u> </u>		VEINLETS	7						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Aq	Mo
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	q/t	%
		- core very broken 36.3 - 36.7	at	40.5	- weak chloritic alt'd on				Geotech			Rec	RQD	fract	hard'ss
L		blocky chips			fracts, ~ 5 cm sec'n										
L		- increased andalusite 37.7 - 39.5								41.8	44.8	3.0	15	19	3
		to 5% core, dark skeletal			- v.f.g. py +/- p0?, and					44.8	47.9	2.9	10	9	4
		nodules, resistive in core, 1 mm D			- v. thin veneers on fracts (few),					47.9	48.8	0.9	10	4	3
		rounded to elongate lensoid			to = 1% py total</td <td></td> <td></td> <td></td> <td></td> <td>48.8</td> <td>51.8</td> <td>3.0</td> <td>10</td> <td>10</td> <td>4</td>					48.8	51.8	3.0	10	10	4
		brwn to black	at	43.0		12	65°	qtz - carb vnit		51.8	54.9	3.1	> 20	> 20	2-3
	ļ	- decreased biotite segments,	at	44.8		50	65°	qtz - carb vnlt		54.9	55.8	0.8	10	8	4
		mostly musc - andalu towards			- FeOx on fracts 43.4 - 43.6			vuggy cavities		55.8	58.8	2.8	> 20	15	3
		41.0 m								58.8	61.0	1.2	15	17	3
		- coarse banding, musc; biotite;	ļ			1-2	45°	stringers qtz-c		61.0	64.0	2.9	20	> 20	3
ļ		andalusite rich segments of								64.0	64.9	0.9	8	8	3-4
ļ		30-50 cm widths; 55° t.c.a.								64.9	68.0	3.0	19	14	4
		- blocky fracture segments 43.4	ļ							68.0	70.0	2.1	> 20	? > 20	3
		- 43.6; 44.9 - 45.3; 47.7 - 47.9								70.1	71.6	1.3	15	12	4
		- possible fault contact, broken						· · · · · · · · · · · · · · · · · · ·		71.6	73.8	2.1	> 20	> 20	4
		core, orient'n unknown			-			·							
47.9	57.3	argillaceous hornfelsed schist				 					-		11		
		dk green to black, minor brown			- secondary bio assoc. w.										
		patches, fg, fine to mod coarse			hornfelsing	[
		banded @ 65 - 70° t.c.a.				 									
	<u> </u>	- darker than prev. sec'n,			- py with lesser p0										
		no apparent andalu + less			blebs and f.g. diss.,										
	·	patches biotite			concentrations on some										
		- increased banded and			bands, total to 1 or 2%					T					

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Sec	tion		Inte	rval				VEINLETS	7						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Ag	Мо
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
		cross-cutting dilation				1-10	20°-40°	qtz - carb minor							
		filling qtz and minor carbonate						py/p0 dilation							
		stringer vnlts to 5% of core						filling stringer							
		53.3 - 54.9 core moderately	at	53.2	core sec'n decomposed,	10-15	60°	q-c banded							
		broken, fractured increase,			black, granular, minor carb			vnits							
		feox on fracts-, fracts			(vnit alt'n)										
		5°, 45°, 60° t.c.a.													
			53.0	54.0	weak bleaching of core to										
		sharp contact 60° t.c.a.			lighter grey color, assoc.										
					carb - q-c vning, broken										
57.3	58.0	Altered Dyke ?	ļ		~ 3% f.g. diss py.										
		- grey to green, f.g.,			- green color (ep-chl) + seric										
		soft to scratch, equigran,													
		massive.					5°-70°	quartz and							
		- possible alt'd mafic dyke,			- strong FeOx 30cm at	1-50		q-c x-cut							
		(lamprophyre ?)			upper cntct			vnits, some							
		- to 5% qtz and carb						dilation, py							
		x-cut vnlts, minor offsets		_	- increased py banding on			on margins							
		on dilation vnlts, increase			margins of q-c vnlts, fine										
		vn intensity near lower cntct,			to coarser py grains										
		much dilation filling augened													
		appearance								_					
		- contact 65° tca													

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Se	tion	1	Inte	an cal	r	. <u>.</u>			-				•		
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	VEINLETS Minerals in	Sample	From			1	.	
m	m		m	m		mm	to core	decreasing abundance	No.	rion	10	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	AU	Ag o#	M0 9/
58.0	72.:	Argillaceous musc-biot-seric			- py banding at upper cntct,							~~~~	<u> </u>		
ļ		+/- chlorite schist			vnit assoc over 10 cm sec'n						·			1	<u>+</u>
	ļ	- weak banded to patchy	ļ	<u> </u>		10	60 *	2 x q-c bands	Samples	64.6	65.1		1	1	
	ļ	mica masses, compact, hard						at upper						1	1
L		weak siliceous	64.6	65.1	brx vein, siliceous, grey			cntct, + py		69.8	72.1			† 	+
	<u> </u>	- mostly blck and dk grey			qtz, weak remnant banding,									<u> </u>	<u> </u>
	<u> </u>	finely banded argillite			brxx argillite frags, especially									<u> </u>	
		schist 58.0 - 64.0, minor			near 65.0 m								<u> </u>		
		qtz augens 1-2 cm elongate			- py clots and fine stringers,									<u> </u>	
		- banding 50-55° tca			masses at 64.8 m to 5%							u.			
		- grades to biotitic chl-musc			of 10cm segment, 2%									·	
		schist after 64.0 m, still			through veining										
		hard (hornfelsed)										·			
					- py common on fract, surf's										
		- core mod. broken (fract)		-						1		•			
		over 20 cm segments into blocky										1.0			
		4-6 cm sec'ns, brittle, sharp.	69.8	72.1	silica rich sec'n, rough veining			<u></u>							
		- core soft, slt'd @ 69.0 m			and brox., minor carb'ate;										
	·	for 10 cm, weak chl.?			quartz to ~ 60% of core,										
					in brecciated schist with										
					assoc py masses and blebs,										
					2-3% py in vning										
			71.4	71.6	strong p0 with py to 40%										
					of sec'n in gtz box vn										
72.3	73.9	meta - sandstone (qs sch)													
		med grey, gritty, equigranular				T									

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Sec	tion		Inte	erval				VEINLETS	1						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	C U	Au	Ag	Mo
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
		hard scratching, brittle			- weak chi +/- ep on fracts	L									
L		(weak hornfelsed)			- minor carb stringers	2-5	5°-35°	carb_+/- qtz							
		quartz sericite schistose			- < 1% f.g. diss py			minor	Geotech	Fm	То	Rec	RQD	fracts	hardn's
		- possible gradational change						horsetail vning		73.8	74.4	0.6	11	7	4
		biotite musc -> sericite		l		<u> </u>				74.4	76.2	1.8	7	9	5
L		- very weak banding				L				76.2	78.6	2.3	4		5-4
										78.6	81.7	3.1	8	10	4-5
73.9	84.4	qtz-biotite - musc +/- seric			- weak magnetics in few	<u> </u>				81.7	82.0	0.1	4	3	4
		+/- chl. Schist (hornfels)			spots	 				82.0	84.4	2.4	3	7	4
		- wk fine banded to			- minor fract coating				L	. 84.4	85.0	0.4	7	4	4
		patchy textures, minor			py patches <1%	<u> </u>				85.0	86.3	1.1	5	6	4-5
		coarser 3-5 cm bands			- minor p0 on q-c vn					86.3	86.9	0.6	4	4	4
		- banding (schistosity) ~45 - 50° t.c.a.			margins, <<1% noted					86.9	88.7	1.8	6	5	4
		- masses/bands brwn biotite,			@ 82.1 m					88.7	90.0	0.6	10	4	4
		grey/green musc-seric +/- chl	74.4	75.9	- few fract filling vnlts	1-10	vary	fract filling,		90.0	90.5	0.4	8	3	4
		- fracts 45°, 70° t.c.a.			near upper cntct, q-c			dilation q-c		90.5	91.3	0.4	9	3	4
		- pervasive silic (h-fels),			< 5% of subsec'n			vnlts		91.3	91.4	0.3	7	5	2-3
	_	v. hard in patches								91.4	93.3	2.3	> 20	15	4
		- cntct broken to next,								93.3	93.7	0.4	12	5	4
		blocky fracts, brittle								93.7	96.7	2.0	6	8	4
										96.2	96.6	0.5	9	5	4
84.4	86.6	meta-Sandstone (qtz-seric Schist)				1	35-40	minor carb-qtz		96.6	97.2	0.5	5	4	4
								on fracts.		97.2	97.8	0.6	7	6	4
		-gritty, sandy grey to brwn								97.8	100.3	2.3	18	10	4-5
		tinged, mostly massive								100.3	102.7	2.5	5	2	4
		to banded 85.7-86.2													
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Sec	ion		Inte	rval				VEINLETS	ן						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	To	Cu	Au	Ag	Mo
m	m		m	m		_mm	to core	decreasing abundance	No.			%	g/t	g/t	%
		similar to previous meta-SS			- greenish chl-ep tinged										
		unit	at	84.6	- broken vuggy q-c vn	50	60?	qtz - carb,							
		- fracts 10* - 30* t.c.a.						vuggy vn							
		- slickenside surfaces	at	86.4		15	45	qtz +/- carb					_		
		50° t.c.a., carbonate-serp-ep						band-vein							}
		coated, few						single							
		-contact sharp color change													
		50 t.c.a.													
86.6	101.3	qtz - biotite +/- musc-seric			- py on fract surfs, round	1	45	few wispy							
		schist			masses and fine specs, veneer			q-c stringers							
		dk grey to it grey and			< 1% py										
		brwn colored, finely			- fine fract filling q-c,				Geotech	From	То	Rec	RQD	fracts	hardn's
		laminated, dense, hard			some warpy folded stringers					102.7	105.8	3.3	11	8	4
		(homfelsed)., fine gr.			< 1% core					105.8	107.0	1.3	8	4	4
	_	minor coarser 1-2 cm bands								107.0	107.6	1.2	18	14	4
		- mostly brittle sharp fracturing			- soft chloritic colored					107.6	108.7	0.4	1	2	4
		5° and 45° t.c.a.			masses on fract surfs, minor					108.7	109.0	0.3	1	2	4
		- minor slickens on higher			areas possible pervasive chi.					109.0	110.3	1.6	5	7	4
		angled fracts, carbonate			(wk dk green colors)					110.3	112.7	2.6	6	4	. 4
		slicken surfs								112.7	113.7	0.8	7	4	3
		91.3 - 91.4 - core decomposed								113.7	116.4	2.7	7	7	4
		to soft granular mass?	fauit?							116.4	119.5	3.1	3	6	4
		94.9 - 95.1 - coarse biotite								119.5	122.5	3.0	3	5	4
		sec'n 1-2 mm bio grains													
		50% of core													

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Sec	tion		inte	erval				VEINLETS	1						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Ag	Mo
<u> </u>	m		m			mm	to core	decreasing abundance	No.		<u> </u>	%	g/t	g/t	%
		- core moderately broken		ļ											i I
L	<u> </u>	to 2 cm - 5 cm pieces		<u> </u>											
	L	96.0 - 98.5													
		- fract sub // t.c.a. near													
ĺ	<u> </u>	97.8	1	Ì											
	<u> </u>	- competent brwn biotitic	Í												
		sch 98.5 - 111.3													
	<u> </u>	- contact over 10-15 cm,													
		change to next @ 45° t.c.a.													
	I														
101.3	104.3	quartz-seric (minor biot't)			- chi + carb on fracts						_				
		Homfelsed schist			- minor py on fracts << 1%	5	1-10	q-c +/- py							
		- granular (sandy), grey,				45		few x-cut							
	<u> </u>	massive to microbanded,	Ĺ					vnlts, some							
		f.g. to m.g., hard, brittle						augened		_					
		- few fracts	102.9	103.7				q-c +/- py pod		102.9	103.7				
		Quartz vein/pod			quartz pod/vein with			minor p0							
		102.9 - 103.7			few blebs py and p0										
		patchy increased bands													
		biotite to next unit, 45° t.c.a.													
104.3	124.1	Banded quartz-biotite -			- carb - chi. On fract surfs										
		musc +/- chl schist			- few p0 elongate blebs to 2 cm										
		- hard, brittle (hornfelsed)			length, roughly in banded-secn										
		mostly banded 1-10 mm bands,			- minor py on fracts and as										
		blotchy in places			diss << 1%										
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Sec	tion		Inte	rval				VEINLETS	1						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	To	Cu	Au	Ag	Mo
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
		- banding 47° t.c.a.			- minor p0/py blebs in										
		- ~ 30% brwn biotite			few bands;	1-2	vary	few wispy,							
		- fract // t.c.a. 112 - 112.8 m						warpy q-c							
		possible wk slickensided,						stringers	Geotech	From	То	Rec	Rqd	fracts	hardn's
L		py - carb smears								122.5	123.4	0.8	10	6	3-4
L		- gradual change to next,								123.4	126.5	3.1	6	6	3
		darker color increase,					ļ		<u> </u>	126.5	127.1	0.7	4	5	3-4
		less brown biotite, @ 124.1							ļ	127.1	130.1	2.9	5	5	3
		50° t.c.a.								130.1	131.4	1.2	7	4	3
		- fracts 122.6 - 123.4				ļ			ļ	131.2	132.4	-1.2	9	4	3
		45, 60, 5° t.c.a.				ļ				132.4	134.6	1.7	17	13	2-3
		· · · · · · · · · · · · · · · · · · ·	ļ						ļ	134.6	137.5	2.9	> 20	20	3
124.1	132.5	Argillaceous musc - bio - andalusite			- pervasive dk green in places					137.5	138.6	1.3	11	8	3
		+/- chlorite schist			(chlorite)	5-10	45	few warpy		138.6	139.9	1.5	10	11	3
		- dark green to black, no			- carbonate on some fract	<u> </u>		banded q-c		139.6	141.7	1.7	2	7	3-4
		apparent graphite (v. blck			surfs	1-2	5°-45°	wispy horsetail		141.7	144.5	2.9		10	3
		in places)			- minor py blebs and individual		ļ	q-c stringers		144.5	145.8	1.4	4	5	3
<u> </u>		- few patches coarse biotite,			grains minor fract coatings					145.8	148.4	2.8	16	20	2-3
		- 1 mm skeletal andalusite			<< 1%					148.4	150.0	1.8	9	12	3
		nodules in musc rich patches	126.4		-chloritic +/- graphite?					150.0	151.5	1.5	10	8	3
		- banding poor @ 45 - 50° tca			· · · · · · · · · · · · · · · · · · ·					151.5	152.7	1.3	7	7	3
		- @ 126.4 - 5 cm ground black								152.7	155.8	3.0	6	15	3
		core with calcite (decomp vein),								155.8	158.8	3.1	2	10	4
		possible shear								158.8	161.8	2.9	7	10	4
		130.2 - 130.7 - core broken,								161.8	164.9	2.8	2	6	4
		fract // tca									E.O.H.				
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Sec	tion		Inte	erval				VEINLETS							
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	To	Cu	Au	Aa	Мо
m	m		m	m		mm	to core	decreasing abundance	No.			%	a/t	o/t	%
132.5	140.8	Graphitic argillaeous Schist			py throughout as fine			qtz brrx							
L	<u> </u>	dk grey to black, massive			elongate blebs on banding,			+ py							
	-	to mod, banded @ end of			irregular @ ~ 45° tca			(see Rck Descr.)		132.4	134.6				
		secn., warpy banding			and as masses of 1 cm					134.6	136.0				
		- graphitic/chloritic slickensided			to 3 cm size, common					136.0	137.5				
		surfaces 50 - 60* tca			in quartz brox secn's	1-5	vary	warpy qtz +/- carb		137.5	139.9				
		per 10 - 20 cm segment			= 1% py</td <td></td> <td></td> <td>stringer vns,</td> <td></td> <td>139.9</td> <td>140.8</td> <td></td> <td></td> <td></td> <td></td>			stringer vns,		139.9	140.8				
		- 134.7 - 137.0 - quartz	140.6	140.8	- epidote - seric near			few							
		breccia, brecciated black			lower cntct, @ margin										
		Arg Sch to 1 cm size angular			of qtz - brxx										
		frags in white quartz,				L									
		~ 50% quartz in sec'n													
		- 140 - 140.7 - quartz													
		breccia, rounded to angular													
		Arg frags, 40% quartz			· · · · · · · · · · · · · · · · · · ·										
		- core less slickensided 138.7													
		to 140.8, less graphite													
		- sharp change to next													
		with intro of andalusite													
140.8	146.2	Argiliaceous Andalusite Schist			- green tinged (chlorite)	1-10	5°-70°	tension gash							
		med grey to dk grey + bick			pérvasive			fract filling,							
		- black spotted andalu to 25%,			- chlorite +/- carbonate on fracts			horsetail stringers							
		1-3 mm elongate			- << 1% py individual grains			3-4% of core							
		- wk fabric (schistosity)			to 1 mm			qtz - carb							
		~ 55° t.c.a.													
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Sec	tion		Inte	erval				VEINLETS	1						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Ag	Мо
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
		gradational change to next													
		w. reduced andalus over													
		30 cm													
146.2	149.5	Graphitic Argillaceous Schist			- chlorite on fract surf.										
		dk grey to black, mostly massive,	ļ		and wk pervasive	1-10	vary	breccia q+c		146.2	147.9				
		to poorly banded overshort						tension infills		147.9	149.5			-	
	-	segments			- little or no sulfides										
	ļ	- brecciated, weak with										-			
L		qtz +/- carbonate infillings			- talcy feel on some slip										
		- graphitic on slip surfaces			surfaces, serp'd?										
		@ 45° to c.a., few													
		- general crumbly brox													
		textured													
L		- change to next with increased													
		competence and intro of andalus													
		over 15-20 cm sec'n											_		
									ļ						
149.5	164.9	Muscovite - Andalusite +/- chlorite			- weak chlorite alt'd	5-50	45 °	quartz bands							
		Quartz Schist			- py concentrations in some	<u> </u>		or vns, few							
		banded 45-50° t.c.a., 1 mm			1-2 cm bands to 5% locally,			(10 cm wd @ 163.8m)							
		to 2 cm bands			< 1% throughout			white, warpy							
		- spotted blck or white andalus													
		1-3mm size, 1-25% of core			- fracts 45*, 5* t.c.a.										
		mostly competent, hard core													
		- qtzitic near 150.0m			· · · · · · · · · · · · · · · · · · ·										
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Location:	4965N; 1888E]					Hole No:	97 CP-2
Azimuth:	314	Dips - collar		- 60 *	Contractor:	West Gate (Potapoff)	Property:	Bismark-Kasio
Elevation:		<u> </u>	m	•	Logged by:	Perry Grunenberg	Claim No.	Cork
Length:	88.4 m (2.90 ft)	•	m	•	Date:	Dec 3 - 6, 1997	Section No.:	L 4883
Core size:	NQ	<u> </u>	<u>m</u>	•			Started:	2-Dec-97
Purpose:	Sample Trench Tr08 ga, sp intrcept, check for	parallel mineralization					Completed:	5-Dec-97

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Sec	tion		inte	rval				VEINLETS	1						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	To	Cu	Au	Ag	Мо
m.			m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
0	2.8	Soils, road fill													
		Overburden													
									Geotech	From	То	Rec	RQD	Fract	Hardn's
2.8	88.4	Andalusite-Musc-Biotite	2.8	10	Wk Feox on fract surfs.					3.0	5.2	1.1	20	8	4
		Schist ·	_							5.2	6.1	0.8	15	8	3
		- grey, competent, weak		-						6.1	7.3	1.1	16	14	4
		banded,			- softer, slight green areas					7.3	8.2	0.9	1	3	4
		35% andalusites, white, elongate			(chloritic?)					8.2	10.1	1.7	7	9	4
		to 10 mm, commonly 5 mm,								10.1	11.6	1.5	2	7	4
		parallel lineated @ 40 - 45 * t.c.a.								11.6	13.4	1.7	3	8	4
		glassy centered,			·····					13.6	14.9	1.3	10	12	3
		(white alt'd?)								14.9	16.2	1.3	13	12	3-4
		- finer grained qtz-mica								16.2	19.5	3.3	13	14	4
		matrix								19.5	21.0	1.4	5	5	3
·		3.2 - 3.7 Quartz vein								21.0	23.8	2.8	7	9	4
		or pod, broken, schist								23.8	25.8	1.7	3	8	4
		inclusions (~70% quartz,)								25.8	28.8	3.0	3	8	4
		pinkish color, wk. Feox								28.8		1.3	2	3	4
		- changing % andalusite from								30.2	32.3	2.1	12	11	3
		5 - 50% over 30 cm secn's		-						32.3	33.8	1.5	13	11	3
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Hole No. 97 CP-2

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Sec	tion		inte	erval		1		VEINLETS	1						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Aq	Mo
m	m		m	m		mm	to core	decreasing abundance	No.			%	a/t	a/t	%
	-	3.7 - 7.2 - core rubbly,													
		orange oxide stained													
		(weathering)													
		- fracts common x-cut 45 °													
· · · · ·		t.c.a.	<u> </u>												
		leaving "wedges"													ł
	-	13.3 - 13.9 - core softer,				20	80	qtz +/- carb,							
		less andalusite, feox,						pod, or vnit.							
		micaceous sch	ļ		serpentine							Rec	Rqd	Fracts	Hardn's
		- slickensided fract surfaces			serpentine chloritic slickensided					33.8	36.3	2.5	4	8	4
<u> </u>		45 ° tca, @ 16.2, 19.5,			fract surfs, esp. lower					36.3	38.4	2.1	1	6	4
		other fracts 5-10 ° tca			angled fracts 5-10 * tca					38.4	41.5	3.1	4	7	4
		(less common), slickened			well developed grooves/slickened,					41.5	43.0	1.5	3	5	4
		@ 30.9, 33.4			minor warped slip plane					43.0	46.0	3.0	1	5	4
		41.4 - 41.8 sec'n of			- wk, spotty carbonate assc.					46.0	47.9	1.9	3	5	3
		little or no andalus, biotite			with slickened fracts					47.9	50.0	2.1	12	14	3-4
		increased, massive appearance	35.8	35.9		5-10 *	45°	webbed network		50.0	50.9	0.9	9	9	3-4
		@ 47.7 - rubble core, gouge?				5-10 °		q-c stringers		50.9	52.7	1.8	> 20	13	3_4
		minor Feox						over 10cm sec'n		52.7	54.3	1.6	18	11	4
		@ 49.0 soft core, assoc								54.3	54.9	0.5	8	5	4
		with carb-qtz brxx in 5 cm								54.9	56.4	1.3	4	7	4
		secn								56.4	58.1	1.7	1	7	4
		@ 49.9 - slickened fract 40 ° t.c.a.			- continued carbonate +/- chl			······································	ļ	58.1	60.0	1.9	3	6	4
		52 - 54.6 - core more			+/- serp on fract surfs, esp.					60.0	62.5	2.5	9	9	4
		densely fractured 5°, 10°,			if slicken sided					62.5	65.2	2.7	7	9	4
		and 45° t.c.a.			·····					65.2	68.0	2.8	6	11	4

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Hole No. 97 CP-2

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Sec	tion		Inte	erval				VEINLETS	1						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	Τo	Cu	Au	Ag	Mo
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
		- increased competence			very minor py, indiv. f.g.										
		downhole from 55.0 m			diss.	10	45°	qtz, minor carb							
		-overall decreased grain						vnlts/pods							
		size of andalus downhole	68.9	70.3	p0/py to 10% within			@ 59.8, 61.1				Rec	RQD	Fract	Hardn's
		from 58.0 m, same %			biotite rich secn of sch,					68.0	68.9	0.9	8	4	4
		(~35%)			band? @ 30° tca, possible					68.9	70.1	1.2	3	6	4
		- patchy andalus mineralization			fract related, with blue	1-2	45*	few q-c		70.1	72.2	2.1	2	7	4
	-	69.0 - 88.4 over 30 - 60 cm			-green clay	ļ		vnlt/bands		72.2	73.7	1.5	1	4	4
		Secn's, variable coarse banding				<u> </u>				73.7	76.8	3.1	2	5	4
		changes 5% vs. 40% andalus								76.8	79.2	2.4	3	8	4
		- @ 84.5 - 5 cm broken,								79.2	82.3	3.1	4	5	4
		slight clayey secn, slightly								82.3	85.3	3.0	3	4	3-4
		bleached core to e of hole								85.3	88.4	3.1	7	8	3-4
		FeOx on fracts 85.3 to 88.4													
		Fracts 5°, 45°, few 75° t.c.a.													
									68.9	70.3					
								-							
		Е.О.Н.													
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Hole No. 97 CP-3

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Fage 1 01	4								
Location:	L19E 50 + 05 N						Hole No:	97 CP-3	
Azimuth:	153°	Dips - collar		-50 *	Contractor:	West Gate (Potapoff)	Property:	Bismark - Kaslo	-
Elevation:		-	m	٠	Logged by:	Perry Grunenberg	Claim No.	Cork	
Length:	26.5 m (87 ft)	-	m	•	Date:	Dec 6 - 7, 1997	Section No.:	L4883	
Core size:	NQ	-	m	•			Started:	6-Dec-97	
Purpose:	test orientation of mineralized zo	one of trench Tr9708					Completed:	7-Dec-97	

Sec	lion		Inte	rvai				VEINLETS							
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Ag	Mo
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
0	3.7	Overburden							Geotech			Rec	RQD	Fract	Hardn's
		- material placed over								4.0	5.2	0.9	2	5	3-4
		bedrock as trench backfill								5.2	8.2	2.5	4	8	3-4
										8.2	10.1	1.9	5	6	4
3.7	4.0	Andalusite' Schist								10.1	11.6	1.5	6	8	1-4
		broken segments core, cored								11.6	14.6	3.0	2	6	4
		while casing (may not be						<u>. </u>							
		bedrock). Competent, 20-30%													
		Andalu. In dk grey mica-													
		qtz matrix													
		broken change to next,													
		possible 40° t.c.a.													
4.0	4.2	Limestone			- minor py, feox near										
		- med + dk grey banded			contact to "ore".										
		@ 32* t.c.a.													
		- coarse x-talline													
		- contact to "ore" warped,													
-		approx 25° tca													

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Hole No. 97 CP-3

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Sec	tion		Inte	rval				VEINLETS							
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	To	Cu	Au	Ag	Mo
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
4.2	5.7	Dolomite/Silicified L.S.	4.2	4.3	- rusty oxidized sulfide					4.0	5.0				
		Yellow-orange color, scratches,			band (sphal + gal) runs					5.0	5.7				
		carbonate x-talline, no fizz,			through sec'n along contact					5.7	7.5				
		med to coarse x-talline.,			~ 1 - 3 cm thick					7.5	8.2				
		dk patches (remnant L.S.?)	4.3	5.7	coarse grained blebs and					8.2	9.0				Ĺ
		- 30 - 40% sulfides			masses of ga, sph, minor										
		(Pb-Zn)			cp-py unevenly distributed							ρ			
		- mottled ov/all appearance			through secn,										
		- sharp, warpy, break to next			approx 15% galena, 15% sphal,										
		@ avg. 30° t.c.a.			< 1% cp/py										L
												_			
5.7	7.5	Dolomitic Limestone			Check for siderite/ankerite										
		mostly grey x-talline calcite,			+/- ZnC03				Geotech	From	То	Rec	RQD	fract	Hardn's
		massive to banded @ ~ 20° t.c.a.							;	14.6	17.7	3.1	6	9	4
		minor orange colors (dolomitic)	6.2	7.4	round masses of coarse					17.7	20.4	2.3	7	9	4
		- Pb - Zn blebs/masses			x-talline ga and sphal					20.4	22.9	2.5	3	7	4
		to ~ 5-10% of secn			+ lesser py+/- cp, in					22.9	24.4	1.4	1	3	4
		- core appears continuous, but			dolomitic host L.S.,			-		24.4	25.6	1.3	3	6	4
		recovery 5.2 - 8.2 ~/= 83%			total ~ 10% in sub-sec'n,					25.6	26.5	0.7	4	5	4
		- minor vuggy 0.5 - 1 cm			ga >/= sp.										
		patches													
		- wk banding of sp/ga @			FeOx on fracts ~ 45° + 90°										
		20 - 25°, t.c.a.			t.c.a.										
		sharp cntct 20° t.c.a.													
7.5	8.2	Argillaceous mica schist													
		mostly massive, f.g., med to													

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Hole No. 97 CP-3

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Sec	tion		Inte	erval				VEINLETS]						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	To	Cu	Au	Ag	Мо
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
		dk grey, very finely			- barren appearance, almost										
	_	laminated (banded) @ 30°			dyke-like										
		t.c.a.													
		- hard, competent core			FeOx on fracts, few, 45° t.c.a.										
		micaceous banding f.g. musc c-sericite													
		- sharp cntct 30° t.c.a.													
8.2	11.1	Dolomitic Limestone				ļ									l
		grey + cream banded	9.0	11.1	strong ga-sph mineralz'n					9.0	10.1				
		to orange - grey mottled			in sub secn to 40 - 50%,					10.2	11.1				
		banding 30 - 35° t.c.a.			short near massive 10 - 20					11.1	11.6				
		- minor vugs 0.5 cm D, x-tal			cm secn's (esp 10.4 - 10.7 m)										
		in growth calcite			sphal > (~ 30/10)										
		9.4 - 9.5 - short sec'n of			of core, minor py										
		arg-schist, dk grey, massive,		L											
		25° t.c.a.	10.7	11.1	- core pocky, oxidized	<u> </u>									ļ
		9.8 - 10.1 - Arg - schist, broken			Su's 10.7 - 11.1, large										ļ
		cntcts, poss. slicken'd			cavities w. qtz-calc x-tal										
		surfaces on fract 35° t.c.a.	ļ		ingrowths	ļ			_						
		10.1 - 10.2 - mush, granular	ļ												
		brwnish color, shear? Or													
		decomp'd sulfides													
		sharp cntct 20° t.c.a.	<u> </u>	ļ		<u> </u>									
11.1	11.6	Argillaceous Mica Schist	11.3	11.4	FeOx on fract	ļ									
		f.g. grey massive				ļ									

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Hole No. 97 CP-3

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Sec	tion		Inte	erval	j			VEINLETS							
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Aa	Mo
m	m		m	m		mm	to core	decreasing abundance	No			%	o/t	a/t	%
		konde te Andelue	44.9										9,1	9/1	
		- trends to Andalus	11.3	11.4	FeOx area in tract area,										
		schist, possible sharp			possible ox Su's?										
		cntct, broken, @ 11.6m													
11.6	26.5	Andalusite schist			FeOx on few fracts,										
		dk grey, white spotted,			very minor										
		micaceous, 20-40% Andalus													
		competent, even textured,			minor carb. on fract	1-3	45	minor carbonate							
		schistose in mineral alignment			surfs			fract filling							
		@ 20 - 25 t.c.a.			fracts ~ 45° t.c.a.,										
		- few 10 - 20 cm segments													
		w. less andalu, more	@	25.4	single 0.5 cm band, rusty										
		equigran texture			w. remnant py margins										
		- poss. wk slip @ 24.4 m,			oxidized sulfides										
		35° t.c.a.													
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Fage 1 Of	•							٠
Location:	L19E 50 + 05 N				_		Hole No:	97 CP-4
Azimuth:	153*	Dips - collar		-70 *	Contractor:	West Gate (Potapoff)	Property:	Bismark - Kaslo
Elevation:		-	m	•	Logged by:	Perry Grunenberg	Claim No.	Cork
Length:	30.5 m (100 ft)	•	m	•	Date:	9-Dec-97	Section No.:	L 4883
Core size:	NQ	-	m	۰			Started:	7-Dec-97
Purpose:	test orientation of mineralized zone, match	with DDH 97CP-3					Completed:	8-Dec-97

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Sec	tion		Inte	rval				VEINLETS	ר						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Ag	Мо
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	
0	3.9	Overburden							1			measured	= 10 cm</td <td>0-20</td> <td>1-5</td>	0-20	1-5
		- backfill into Tr-08,							Geotech	Fm	То	Rec	RQD	Fract	Hardn's
		some wood cored at top								4.0	7.0	3.0	3	8	3
										7.0	8.5	1.5	3	6	3-4
3.9	20.0	Dolomite			- siderite?	1-3	Vary	minor late stage		8.5	11.6	3.1	8	9	3
		- cream to pink colored, to			- FeOx on fracts			qtz stringers		11.6	14.6	3.0	7	10	3
		grey, contorted uneven								14.6	17.6	3.0	4	8	3
		texture to very roughly			- variable % sphal, gal.,		_			17.6	20.7	3.1	5	6	3
		banded, fairly competent			py +/- cp throughout,					20.7	23.8	3.1	3	5	3-4
		- rounded masses sphal			average ~ 40 - 50%					23.8	26.8	3.0	2	6	4
		to 5 - 10 cm D., coarse			combined, sp > ga in					26.8	29.6	2.8	7	6	4
		gal. within and interstitial			general					29.6	30.5	0.9	1	2	4
		- grey areas remnant L.S.?	@	6.7	- silvery metallic, not ga,										
		inclusions			scratches brown, (sphal.)										
		@ 7.1 m - black graphite													
		slickenside, in 10cm	7.1	7.4	argillaceous segment, 5%										
		of argillaceous schist,			py, 1 - 2% sphal., < 1% cp										
		on fract 30° t.c.a.			1% ga										
		py aligned adjacent	8.4	8.6	massive sphal band, small										
		9.0 - 10.3 m - slight			% gal and py included										
		lesser Su content, Cream			coarse, vuggy infill py cubes										

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Hole No. 97 CP-4

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Sec	tion) inte	Inval	1	<u></u>			-				L C		
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Ag	Мо
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
		carbonate matrix w. blck	9.0	10.3	~ 5% sp, 3% py, 1% ga										
L		streaks, minor aligned			in subsec'n										
		@ 20* t.c.a.	10.3	13.3	increased sphal back to				97CP4	3.9	5.0				
		- @ 10.3 m - graphitic			15*/, 1 - 2% ga					5.0	6.0				
		slicken, ~ 3 cm wide,	13.3	14.0	strong galena, to 40% of					6.0	7.0				
		20° t.c.a.		_	core in sec'n, 10% sp					7.0	8.0				
		- few vuggy cavities in			coarse grained, minor wk					8.0	9.3				
		dolo, 1 - 2 cm D			elongation 15 - 20° t.c.a.					9.3	10.6				
		- late interstial qtz masses	14.6	15.9	strong ga - sp to 60 or 70%					10.6	12.0				
		to 3 cm width, few			~ 40% ga, 20% sp					12.0	13.0				
		- rough banding ~ 20° t.c.a.	15.9	16.1	coarse py masses to 30%					13.0	14.0				
					of core, 0.5 cm cubes					14.0	14.6				_
		- sharp break to next	16.1	20.0	rounded masses sphal., lesser					14.6	15.6				
		@ 20° t.c.a.			grains gal., 30% sp/ 5 - 10% gal					15.6	16.6				
										16.6	17.7				
20.0	21.0	Black Argillite (Sch.)			- minor (2%) py., fine banded					17.7	18.8				
		banded, f.g., @ 15 - 20° t.c.a.	20.0	20.2	- banded sp/ga near					18.8	20.0				
		- minor xtalline dolomitic			upper cntct, to 5% tot.					20.0	21.0				
		0.5 cm bands (1 or 2)			in 20 cm secn., banded					21.0	22.0				
		- very f.g., massive			@ 15 - 20° t.c.a.					22.0	23.1				
		textured 20.6 - 21.0								23.1	23.8				
		- sharp cntct @ 21.0 m,								23.8	25.0				
		20* t.c.a.								25.0	26.1				
										26.1	27.5				
21.0	26.1	Dolomite	21.0	21.3	fine network ga/sp to 10%					27.5	28.8				
		weak banded to massive			combined					Ţ					

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Sec	tion		Inte	rval				VEINLETS							
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Ag	Mo
m	m	······	m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
		not as predominant carbonate													
		matrix, ie inclusions of	21.3	22.7	Variable Su texture/content,										
		gritty and f.g. grey seds meta			ave. ~ 5 - 10% sp, 1% ga,										
		(arg.), highly variable			< 1% py			· · · · · · · · · · · · · · · · · · ·							
		textures, banding 20* t.c.a.	22.7	23.0	py rich secn to 30%,										
		21.0 - 23.3, hard, silicified, grainy			rounded individ blebs of										
		Limestone appearance, no fizz			0.5 - 1 cm D., spotted core,										
		- @ 22.0 - late qtz mass,			with 2 - 3 % sp, 1% ga										
		5 cm secn	23.0	26.1	Lesser sp/ga, few bands										
		- @ 22.2 - graphitic fract			of coarser, 2 - 3% sp,										
		coating - slip @ 22° t.c.a., thin			1% ga, 1% py										
		- @ 22.4 - vuggy secn ~ 10 cm			decreasing mineralization										
		coarse cubic carbs adjacent,			towards meta sed cntct										
		vugs 1 - 2 cm D.													
		23.7 - 24.0 - med grey			- - 	_									
		f.g. argillite sch segment			<u></u>										
		24.0 - 26.1 gradual change			••••••••••••••••••••••••••••••••••••••										
		from Dolomitic to meta-seds,													
		increased banding 15 - 20° t.c.a.													
		25.5 - 25.7 - siliceous segment,													
		white, ~ 50% qtz?													
		- @ 26.1, sharp change 24* t.c.a.			· · · · · · · · · · · · · · · · · · ·										
		to next													
26.1	28.8	Argillaceous Mica Schist			<1% py, bleb masses										
		- mica sheen, finely			(blebs 1 - 2 mm, masses 1 cm D)										
		banded @ 25* t.c.a.													

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Hole No. 97 CP-4

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Sec	tion		Inte	rval				VEINLETS	1						
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Ag	Mo
m	_m		m	m		mm	to core	decreasing abundance	No.				g/t	g/t	
		- grey to grey-green													<u></u>
		colors				1-5	5-10	carbonate +/-							
		- @ 26.7 - dolomitic						minor qtz							
		band, cream colored												_	
		- @ 26.8 - slip surface 15* t.c.a.													
		fracts mostly 15 - 20° t.c.a.													
		- @ 28.6 - 28.8 - fractured						·····							
		meta sed, dolomitic infill													
		band, at cntct													
28.8	30.5	Andalusite - Mica Schist				1-2	20*	carbonate							
		20 - 30% white 0.5 cm						stringers, very							
		elongate and in micaceous						few							
		med. grey schist, grains													
		elongate @ 20° t.c.a.													
]		hard competent, fracts													
		few 20° t.c.a.													
		E.O.H. 30.5 m													

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Hole No. 97 CP-5

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Location:	L19E 50 + 05N]					Hole No:	97 CP5
Azimuth:	-	Dips - collar		- 90 *	Contractor:	West Gate - Potapoff	Property:	Bismark - Kaslo
Elevation:		-	m	0	Logged by:	Perry Grunenberg	Claim No.	Cork
Length:	15.2 m (50 ft)	•	m	۰	Date:	10-Dec-97	Section No.:	L 4883
Core size:	NQ	-	m	٠			Started:	9-Dec-97
Purpose:	test orientation of mineralized zone - match wit	Completed:	9-Dec-97					

Sect	ion		Interval			VEINLETS									
from	to	ROCK DESCRIPTION	from	to	ALTERATION, MINERALIZATION	Thick	Angle	Minerals in	Sample	From	То	Cu	Au	Ag	Mo
m	m		m	m		mm	to core	decreasing abundance	No.			%	g/t	g/t	%
0	4.0	No Core - Trench 08													
		backfill, overburden							Geotech	Fm	То	Rec	RQD	Fract	Hardn's
		- casing driven to 4.9 m		,						4.9	6.7	1.2	8	6	3-4
4.0	15.2	- Andalusite Schist			- weak green color - chloritic					6.7	8.2	1.2	> 20	15	3-4
		4.0 - 4.9 - variable core			pervasive	1-2	45°, 60°	wispy fract		8.2	9.4	1.2	12	10	3-4
		including granite, dolomite			- chlorite +/- carbonate on		5°	filling carbonate		9.4	10.4	1.0	6	5	4
		with py band, and Andalu.			fract. surfs.			stringers, few		10.4	11.6	1.2	16	9	4
		schist broken segments,			- minor, << 1%, py blebs or					11.6	13.1	1.5	15	10	4
		cored while driving casing			individual grains, commonly					13.1	13.7	0.5	5	3	2-4
		ahead			on fract surfs.					13.7	15.2	1.4	> 20	18	4
		- Andalusite schist, 10 - 20%													
		andalus, black spotted in	13.6	13.7	- soft core, chloritic,										
		med grey matrix (mica),			decomposed										
		turns to white spotted by													
		11.0 m, 1 - 2 mm slightly	@	9.4	- graphite in brxx (shear)										
		elongate			<u>2 c</u> m wide ~ 45° t.c.a.										
		- mod to highly fract 4.9 - 10.9													
		Fracts 5°, 25° t.c.a., rubbly			- minor slickensided fract										
	-	near 8.1 - 8.2 m			surfs (4 - 5) throughout,										
		- broken, 5° tca common 10.4 - 15.2			chloritic										
		· ···													
					E.O.H. 15.2 m										







GEOLOGICAL SURVEY BRANCH ASSESSMENT REPORT

25, 334 500 0 Scale 1:25000 500 0 1000 (metres)

CREAM MINERALS LTD.

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FEBRUARY 1998



