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ASSESSMENT REPORT ON VLF-EM GEOPHYSICS

# BILLY PROPERTY

CARROLL CREEK AREA

FORT STEELE MINING DIVISION

N.T.S. 82 F/1E

Latitude: 49° 05'N

Longitude: 116° 13'W

OWNERS

CONSOLIDATED RAMROD GOLD CORP.

Suite 104, 135 - 10th Avenue South Cranbrook, B.C. V1C 2N1

Work Performed from January 9, 1995 to March 31, 1995

Report by: David L. Pighin, P. Geo. April 1995

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### GEOLOGICAL BRANCH ASSESSMENT REPORT



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#### CONSOLIDATED RAMROD GOLD CORPORATION

ASSESSMENT REPORT ON A VLF-EM GEOPHYSICAL SURVEY

BILLY 1 - 6 CLAIMS

FORT STEELE MINING DIVISION

DAVID L. PIGHIN, P. GEO.

APRIL 1995

#### 1.00 INTRODUCTION

1.10 Location and Access

The Billy claims are located in the Carroll Creek drainage, 6.25 kilometers due west of Yahk, B.C. Access is readily available by travelling 5.75 kilometers north of the Yahk - Kingsgate junction on Highway 3BC, left onto the Carroll Creek Forest Service road. At approximately 3.75 Kilometer, turn left onto the secondary logging road, staying left at the next two junctions and right at the third. Continue on to the end of the road, which terminates on a log landing. From there, the property boundary, and beginning of the geophysics grid, is 200 meters due south on foot (Figure 1).

1.20 Property

The Billy claims were staked for Consolidated Ramrod Gold Corporation in April of 1994, and consist of 102 claim units totalling 6 claims, Billy 1 to Billy 6, inclusive (Figure 2).

CLAIM	NAME	NO. OI	F UNITS	RECORD NO.	DATE S	TAKED
BILLY	1	12	2	324986	APRIL 20,	1994
BILLY	2	20	)	324987	APRIL 22,	1994
BILLY	3	16	5	324988	APRIL 24,	1994
BILLY	4	20	)	324989	APRIL 24,	1994
BILLY	5	10	6	324990	APRIL 25,	1994
BILLY	6	18	3	324991	APRIL 27,	1994

1.30 Purpose of Survey

In 1995, a VLF-EM survey was conducted on the Billy Claims to attempt to locate favourable structures that might be associated with base metal mineralization.

#### 2.00 GEOLOGY

2.10 Regional Geology

The Billy claims are located along the central area of the Purcell Anticlinorium in Southeastern British Columbia within the oldest sedimentary rocks of the region, namely the Aldridge Formation. This formation has lithological characteristics of either argillites, siltstones or quartzites, and intrusions of gabbro sills and dykes.

Approximately 60 Kilometers north and east of the Billy claims, the Aldridge Formation hosts the world class Sullivan orebody.

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The Billy claims straddle a fault bounded, north trending belt of Middle Aldridge sediments containing Sullivan-type indicators, including tourmalinite, fragmentals, albite and lead/zinc mineralization. The sediments are intruded by gabbro sills and dykes.

Major structures throughout the property are a series of north/south trending faults. Sense of movement on these breaks is normal. Tourmalinites, albites and fragmentals, prime indicators of the Sullivan environment, appear to be associated with these faults.

#### 3.00 GEOPHYSICS

3.10 Introduction

In 1995, a portion of the Billy claims was surveyed with a VLF-EM instrument in aspiration of locating favourable structures that may host Sullivan-type indicators. Such structures, once located, would serve as focal points for future, detailed exploration activities.

It was proposed that exploratory lines be established and surveyed on a north/south and east/west orientation, to establish any possible anomalous areas. Once completed, a grid would be established, and a more detailed survey done over the anomalous area.

#### 3.20 Survey Procedure

Exploratory lines were surveyed as proposed, resulting in a grid pattern being established beginning on the north boundary of the Billy 2 claim. The grid was east/west oriented, in order to effectively intersect north/south trending structures. A total of 11 east/west and 2 north/south lines (to eliminate the potential of cross-cutting structures) were surveyed, for a total of 5.875 line kilometers of grid (Figure 2, Grid Area, Figure 3, Grid Map).

Survey lines were prepared using hip chain and compass. The lines were marked with flagging, with survey stations marked on flagging at 25 meter intervals.

3.30 Instrumentation

A Crone VLF-EM receiver, manufactured by Crone Geophysical Ltd. of Mississauga, Ontario, was used for the survey. Seattle, Washington (24.8KHz) was used as the transmitting station for the initial exploratory survey, with the resulting grid (Figure 3) being surveyed using Annapolis, Maryland (21.4 KHz) as the transmitting station. The change to Annapolis was made due to the interruptions experienced with the Seattle transmitter.

In all electromagnetic prospecting, a transmitter produces an alternating magnetic (primary) field by a strong alternating current, usually through a coil of wire. If a conductive mass, such as a sulphide body, is within this magnetic field, a secondary alternating current is induced within it which in turn induces a secondary magnetic field that distorts the primary magnetic field. The VLF-EM receiver measures the





resultant field of the primary and secondary fields and measures this as the tilt or "dip angle". The results of these measurements from this survey are listed in Figure 4.

The results of the VLF-EM survey on the Billy claims were reduced by applying the Fraser Filter. This is essentially a four point difference operator, which transfers zero crossings into peaks, and a low pass smoothing operator which induces the inherent high frequency noise in the data. The results of this can then be profiled (Figures 4A to 4F), to show the cross-over points. These filtered values are listed in Figure 5.

After applying the Fraser Filter, noisy, noncontourable data can be transformed into less noisy, contourable data. Figure 6 shows these results, using the highest Fraser Filter readings as contour intervals.

3.30 Discussions of Results

A series of moderate responses were detected by the VLF-EM survey on the Billy claims. The most consistent anomalies have a North West trend, extending from station 3400S 1800W to 2800S 2300W(Figure 6). One other northwest trend is apparent, extending from 3400S 2100W to 3300S 2125W, as well as a weak anomaly from 3300S 1700W to 3000S 1825W. Further surveying is required to correctly interpret the latter two anomalies.

Within the vicinity of the consistent, moderate, northwest trending anomaly, numerous tourmalinized fragmental float (a Sullivantype indicator) was discovered, indicating that it may originate from a structure associated with the VLF-EM anomaly. Detailed prospecting, soil sampling and geological mapping is warranted to further evaluate this possibility.

#### 4.00 CONCLUSIONS

VLF-EM surveying on the Billy claims has successfully detected a moderate northwest trending conductive response, which has been traced along an 800 meter strike length. This response remains open-ended both to the north and south.

The survey, the results of which are consistent with the geological structure of the property, associated with the discovery of Sullivan-type indicators, has provided a location where further exploration can be focused.

David L. Pighin P.Geo.

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## BILLY PROPERTY



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# **BILLY PROPERTY**

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5.00 STATEMENT OF COSTS

FIELD WORK

Technician - M. Best Prospector - C. Kennedy	16 days @ \$200/day 17 days @ \$275/day	\$ 3,200.00 4,675.00
OFFICE (Planning, interpre	tation, report)	
D.L. Pighin, P. Geo.	6 days @ \$300/day	1,800.00
EQUIPMENT RENTAL		
VLF-EM receiver Snow machine	12 days @ \$35/day 10 days @ \$75/day	420.00 750.00
SNOW REMOVAL		
D8 Cat	8 hours @ \$126/hour	1,008.00
TRANSPORTATION		
4 x 4 pickup	17 days @ \$100/day	1,700.00
MAPS AND REPRODUCTIONS		
AutoCad (operator, compute	r) 4 hours @ \$50/hour	200.00

TOTAL

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\$13,753.00

David L. Pighin P.Geo. PROVINCE D. L. PIGHIN FRITISH CCLUMBA PAGE 15

#### 6.00 AUTHOR'S QUALIFICATIONS

As author of this report I, David L. Pighin, certify that:

- 1. I am a geologist employed by Consolidated Ramrod Gold Corp. whose office is at 104 135 10th Ave. S., Cranbrook, B.C.
- I am a Member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- 3. I have been actively involved in mining and exploration geology, primarily in the Province of British Columbia, for the past 29 years.
- 4. I have been employed by major mining companies.

Dated at Cranbrook, British Columbia, this 18th day of April, 1995.

David L. Pighin P. Geo.

