

# TECHNICAL REPORT OF STRUCTURAL ANALYSIS

BULL CLAIM MINERAL TENURE 525417 AND R EYE CLAIM MINERAL TENURE 554352

HUNTER BASIN AREA OMINECA MINING DIVISION CENTRAL BRITISH COLUMBIA

#### NTS 093 L 11E

UTM (NAD 83, Zone 9: 920000 E, 6042000 N 54° 30' North, 127° 10' West

Claim Owner:

Farshad Shirvani, M.Sc.

Report Prepared by: Farshad Shirvani, M.Sc.

Date of Report: Date of Revision:

June 5, 2007. June 28, 2007.



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#### 1.0 INTRODUCTION

#### 1.1 Introduction

The Bull mineral tenure, located 30 km southwest of Telkwa, B. C., is located in a wellmineralized, structurally complex, region. It was acquired by the present owner as a possible site of a substantial mineral deposit. Significant vein-type polymetallic mineral zones and porphyry-type molybdenum and/or copper and/or copper-molybdenum deposits may be present on the Bull claim and on adjoining claims that comprise the El Toro claim block. Computer-based image and terrain and alteration analysis studies were conducted in order to determine possible sites for detailed studies, including prospecting, reconnaissance mapping, sampling, soil sampling and geophysical surveys. This work was directed to the Bull tenure and will in due course be expanded to include the remainder of the El Toro property (see below).

Certain tenures adjoining the Bull tenure have been amalgamated to create the R Eye tenure, tenure no. 528994 as follows:

per Event no. 4139539 – Toro 1 – 528995, Toro 2 – 528997, Toro 3 – 528998, R Eye – 529782, El Toro 8 - El Toro 10 incl. – 533693 – 533695 incl.

# Work on the Bull claim has been distributed, for the purposes of claim maintenance, to the contiguous R Eye claim.

1.2 Location and Access

The Bull mineral tenure is located in the Hunter Basin mining area, 21 km southwest of Telkwa, B. C. and 40 km south of Smithers, B. C. (Figure 1, 2).

A forestry and mining road, suitable for four wheel drive-equipped vehicles, that leads southwesterly from Telkwa, B. C. on provincial Highway 16 provides access to the historic Hunter Basin mine and prospect area that includes the Bull claim. The road becomes increasingly crude in the vicinity of the mineral properties and is subject to closure due to natural causes; some branch roads have been decommissioned. The various prospects are located above 1500 metres elevation.

## 1.3 Property

The Bull claim (Figure 2), mineral tenure 525417, is part of a larger parcel of mineral tenures that form the "El Toro" exploration property. Registered owner is Farshad Shirvani of West Vancouver, B. C. and the area is 450.474 hectares.





#### 1.4 History

The Hunter Basin mining district has been active intermittently since about 1900. A large number of mineral prospects have been explored, initially by hand methods, followed, in a smaller number of cases, by trenching and underground mining methods. Small amounts of hand-cobbed "ore" were shipped from workings on the King and Rainbow sites (see Figure 2) in the period 1914 - 1941. The most recent recorded production is from 1962. The present Bull mineral tenure partially corresponds to the King, et al. properties reported in Minfile as property 093L 041.

Minfile entry 093L 041 reports production of 1,153,483 grams (37,085 oz.) silver, 15,563 grams (500 oz.) gold, and 44,356 kg (97,788 lbs.) copper.

### 2.0 REGIONAL GEOLOGY

The Hunter Basin area lies in the transition area between the Coast Ranges physiographic belt to the west and the Intermontane or Interior Plateau physiographic belt to the east. That terrain has been the subject of numerous geoscience initiatives, due in part to the prevalence of mineral occurrences, including several mines, and additionally and more academically as a source of information concerning the geologic history of accretionary and plutonic events.

On a regional scale, the Hunter Basin area is part of "Stikinia" geologic province of Mesozoic age. Dominant formations are assigned to the Lower Jurassic age Hazelton Group, a diverse package of volcanic and volcaniclastic members with minor sub-units of sedimentary origin. Jurassic and Cretaceous age dioritic to quartz monzonitic intrusive rocks are present as rather small discrete plutons.

Structurally the Hunter Basin area has been shown by government mapping to conform to Cordilleran trends: strong northerly fractures may mimic the patterns established further west, close to the Coast Crystalline Belt; northwest fractures and lineaments combine with the former to produce mosaic-like patterns of small blocks, many of which have only limited offsets, others are unreadable.

#### 3.0 LOCAL GEOLOGY AND MINERAL OCCURRENCES

The Hunter Basin area that includes the Bull claim is located at the headwaters of Cabinet Creek, a north-flowing tributary of the Telkwa River. Hazelton Group volcanic and metavolcanics rocks are intruded "...by a Late Cretaceous to Eocene quartz-feldspar porphyry and associated satellitic felsite dikes" (Minfile Summary, 093L 041). The mineral zones are variously copper-bearing veins with iron and copper minerals plus small amounts of lead, zinc, silver and gold. Figure 3, which is derived from the BCGS database, illustrates the local geology.

Several areas of strong alteration (sericite, quartz, iron sulphides) have been recognized in the general area from Hunter Basin westerly to the headwaters of Telkwa River. It is believed that both prospectors and major companies have in past decades devoted much attention to the area in search of vein-type and porphyry-style copper-gold and coppermolybdenum mineral deposits.

The Bull claim encompasses several prospects and mines, notably as shown in Figure 2, the Colorado, Hunter, Idaho, Rainbow and King sites. The Serb Creek molybdenite deposit, with a reported 41 million tonnes resource, lies about 25 miles northwest.

#### 4.0 STRUCTURAL AND ALTERATION STUDY

Data obtained from the British Columbia Geological Branch files, particularly from Landsat-based and ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer Imagery) files, was used to study the Bull claim area.

Slope-shade (Figure 4) and hill-shade (Figures 5 - 10) imagery analyses were undertaken at various orientations as an aid to identifying fracture zones and lineaments and then as a tool in selecting particular areas within the claim for more intensive study. Similar site selection was undertaken using the ASTER data: several depictions of spectral "windows", specific to certain alteration minerals or mineral combinations, were plotted along with the lineaments (Figures 11 - 14).

The various figures generated by the structural study have not yet been thoroughly evaluated but strong associations of rock forming minerals and fractures/lineaments are readily observed in the patterns of alteration distributions. Further study, in the field and using computer techniques to integrate data, is required. Among additional sources of information that have not yet been accessed fully are the regional geochemical (BC RGS) data base, ARIS files, and aeromagnetic data.

























### 5.0 CONCLUSIONS AND RECOMMENDATIONS

Strong associations between regional and local patterns of fracturing and the distribution of alteration minerals have been revealed by preliminary assessment of computermodified ASTER file and other data. Field studies are required in order to confirm associations of metal deposits with the imagery. In particular areas in and near small intrusive bodies should be examined and sampled (both rock samples and geochemical samples, i.e. talus fines, soils). The historic production of precious metals and the presence of lead, zinc and other sulfides suggest that a metallogenic zoning analogous to that characteristic of porphyry-style deposits may be present and if so, the exploration potential of the Bull claim and nearby claims of the El Toro property will be enhanced.

K. M. Dawson, Ph.D, P. Geo., in 2006 prepared a review of the El Toro property and stated that "The potential for discovery of an economic porphyry-type Mo or Cu, Mo deposit is rated High" (Dawson, 2006, p. 3). He recommended "...a helicopter-borne magnetic-radiometric-VLF-EM survey......followed by prospecting, recce mapping sampling, grid geochemistry and geophysics as required, trenching and drilling" (Dawson, op cit. p. 3).

Further computer-aided manipulation of BCGS data is recommended and should be expanded to include other "El Toro" property claims and in particular, the Bull claim should be geologically mapped in reconnaissance fashion. Sampling of known mineral showings may confirm indications of significant amounts of precious metals. A soil grid would further expand the information concerning areas covered by overburden and talus. Property work will require a small crew and about 12 to 15 days in the field.

#### 6.0 **REFERENCES**

The following publications were used as sources of information concerning the Bull mineral tenure:

British Columbia Geological Survey Branch website-accessible data files, including Minfile, ASTER files, ARIS and provincial geologic map.

Dawson, K. M., 2006, A Review of Historical Data on El Toro Claims of Farshad Shirvani, 093L/5, 6,11, Telkwa, B. C., private report prepared by Terra Geological Consultants Ltd.

Kilby, W. E. and Kilby, C. E. (2006): ASTER Imagery for British Columbia - An Online Exploration Resource, Geological Fieldwork 2005, Paper 2006-1

Tipper, H. W. (1976): Smithers, British Columbia (NTS 93L); Geol. Surv. Canada, Open File 35

Tipper, H. W. and Richards, T. A. (1976): Jurassic stratigraphy and history of northcentral British Columbia; Geol. Surv. Canada, Bull. 270

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#### 7.0 STATEMENT OF EXPENDITURES

The following expenditures were incurred in research, data assemblage and compilation, computer generation of images, structural analysis and report preparation:

Farshad Shirvani, M. Sc., geologist and GIS specialist: in the period September, 2006, total of 50 hours @ \$75/hour\$3750
Ian Vaughan, GIS technician and draftsperson: in the period September, 2006,
total of 76 hours @ \$40/hour\$ 3040
Erik Ostensoe, P. Geo., consulting geologist: in the period August 20 - 23, 2006, research, assistance with report writing and assembly,
total of 10 hours @ \$50/hour\$ 500
Use of licensed software programs, AutoCAD, MapInfo, MICRODEM, ArcGIS, Global Mapper\$ 500
Report preparation, photocopying, and other printing and binding charges
Total expenditures\$8540

# 8.0 AUTHOR'S QUALIFICATIONS

Farshad Shirvani, the author of the attached report, holds BSc. (1983) and MSc (1986) degrees in geology from Shiraz University (Iran). He worked eight years in Iran in mineral exploration, engineering geology and hydrogeology and as Project Manager of the Malayer Reservoir Dam and City pipeline to Hamedan. Resident of Canada since 1996. Citizen of Canada since 2002. Has worked in Canada as a geologist, web designer, AutoCAD specialist, 3D modeler and GIS specialist. Principal of TerraCAD GIS Services Ltd.

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