

**ASSESSMENT REPORT** 

including

Line Cutting

on the

TCHENTLO PROPERTY

OMINECA MINING DIVISION, British Columbia NTS: 94C/02 Latitude 55°10' N, Longitude 124°40' W

Prepared for Operators: SERENGETI RESOURCES INC 1700-750 West Pender Street Vancouver, BC, Canada V6C 2T8

> By: H.R. SAMSON, B.Sc., 20 October, 2011 Vancouver, B.C.

BC Geological Survey Assessment Report 32451

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### (1) Introduction and Terms of Reference

Serengeti Resources Inc. (Serengeti) acquired the Tchentlo claims by staking from November 2004 to May 2010. The Tchentlo property covers 8,593 hectares in generally flat terrain in north-central British Columbia, approximately 80 km northwest of Fort St. James. Access to the property is by helicopter, float plane or boat with the closest active logging road 4 km to the main target area.

The property is located in the Quesnel Trough which hosts numerous alkalic porphyry copper-gold mines and deposits from southern to northern B.C. in dioritic, monzonitic and syenitic plugs and stocks. The main ones in the general area of the property are the Kemess mine, Kwanika, Lorraine and Mt.Milligan deposits. The porphyry copper-gold deposit sought on the Tchentlo property are those of higher grades such as the Afton deposit (98 Mt of 1.14% Cu and 0.83g/t Au). In addition, deposits with Au/Cu ratios of better than 2, such as at Mt.Milligan and Cadia Hill/Ridgeway in Australia (1,040Mt of 0.31% Cu and 0.69g/t Au and 54 Mt of 0.77% Cu and 2.5g/t Au respectively) are also realistic targets.

The property was acquired in order to cover a large, poorly exposed alkalic porphyry copper-gold prospect in the Chuchi Lake area, previously worked on by Westmin Resources from 1989 to 1992. In addition, Serengeti completed a 3 hole (212.8 m) diamond drilling program in 2006 to test Induced Polarization (IP) anomalies.

The Project is currently under option to Phelps Dodge Canada Corporation (PDCC), a wholly owned subsidiary of Pheonix, Arizona based Freeport McMoran Copper & Gold. PDCC has the option to earn an initial 51% interest in Serengeti's Tchenlto and neighboring Choo projects by financing \$5 million in project expenditures over a 4 year period. Serengeti will be the project operator for the initial earn-in phase.

In order to provide access for geophysical and geological crews to complete surveys testing for a covered Cu+/-Au porphyry target on the property, Serengeti and PDCC carried out a \$32,775 line cutting program, completed by Tootikoh contracting based out of Fort St James, BC (Appendix A). From August 18<sup>th</sup>-31<sup>st</sup>, the Tootikoh crew completed 13 days of line cutting.

## (2) **Property Description and Location**

The Tchentlo property is 100% owned by Serengeti and is situated in the Omenica Mining Division just south of Chuchi Lake, approximately 80 km northwest of Fort St. James (Figure 1). It is located on NTS map sheet 93N/02 at latitude 55 degrees 10 minutes North and longitude 124 degrees and 40 minutes West. The 21 contiguous mineral claims which comprise the Tchentlo property cover an area of 8,593 hectares (Figure 2). Additional information regarding the individual claims can be referenced in Table 1.

# (3) Accessibility, Local Resources, Infrastructure, Climate and Physiography

Access to the property is by helicopter, by float plane or by boat. An active logging road exists within 4 km of the property, accessed by the Leo Creek Forest Service Road. In the 1960's a system of jeep roads was established to access the property from a camp on Tchentlo Lake.

In July of 2011, a temporary camp was established on the southeastern shore of Tamasgale Lake (Figure 4). This camp was used for the base of operations for the majority of Serengeti's 2011 site activities at Tchentlo; including the Line Cutting. Access to this camp was by helicopter and float plane.

The property is at an elevation of 900 m to 1,500 m and is covered by a blanket of glacial till over most of the property with only minor outcrop. Low swampy areas are common. The property is tree covered with fir, balsam, spruce and pine with the vegetation density varying from open pine flats to densely wooded patches with alder undergrowth. May to October are the best "summer" working months with year round work possible.

The climate of region is typical of middle latitudes in Canada as the winters are cold (-5 to - 25 deg Celsius) and summers are warm (20-25 degrees Celsius). Topography is characterized by moderate relief and is covered by extensive glacial-fluvial overburden. The vegetation on the property is best characterized by the presence of pine and fir forests with swampy grasslands occurring in low-lying areas.





Table 1
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							Mining
Project	Tenure #	Claim Name	Hectares	Expiry Date	NTS	Record Date	Division
TCHENTLO	501689	TCHENTLO 6	462.070	28-May-13	093N017	12-Jan-05	OMENICA
TCHENTLO	501778	TECHENTLO 8	461.894	28-May-13	093N017	12-Jan-05	OMENICA
TCHENTLO	501840	Tchentlo 7	461.894	28-May-13	093N016	12-Jan-05	OMENICA
TCHENTLO	501871		461.801	28-May-13	093N016	12-Jan-05	OMENICA
TCHENTLO	501950	TCHENTLO 10	461.931	28-May-12	093N017	12-Jan-05	OMENICA
TCHENTLO	506250	Tchentlo 11	461.792	28-May-12	093N017	7-Feb-05	OMENICA
TCHENTLO	506251	Tchentlo 12	443.262	28-May-12	093N017	7-Feb-05	OMENICA
TCHENTLO	506252	Tchentlo 13	443.827	28-May-12	093N017	7-Feb-05	OMENICA
TCHENTLO	508093	Tchentlo 15	221.686	28-May-12	093N016	28-Feb-05	OMENICA
TCHENTLO	514435		646.783	28-May-13	093N017	13-Nov-04	OMENICA
TCHENTLO	514436		554.385	28-May-13	093N017	15-Nov-04	OMENICA
TCHENTLO	514438		221.845	28-May-13	093N017	14-Nov-04	OMENICA
TCHENTLO	514439		332.767	28-May-13	093N017	16-Nov-04	OMENICA
TCHENTLO	514440		443.574	28-May-13	093N017	16-Nov-04	OMENICA
TCHENTLO	781102	TCHENT-1	443.7585	28-May-13	093N017	28-May-10	OMENICA
TCHENTLO	781122	TCHENT-2	277.392	28-May-13	093N017	28-May-10	OMENICA
TCHENTLO	781142	TCHENT-3	332.8181	28-May-13	093N017	28-May-10	OMENICA
TCHENTLO	781162	TCHENT-4	462.2698	28-May-13	093N017	28-May-10	OMENICA
TCHENTLO	781182	TCHENT-5	443.1241	28-May-13	093N017	28-May-10	OMENICA
TCHENTLO	781202	TCHENT-6	443.0797	28-May-13	093N017	28-May-10	OMENICA
TCHENTLO	781222	TCHENT-7	110.7928	28-May-13	093N017	28-May-10	OMENICA
21 claims			8592.746				

![](_page_7_Figure_0.jpeg)

# (4) History

In 1966 to 1972 West Coast Mining and Exploration completed soil geochemical and geophysical surveys and outlined a number of soil anomalies of greater than 100 ppm copper. The property lay dominant until 1989 when Westmin Resources acquired the property and from then to 1992 did geological mapping, soil and rock sampling and geophysics (airborne and ground magnetic surveys and two stages of IP surveys). This work is reported in assessment reports 19,810, 21,124, 22,308 and 22,674. Westmin's work outlined an area 3,500 m by 2,500 m of anomalous copper and gold values in the soils and small outcrops of propylitized and K-feldspathized monzodiorite and monzonite with minor pyrite, chalcopyrite and malachite mineralization.

Serengeti completed a geophysical program on the property in 2005 consisting of 12.4 kilometers of induced polarization (IP) and ground magnetics. In 2006, Serengeti followed up IP and magnetic anomalies with a small program of diamond drilling (AR 29410), consisting of 3 holes (212.8 m). The 2006 drilling intersected weakly anomalous copper and gold mineralization within strongly magnetic diorites to gabbros and hornfelsed andesites. The three holes drilled on the property encountered a mafic dominated volcanic and intrusive sequence with local monzonite dykes. The cause of the IP chargeability anomalies tested is likely largely due to high amounts of magnetite observed in all three holes although significant iron sulphide was also present in one of the holes (T-06-01). Anomalous copper values were encountered in one of the holes (T-06-02). The report concluded that several other targets remain on the property that will require ground geophysical surveying prior to further drill testing.

In 2010, Serengeti contracted Geotech Ltd. to complete a 333 line km ZTEM and aeromagnetic survey over the property. The survey identified several resistive features thought to represent intrusive bodies. This survey is reported in AR 32159.

Figure 3 is a compilation map, illustrating the significant results of previous geochemical, geophysical, and drilling work completed on the Tchentlo property.

# (5) Geology

#### **Regional Geology:**

The Tchentlo property lies in the northern part of the Upper Triassic to Lower Jurassic Quesnel Trough which hosts numerous alkalic porphyry copper-gold deposits, from southern to northern B.C. These deposits are associated with potassically altered diorite, monzodiorite and syenite plugs and stocks and coeval andesitic, volcanic rocks. The significant porphyry deposits in the general Tchentlo property area (Kemess Mine, Kwanika, Mt. Milligan and Lorraine deposits) are associated with strong, airborne magnetic anomalies, especially cross trends, and copper/gold stream sediment anomalies.

![](_page_9_Figure_0.jpeg)

![](_page_10_Figure_0.jpeg)

The porphyry copper-gold deposits sought on the Tchentlo property are those in the Quesnel Trough of higher grades such as Afton deposit (98 Mt of 1.14% Cu and 0.83 g/t Au). In addition, deposits with Au/Cu ratios of better than 2, such as at Mt. Milligan (706 Mt of 0.18% Cu and 0.33g/t Au) and Cadia Hill/Ridgeway in Australia (1,040 Mt of 0.31% Cu and 0.69g/t Au and 54 Mt of 0.77% Cu and 2.5g/t Au respectively) are also realistic targets.

#### **Property Geology:**

The Tchentlo property is mostly covered by glacial till (3m to greater than 30m) with Westmin reporting only 3% to 5% outcrop, mainly in the eastern and western margins of the property. This estimate is probably too high as many of the outcrops mapped by Westmin in the central portion of the property are believed by Serengeti geologists to be float boulders rather than outcrops. Outcrops in the eastern part of the property consist of monzodiorite, porphyritic monzonite and andesite that are variously propylitized and K-feldspathized. Minor amounts of pyrite, chalcopyrite and malachite are present, locally in the altered intrusive rocks.

## (6) **Results and Discussion**

The Line Cutting Crew supplied by Tootikoh Contracting mobilized to the project site on August 18<sup>th</sup>, 2011. From August 18<sup>th</sup>- 31<sup>st</sup>, a crew of 6 line cutters crew brushed 26.5 line km of IP lines (Figure 4). In addition, the crew brushed out a 6 km long ATV (quad) trail to access several of the lines.

The line cutting program is intended to provide access for the following purposes: i) a geophysical crew is scheduled to complete 26.5 line km of Induced Polarization (IP) surveys, and ii) a geological crew is scheduled to follow up the IP survey with geological investigation and collection of 900 soil samples. The known geophysical and drilling-based targets within the area of the 2011 cut lines are shown in Figure 5.

## (7) Summary and Recommendations

Work completed by previous operators and by Serengeti from 2006-2010 has demonstrated that the Tchenlto project area has strong potential to host a covered porphyry copper deposit. The Line Cutting has been successful in establishing access for IP surveying and geochemical surveying, both of which are scheduled to be completed in late summer/early fall of 2011. In total, 26.5 line km of lines were cut to facilitate access for 26.5 line km of IP surveying. In addition, the cut lines and ATV trails will provide access for geological and geochemical follow up to the IP survey and will include collection of approximately 900 soil samples.

Therefore, it is recommended that:

- i) The proposed 26.5 line km of IP surveying should be completed
- ii) The proposed 900 Ah soil samples should be collected to follow up currently known and potential IP anomalies identified in the 2011 survey

A budget for the summer 2011 work is presented below:

## Proposed Budget Summer2011 TchenIto Project

	Expenditure
Property Expenditures	
26.5 line km of IP Surveying	\$ 132,500
Soil Sampling - 900 samples @ \$50/sample	\$ 45,000
Reconnaissance Geological Investigation - 14 days, 2 geos, 2 samplers	\$ 25,000
Geo/Soil Crew cutters mob/de-mob	\$ 10,000
Sub-Total	\$ 212,500
10% Contingency	\$ 21,250
Total Expenditures	\$ 233,750

# (8) References

**McMillan, W.J., 1991**: Porphyry Deposits in the Canadian Cordillera; in Ore Deposits, Tectonics and Metallogeny in the Canadian Cordillera, B. C. Ministry of Energy, Mines and Petroleum Resources, Paper 1991-4, pages 253-276.

**Osatenko, M.J., 2005**: Assessment Report #28181. 2005 Line cutting, geochemical, and geophysical Report on the Tchentlo Property, B. C. Ministry of Energy, Mines and Petroleum Resources.

**Weston, B., 2006**: Assessment Report #29410. 2006 Drilling Assessment Report on the Tchentlo Cu-Au Property, B. C. Ministry of Energy, Mines and Petroleum Resources.

Appendix A – Expenditure Statement

## **Tchentlo Property - August 2011 Line Cutting**

Staff:Tootikoh Contracting Line Cutters - Crew of 6\$ 32,775.00Contract costs for 13 days

Total \$ 32,775.00

Dates - August 18-31, 2011

Appendix B – Geologist's Certificate

### **GEOLOGIST'S CERTIFICATE**

I, Hugh R. Samson of #205-1875 West 8<sup>th</sup> Avenue, Vancouver, in the province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am Serengeti Resources Inc.'s Senior Project Geologist.

2. THAT I am a 2005 graduate of Dalhousie University with an Honours BSc.

3. THAT I have practised in the field of Geosciences since my graduation from University.

4. THAT this report is based on work supervised by the Author between August 18<sup>th</sup> to August 31<sup>st</sup>, 2011.

5. THAT this report was written by myself under the supervision and direction of David W. Moore, President and CEO of Serengeti Resources Inc. and a Professional Geoscientist (P. Geo) registered and in good standing with the Association of Professional Engineers and Geoscientists of the Province of British Columbia (#28163).

DATED at Vancouver, British Columbia this 20<sup>th</sup> day of October, 2011.

Hugh R. Samson, B.Sc.

David W. Moore, P. Geo

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