



# **Ministry of Energy & Mines** Energy & Minerals Division

# Geological Survey Branch

### **ASSESSMENT REPORT** TITLE PAGE AND SUMMARY

| TITLE OF REPORT [type of survey(s)] 2007 Aerial Photogrammetric Report on the | total cost<br>\$86,922.36                      |                     |
|---|--|---------------------|
| AUTHOR(S) Kory Dumas, Darren O'brien  | SIGNATURE(S)                                   |                     |
| NOTICE OF WORK PERMIT NUMBER(S)/DATE(S)                                       |  | YEAR OF WORK2007    |
| STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/D                            | PATE(S) 4178812 (Nov. 6, 2007)                 |                     |
| PROPERTY NAME Berg  |  |                     |
| CLAIM NAME(S) (on which work was done) 545074-545087                          |  |                     |
| COMMODITIES SOUGHT Cu, Mo, Ag   |  |                     |
| MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN                                 |  |                     |
| MINING DIVISION Omineca   | NTS093E/14                                     |                     |
| LATITUDE53 O43 , " LO   | NGITUDE127020_                                 | (at centre of work) |
| OWNER(S)  |  |                     |
| 1) Terrane Metals Corp.   | 2)   |                     |
| MAILING ADDRESS   |  |                     |
| 1500-999 West Hastings Street   |  |                     |
| Vancouver, BC, V6C 2W2  |  |                     |
| OPERATOR(S) [who paid for the work]   |  |                     |
| 1)  | 2)   |                     |
| MAILING ADDRESS   |  |                     |
| PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, st                   | tructure, alteration, mineralization, size and | d attitude):        |
| The South Berg project is located approx. 10km SE of Berg,a calc-a            |  |                     |
| a 50 Ma quartz monzonite stock and the hornfelsed Jurassic Hazel              |  | -                   |
|   |  |                     |
| REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSES                              | SMENT REPORT NUMBERS                           |                     |
|   |  |                     |

| TYPE OF WORK IN<br>THIS REPORT               | EXTENT OF WORK<br>(IN METRIC UNITS)     | ON WHICH CLAIMS | PROJECT COSTS APPORTIONED (incl. support) |
|--|---|-----------------|---|
| GEOLOGICAL (scale, area)                     |   |                 |   |
| Ground, mapping                              |   |                 |   |
| Photo interpretation                         |   |                 |   |
| GEOPHYSICAL (line-kilometres)                |   |                 |   |
| Ground                                       |   |                 |   |
| Magnetic                                     |   |                 |   |
| Electromagnetic                              |   |                 |   |
| Induced Polarization                         |   |                 |   |
| Radiometric                                  |   |                 |   |
| Seismic                                      |   |                 |   |
| Other  |   |                 |   |
| Airborne                                     |   |                 |   |
| GEOCHEMICAL (number of samples analysed for) |   |                 |   |
| Soil   |   |                 |   |
| Silt   |   |                 |   |
| Rock   |   |                 |   |
| Other  |   |                 |   |
| DRILLING                                     |   |                 |   |
| (total metres; number of holes, size)        |   |                 |   |
| Core   |   |                 |   |
| Non-core                                     |   |                 |   |
| RELATED TECHNICAL                            |   |                 |   |
| Sampling/assaying                            |   |                 |   |
| Petrographic                                 |   |                 |   |
| Mineralographic                              |   |                 |   |
| Metallurgic                                  |   |                 |   |
| PROSPECTING (scale, area)                    |   |                 |   |
| PREPARATORY/PHYSICAL                         |   |                 |   |
| Line/grid (kilometres)                       |   |                 |   |
| Topographic/Photogrammetric                  |   |                 |   |
| (scale, area)2.0 m DEM mappin                | g (8,500 ha); Aerial photo. (72,000 ha) | 545074-545087   | \$86,922.36                               |
| Legal surveys (scale, area)                  |   |                 |   |
| Road, local access (kilometres)/trail        |   |                 |   |
| Trench (metres)                              |   |                 |   |
| Underground dev. (metres)                    |   |                 |   |
| Other  |   |                 | <b>#00.000.00</b>                         |
|  |   | TOTAL COST      | \$86,922.36                               |

BC Geological Survey Assessment Report 29632

### **Terrane Metals Corp.**

# 2007 AERIAL PHOTOGRAMMETRIC REPORT ON THE SOUTH BERG PROPERTY

Located in the Tahtsa Range, central British Columbia Omineca Mining Division NTS Mapsheet 093E/14

Centered at 53° 48' North Latitude 127° 20' West Longitude

-prepared by-Kory Dumas, B.Sc, and Darren O'Brien, B.Sc, P.Geo. #1500-999 West Hastings Street Vancouver, B.C., Canada V6C 2W2

kdumas@terranemetals.com dobrien@terranemetals.com

January 2008

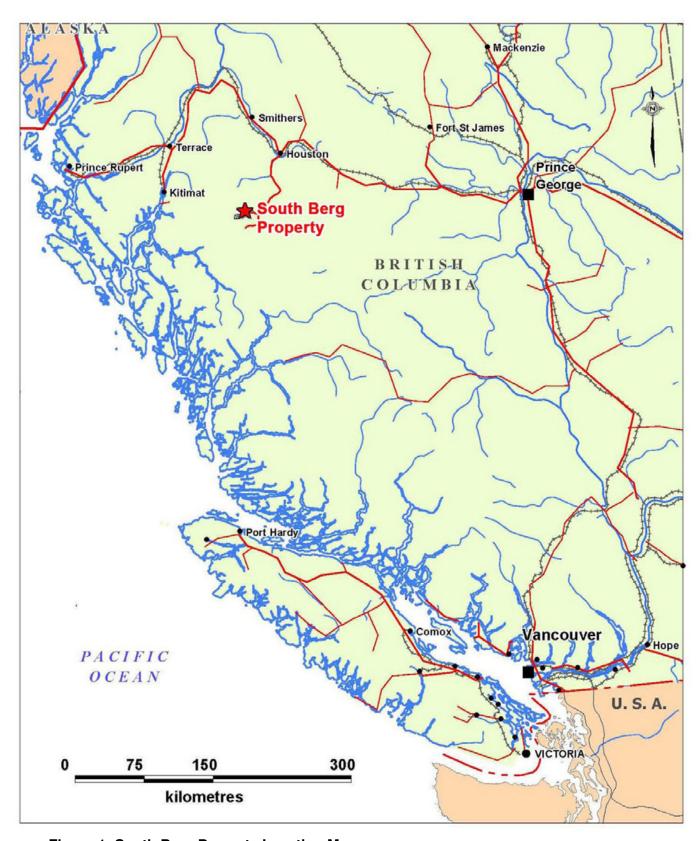
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#### Summary

The South Berg copper-molybdenum-silver property is located in west-central British Columbia, in the Tahtsa Range, approximately 80 km southwest of Houston, British Columbia, and 10 km southeast of the Berg property, owned by Terrane Metals Corp. Bordering the property to the southeast is the Huckleberry Cu-Mo open pit mine, owned by Imperial Metals and the "Japan Group". Terrane Metals Corp. owns 100% of the South Berg property, which is comprised of 14 mineral claims totaling 5,147 ha, which were staked by Terrane Metals in November of 2006. The 14 claims which make up the South Berg property are contiguous. Figure 1 shows the general project location, while Figure 2 outlines the claim boundaries, and Table 1 describes the individual claims in detail. Access to the South Berg property is generally gained by helicopter from the Berg property, but the southeast portion of South Berg can also be accessed via logging road from the Huckleberry property.

The objective of the current program was to provide detailed topographic base maps for both the Berg and South Berg projects and the surrounding area. All work was carried out by Aero Geometrics of Vancouver, BC. An aerial survey was flown over an area of 72,200 ha, which covered the Berg and South Berg properties, as well as the surrounding area. From this survey, an orthophoto was created from which a TIN file was created and, through further manuipulation, 2.0 m topographic contour maps for both project areas were created. Terrane Metals was also provided with colour aerial photographs of the 72,200 ha area.



**Figure 1: South Berg Property Location Map** 

#### **Project Location, Access and Claim Description**

The South Berg Project is owned 100% by Terrane Metals Corp., and is located in west-central British Columbia, in the Tahtsa Range, approximately 80 km southwest of Houston, British Columbia, and 10 km southeast of the Berg property, owned by Terrane Metals Corp. The project is comprised of 14 contiguous mineral claims totaling 5,147 ha, centered at 53° 43' North latitude and 127° 20' West longitude which were staked by Terrane Metals in November of 2006.

Figure 1 shows the general project location, while Figure 2 outlines the claim boundaries. Table 1 describes the individual claims in detail. Access to the South Berg Property is generally gained by helicopter from the Berg Property, but the southeast portion of South Berg can also be accessed via logging road from the Huckleberry Mine. Access to the Berg Deposit during historic exploration prior to 1980 was by way of a 42 km four-wheeldrive road from Twinkle Lake on the Tahtsa Lake Forest Service Road. The old access road crosses the north flank of Sibola Peak and follows Kidprice Creek south and west to a 1,740-metre high pass at its headwaters. The Berg Camp is located on a tributary to the north fork of Bergeland Creek, about 6 km northwest of the pass at an elevation of 1,555 m. Depending upon yearly snow accumulations, the route is generally free of snow between July and October. A portion of the four-wheel drive road was upgraded for logging and is accessible by loaded trucks to a laydown and borrow pit 20 km east-northeast of the Berg camp.

| Tenure<br>Number | Tenure<br>Type | Owner                 | Map<br>Number | Expiry Date  | Status | Mining<br>Division | Area<br>(ha) |
|------------------|----------------|-----------------------|---------------|--------------|--------|--------------------|--------------|
| 545074           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 287.097      |
| 545075           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 363.541      |
| 545076           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 401.641      |
| 545077           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 401.638      |
| 545078           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 401.639      |
| 545079           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 401.758      |
| 545080           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 344.357      |
| 545081           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 459.149      |
| 545082           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 459.285      |
| 545083           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 325.421      |
| 545084           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 363.702      |
| 545085           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 229.649      |
| 545086           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 306.169      |
| 545087           | Mineral        | Terrane Metals (100%) | 093E          | 10 Nov, 2011 | GOOD   | OMINECA            | 401.881      |
|                  |                |                       |               |              |        | Total:             | 5146.927     |

**Table 1: South Berg Claim Descriptions** 

#### References

Awmack, H. (2006); Berg Site Visit; Memorandum to Terrane Metals Corp.; September 11, 2006 (unpublished)

Awmack, H. and O'Brien, D. (2007); Technical Report on the Berg Copper-Molybdenum-Silver Property

Harris, Stewart (2007); 2007 Diamond Drilling Report on the Berg Property

Heberlein, D.R. (1995); Geology and Supergene Processes: Berg copper-molybdenum porphyry, west-central British Columbia, CIM Special Volume 46, pp 304-312.

MacIntyre, D.G., Ash, C. and Britton, J., 1994: Nass-Skeena (93/E, L, M; 94/D; 103/G, H, I, J, P; 104/A, B), Ministry of Energy, Mines and Petroleum Resources, Open File 1994-14.

Panteleyev, A. (1976); Geological Setting, Mineralization, and Aspects of Zoning at the Berg Property copper-molybdenum deposit, central British Columbia, Unpublished Ph.D. Thesis, UBC, 235 pp.

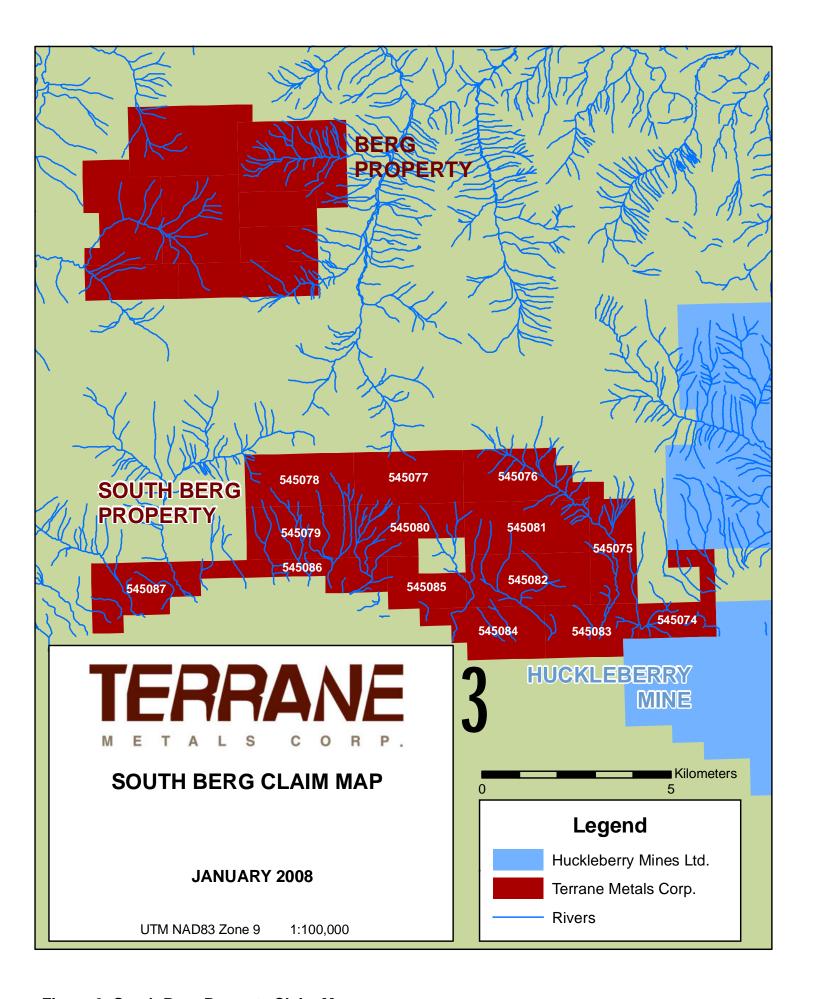


Figure 2: South Berg Property Claim Map

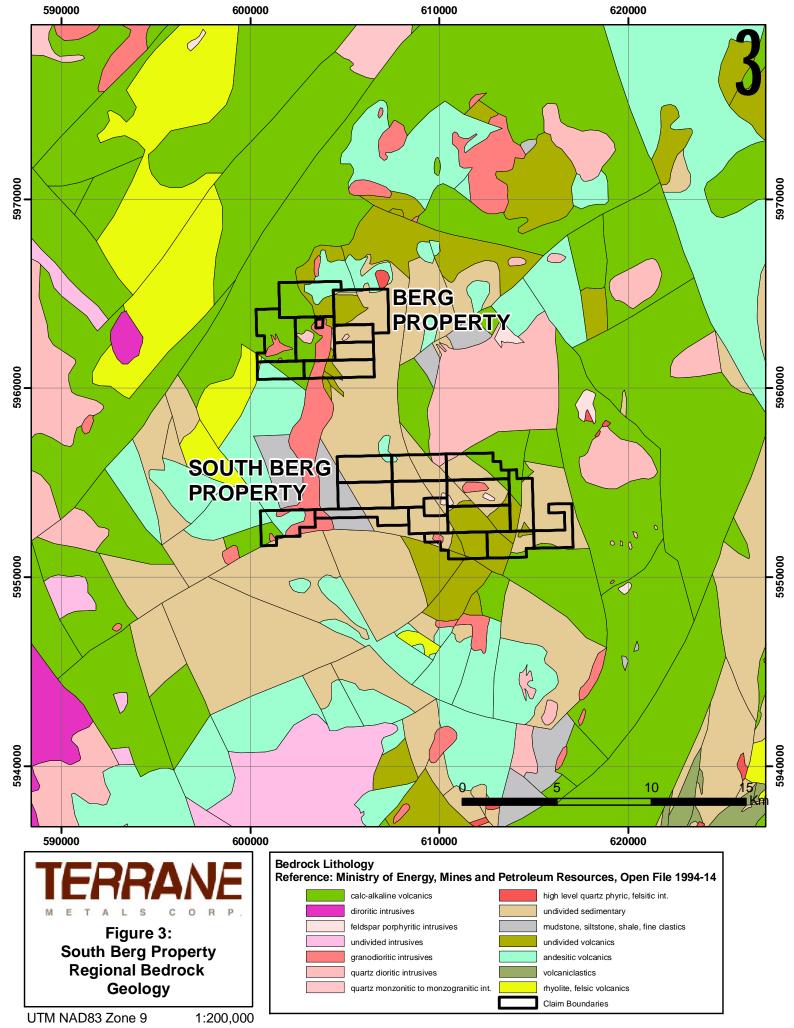
#### **Regional Geology**

The Berg project, located approximately 10km northwest of the South Berg property, is centered on one of several Early to Middle Eocene (52 Ma to 47 Ma) composite quartz monzonite stocks that intrude Middle Jurassic Hazelton Group and Lower Cretaceous Skeena Group rocks in the area. Hazelton Group rocks are well exposed west of the Berg stock. They consist of a sequence of green, grey, red and maroon lithic tuffs, tuff breccias and flows of andesitic composition. Skeena Group rocks overlie the Hazelton Group and are exposed mainly east of the property. Amygdaloidal and vesicular andesites and basalts make up the lower part of the Skeena Group succession. Many of the flows exhibit trachytic texture that distinguishes them from the underlying Hazelton Group. Sandstones, siltstones and conglomerates comprise the upper part of the succession.

The contact between the Skeena Group and the Hazelton Group is not exposed in the property area as it is everywhere intruded by quartz diorite. An exposure of the contact on a cliff face north of the Berg property is strongly epidotized and rocks on both sides are hydrothermally altered. Kasalka Group rocks uncomformably overlie the Skeena Group north of the property. Best exposures occur at Mount Ney, 6 km north of the Berg stock. Here the succession consists of a basal conglomerate member that has a distinctive red to maroon colour. Overlying the conglomerate is a predominantly volcanic sequence of white, grey and pale green rhyolite and dacite flows and flow breccias with interbedded crystal and crystal vitric tuff.

Structure in the area consists of poorly developed open folds with north to northeast axial trends causing local dips of 10° to 30°. Fractures and Miocene basalt dikes parallel this structural trend that may have acted as the principal structural control for the emplacement of intrusions in the area. This relationship is supported by the pronounced elongation of the quartz diorite intrusion.

Refer to Figure 3 for the BCGS Regional Geology map showing bedrock geology over both the Berg and South Berg Properties. As of yet, Terrane Metals Corp. has not undertaken any geological mapping of the South Berg Property.

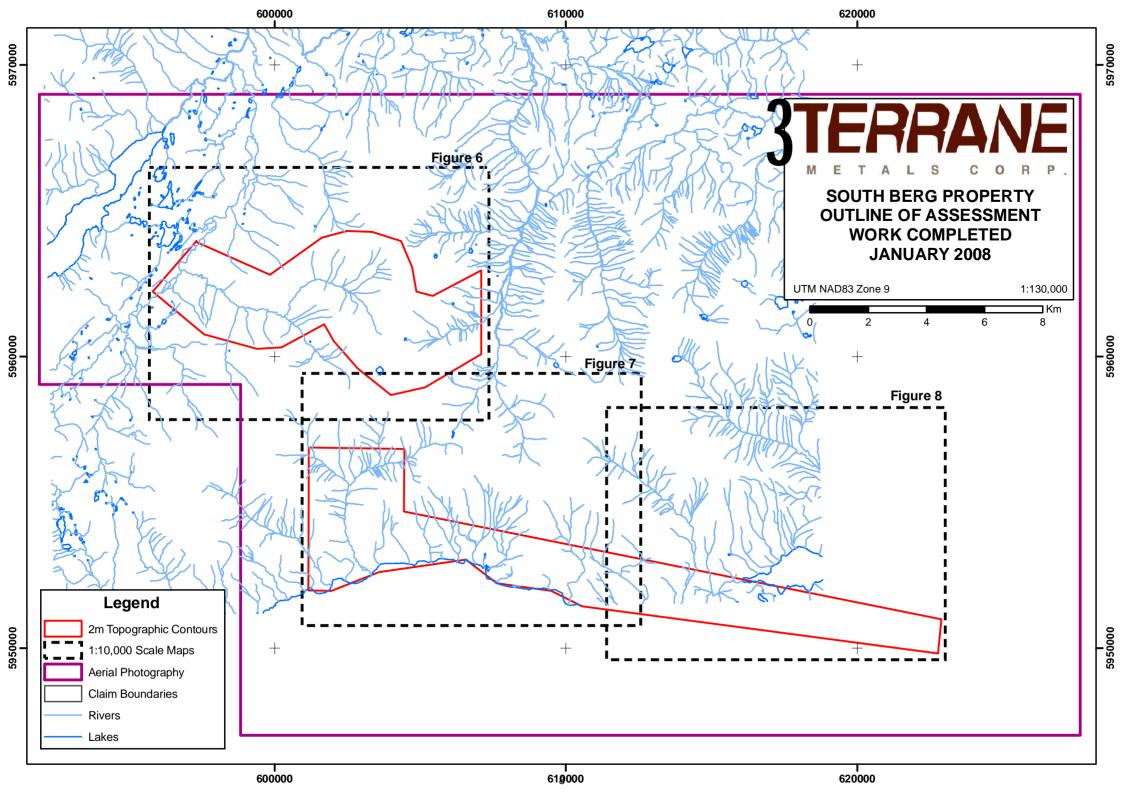


#### **Description of Work Completed**

The objective of the current program was to provide detailed topographic base maps for both the Berg and the South Berg project areas, as well as creating a detailed orthophoto of both projects and the surrounding area. All work was completed by Aero Geometrics of Vancouver, BC.

Prior to the flyover, Aero utilized precision GPS receivers to coordinate all targets. Once the targets were identified, colour aerial photos were taken of the entire survey area (72,200 ha) at a scale of 1:20,000 using a photogrammetric mapping camera using a 153mm focal length lens which incorporates forward motion compensation. The roll negative was then scanned with a calibrated photogrammetric scanner which produced scans at 0.28 microns per pixel at ground

For the area which Aero produced 2.0 m topographic contours (8,500 ha), the captured break lines and DEM's were then merged from the original files and run through a series of checking programs, and the resulting file used to produce a surface triangulated irregular network (TIN). Using KLT ortho software, Aero then used this TIN file to orthorectify the scans, through bicubic convolution, to a 0.15 meter pixel, and generate the 2.0 m contours for the area in question.



#### **Statement of Costs**

| Description of Services                                   | Amount      |
|---|-------------|
|   |             |
| 1:20 000 Colour Aerial Photo (224 exposures) (72,200 ha.) | \$16,450.00 |
| Survey (Photo Control)                                    | \$13,875.00 |
| Scanning & Aerial Triangulation                           | \$11,175.00 |
| Mapping DEM 2.0 metre contours (8,500 ha.)                | \$33,150.00 |
| Colour Photographic Prints                                | \$4,256.00  |
| Orthophoto  | \$1,680.00  |
| Report Writing  |             |
| Kory Dumas (Geologist) 3 days @ \$300/day                 | \$900.00    |
| Darren O'Brien (Geologist) 1 day @ \$600/day              | \$600.00    |
| Subtotal:   | \$82,086.00 |
| GST   | \$4,836.36  |
| Assessment Work Total:                                    | \$86,922.36 |
| PST   | \$1,449.42  |
| Total:  | \$88,371.78 |

## **Statement of Qualifications**

I, Kory Dumas of 8-2435 1st ave W in the province of British Columbia, certify that:

- 1. I am a graduate of the University of British Columbia (2005) and hold a B.Sc. Degree (Specialization) in Geology.
- 2. I have worked in my profession as a Geologist since 2006.
- 3. I am co-author of the Assessment Report titled "2007 Aerial Photogrammetric Report on the South Berg Property".
- 4. I am currently a contracted consultant of Terrane Metals Corp. My responsibilities include both field based exploration work as well as office based data management, interpretation, and visualization.
- 5. This report is based upon data collected during field work completed in September 2007 on the South Berg property in support of the Berg Project.
- 6. I hold no interest in the South Berg property. At the time of writing this report I am a member of the Terrane Metals Corp. Stock Option Plan. My options have been registered with SEDAR.

Dated this 28<sup>th</sup> day of January, 2008 at Vancouver, BC, Canada.

| Signed "Kory Dumas" |
|---------------------|
| Kory Dumas, B.Sc.   |

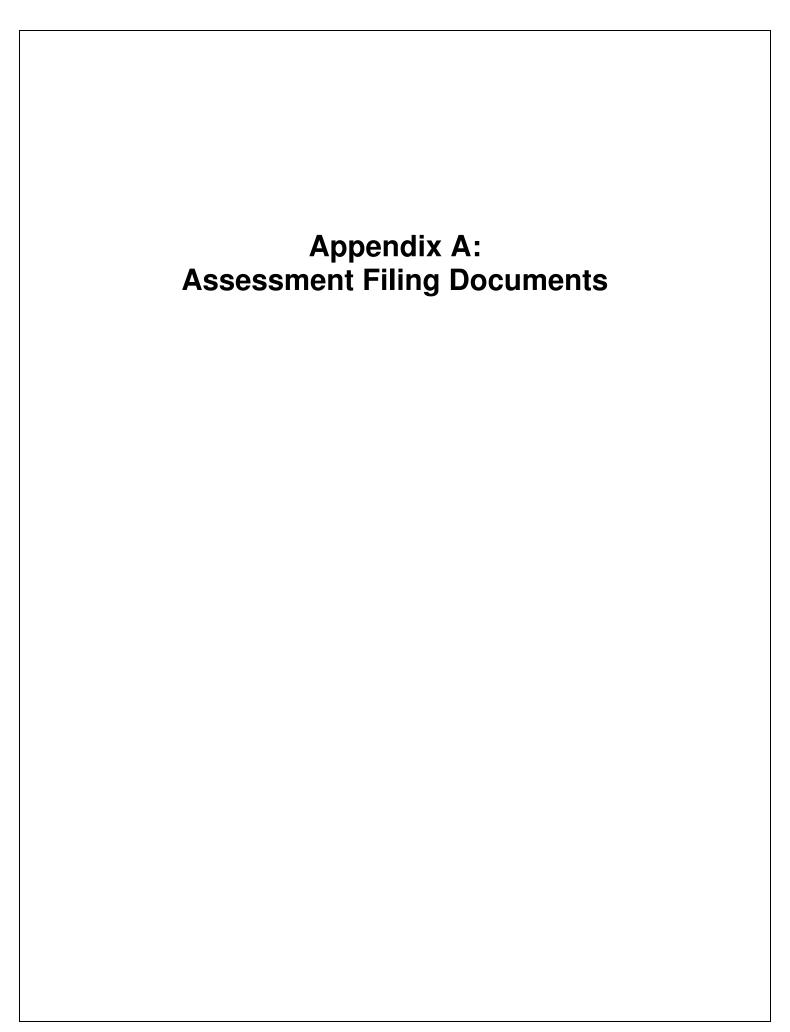
# **Statement of Qualifications**

I, Darren L. O'Brien of 7104 – 152A Avenue of Edmonton in the Province of Alberta, certify that:

- 1. I am registered as a Professional Geologist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA), Member #M55482.
- 2. I am a graduate of the University of Alberta (1993) and hold a B.Sc. Degree (Specialization) in Geology.
- 3. I have worked in my profession as a Geologist since 1993, both as an employee of a major mining company and as a consultant. Places that I have worked include Canada, USA, Central Asia and the Caribbean.
- 4. I am co-author of the Assessment Report titled "2007 Aerial Photogrammetric Report on the South Berg Property".
- 5. I am currently employed by Terrane Metals Corp. and hold the position of Vice President of Exploration. My responsibilities include generating exploration projects and quality control for advanced stage projects including Mt. Milligan and Berg.
- 6. This report is based upon data collected during field work completed in September 2007 on the South Berg property in support of the Berg Project.
- 7. I hold no interest in the South Berg property. At the time of writing this report I am a shareholder of Terrane Metals Corp and a member of the Stock Option Plan. My stock and options have been registered with SEDAR.

Dated this 25<sup>th</sup> day of January, 2008 at Vancouver, BC, Canada.

| Signed "Darren O'Brien"  |   |
|--------------------------|---|
| Darren L. O'Brien, P.Geo | _ |



From: MT.online@gov.bc.ca

Sent: Tuesday, November 06, 2007 11:08 AM

**To:** Darren O'Brien; john.brassard@theclaimgroup.com

Subject: SOW-M (4178812) 2007/NOV/06 11:7:44 Mineral Titles Online, Transaction event, Email

confirmation

Follow Up Flag: Follow up Flag Status: Follow up

Event Number: 4178812

Event Type: Exploration and Development Work / Expiry Date Change

Work Type Code: T

Required Work Amount: 102938.48

Total Work Amount: 86871.00

Total Amount Paid: 8240.72

PAC Name: TERRANE METALS CORP.

PAC Debit: 16067.48

Tenure Number: 545074
Tenure Type: M
Tenure Subtype: C
Claim Name: SOUTH 1

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 5741.93

Tenure Submission Fee: 459.67

Tenure Number: 545075
Tenure Type: M
Tenure Subtype: C
Claim Name: SOUTH 2

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 7270.81

Tenure Submission Fee: 582.06

Tenure Number: 545076

Tenure Type: M

Tenure Subtype: C

Claim Name: SOUTH 3

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 8032.81

Tenure Submission Fee: 643.07

Tenure Number: 545077
Tenure Type: M
Tenure Subtype: C
Claim Name: SOUTH 4

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 8032.76

Tenure Submission Fee: 643.06

Tenure Number: 545078
Tenure Type: M

Tenure Subtype: C Claim Name: SOUTH 5

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 8032.78

Tenure Submission Fee: 643.06

Tenure Number: 545079 Tenure Type: M Tenure Subtype: C

Claim Name: SOUTH 6

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 8035.15

Tenure Submission Fee: 643.25

Tenure Number: 545080

Tenure Type: M Tenure Subtype: C Claim Name: SOUTH 7

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 6887.14

Tenure Submission Fee: 551.35

Tenure Number: 545081

Tenure Type: M Tenure Subtype: C Claim Name: SOUTH 8

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 9182.98

Tenure Submission Fee: 735.14

Tenure Number: 545082

Tenure Type: M Tenure Subtype: C Claim Name: SOUTH 9

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 9185.69

Tenure Submission Fee: 735.36

Tenure Number: 545083

Tenure Type: M Tenure Subtype: C Claim Name: SOUTH 10

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 6508.41

Tenure Submission Fee: 521.03

Tenure Number: 545084

Tenure Type: M Tenure Subtype: C Claim Name: SOUTH 11

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 7274.04

Tenure Submission Fee: 582.32

Tenure Number: 545085

Tenure Type: M Tenure Subtype: C Claim Name: SOUTH 12

Old Good To Date: 2007/nov/10

New Good To Date: 2011/nov/10

Tenure Required Work Amount: 4592.98

Tenure Submission Fee: 367.69

Tenure Number: 545086
Tenure Type: M
Tenure Subtype: C

Claim Name: SOUTH 13

Old Good To Date: 2007/nov/10 New Good To Date: 2011/nov/10

Tenure Required Work Amount: 6123.38

Tenure Submission Fee: 490.21

Tenure Number: 545087
Tenure Type: M
Tenure Subtype: C

Claim Name: SOUTH 14
Old Good To Date: 2007/nov/10

New Good To Date: 2011/nov/10

Tenure Required Work Amount: 8037.62

Tenure Submission Fee: 643.45

Your technical work report is due in 90 days as per Section 33 of the Mineral Tenure Act and Section 16 and Schedule A of the Mineral Tenure Act Regulation. Please attach a copy of your confirmation page to the front of your report.

Server Name: PRODUCTION

