# 2015 GEOLOGICAL AND GEOCHEMICAL EXPLORATION ON THE CANYON MOUNTAIN PROPERTY 

## WHITEHORSE MINING DISTRICT, YUKON

Grant Numbers: CM 1-112 (YF46168-YF46279)

Geographic Coordinates
$60^{\circ} 38^{\prime} \mathrm{N}$ to $60^{\circ} 44^{\prime} \mathrm{N}$ $134^{\circ} 49^{\prime} \mathrm{W}$ to $134^{\circ} 56^{\prime} \mathrm{W}$

NTS Sheet 105D10

| Owner: | H. Lole (Client ID 4001170) <br> 18, 10509-81 Avenue <br> Edmonton, Alberta T6E 1X7 |
| :--- | :--- |
| Operator: | Graymont Western Canada Inc. <br> 260, 4311-12 Street NE <br> Calgary, Alberta T2E 4P9 |
| Consultant: | Dahrouge Geological Consulting Ltd. <br> $18,10509-81$ Avenue <br> Edmonton, Alberta T6E 1X7 |
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|  | September 11-16, 2015 |
| Field Work: | April 4, 2016 |

## TABLE OF CONTENTS

Page

1. Introduction ..... 1
1.1 Geographic Setting ..... 1
1.1.1 Location and Access ..... 1
1.1.2 Topography, Vegetation, Wildlife and Climate ..... 1
1.2 Property ..... 2
1.3 History and Previous Investigations ..... 5
1.4 Purpose of Work ..... 5
1.5 Summary of Work ..... 6
2. Regional Geology ..... 6
2.1 Stratigraphy ..... 6
2.1.1 Laberge Group ..... 7
2.1.2 Lewes River Group ..... 7
2.2 Structure ..... 7
3. Property Geology ..... 8
3.1 Stratigraphy and Lithology ..... 8
3.1.1 Mount Nansen Group ..... 9
3.1.2 Whitehorse Suite (Group) ..... 9
3.1.3 Laberge Group - Richtofen Formation ..... 9
3.1.4 Aksala Formation - Hancock Member ..... 9
3.2 Structure ..... 10
4. Results of 2015 Exploration ..... 10
5. Discussion and Conclusions ..... 11
6. Statement of Qualifications ..... 12
7. References ..... 14

## LIST OF TABLES

Page
Table 1.1 List of Canyon Mountain Claims ..... 2
Table 2.1 Stratigraphy of the Whitehorse Area ..... 8
LIST OF APPENDICES
Appendix 1 Itemized Cost Statement. ..... A1
Appendix 2 Analytical Laboratory Information and Techniques ..... A3
Appendix 3 Assay Results - Central Analytical Laboratory of Graymont Western U.S. Inc. ..... A4
Appendix 42015 Sample Descriptions and Assay Results from the Canyon Mountain Property ..... A7
LIST OF FIGURES
Fig. 3.1 Property Location ..... F1
Fig. 3.2 Access Map ..... F2
Fig. 4.1 Claim Map ..... F3
Fig. 4.2 Geology \& Sample Locations ..... F4
Fig. 4.3 Regional Geology Map ..... F5

## INTRODUCTION

The Canyon Mountain quartz claims were staked by Henry Lole in June 2014; Dahrouge Geological Consulting (Dahrouge) completed a surface sampling program from September 1116, 2015. Exploration consisted of collecting 32 rock samples, representing approximately 93.5 m of stratigraphy. A traverse totalling 2.29 km was completed on the Property in order to map geologic units and identify outcrops. The majority of the 2015 work on the claims focused on identifying access routes, mapping geological contacts and locating high-calcium limestone outcrops on the Canyon Mountain Property. This report describes the 2015 exploration and provides an interpretation of the results. Appendix 1 is an itemized cost breakdown of the 2015 work completed on the Canyon Mountain Property. The operator for the exploration described herein was Graymont Western Canada Inc.

The Canyon Mountain Property is comprised of 112 contiguous quartz claims; the Property has been grouped as per Grouping Certificate HW07570.

Structural measurements were obtained at stations throughout the Property. A magnetic declination of $24^{\circ} 2^{\prime} \mathrm{E}$ was used. Attitudes of bedding and other planar features are given as $A^{\circ} / B^{\circ} N W$, where $A^{\circ}$ is the azimuth of the strike (right-hand rule) and $B^{\circ}$ is the amount of dip in the direction indicated. Where bedding has been obscured by structure, stratigraphic thicknesses were calculated using orientations from adjacent units. Where more than one bedding orientation was measured, the mean orientation was used.

### 1.1 GEOGRAPHIC SETTING

### 1.1.1 Location and Access

The Canyon Mountain Property is located approximately 11 km east of Whitehorse, Yukon along the Grey Mountain Road. The Property is roughly 600 m east of the Grey Mountain radio tower (Fig.'s 3.1 and 3.2). The majority of Grey Mountain Road is paved and well-maintained, with the exception of the last 2 km , which is a rough gravel road. A well-maintained ATV trail, which is approximately 10 km in length, exists south of the Property and can be used to access the southern half of the Property. There is a helicopter pad at the radio tower on top of Grey Mountain which could be utilized for access in the future, if required.

### 1.1.2 Topography, Vegetation, Wildlife and Climate

Topography in the Canyon Mountain Property area is characterized by northwest trending broad U-shaped glacial valleys and ridges of significant relief. Elevations on the Property range
from 840 m in the eastern portion near Cantlie Lake up to approximately $1,400 \mathrm{~m}$ atop Grey Mountain at the radio tower (Fig. 4.1).

Tree cover in the Whitehorse area is moderate to dense. The most common trees are evergreen (spruce, pine and fir), with common birch, poplar, willow, cottonwood and aspen. There is no evidence of recent clear-cutting and logging in the area.

The rugged mountainous terrane and wetlands in the Canyon Mountain Property area make it an ideal habitat for variety of ungulates, birds and small mammals. The Yukon Government has identified golden eagle, thin-horn sheep and woodland caribou seasonal ranges in the Property area. To the authors' knowledge, there are no restrictions on the area due to the presence of wildlife. During exploration, Dahrouge endeavored to minimize the disturbance to local flora and fauna.

The area is part of the Boreal Cordillera Eco-zone with generally dry and cool conditions. Climate is alpine to sub-arctic with average summer temperatures of $20^{\circ}$ to $25^{\circ} \mathrm{C}$ and winter temperatures of $-15^{\circ}$ to $-25^{\circ} \mathrm{C}$, with extremes of $32^{\circ} \mathrm{C}$ and $-55^{\circ} \mathrm{C}$. Rainfall averages about 15 cm per year and maximum snowfall occurs from November to February with an average total of 128 cm. Snow often falls as early as September and as late as April.

### 1.2 PROPERTY

The Canyon Mountain claims are being held in trust for Graymont Western Canada Inc. by Henry Lole of Dahrouge, based out of Edmonton, AB. The claims were staked from June $27^{\text {th }}$ to July $2^{\text {nd }}, 2014$ by a four-person crew based out of Whitehorse. The Canyon Mountain Property consists of 112 quartz claims (CM 1-112) with a combined area of 2,340.8 ha.

TABLE 1.1
LIST OF CANYON MOUNTAIN CLAIMS

| Grant <br> Number | Claim <br> Name | Original <br> Size (ha) | Record <br> Date | New Good To <br> Date | Required <br> Spending |
| :---: | :---: | :---: | :---: | :---: | :---: |
| YF46168 | CM 1 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46169 | CM 2 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46170 | CM 3 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46171 | CM 4 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46172 | CM 5 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46173 | CM 6 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46174 | CM 7 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46175 | CM 8 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46176 | CM 9 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |


| YF46177 | CM 10 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| YF46178 | CM 11 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46179 | CM 12 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46180 | CM 13 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46181 | CM 14 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46182 | CM 15 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46183 | CM 16 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46184 | CM 17 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46185 | CM 18 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46186 | CM 19 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46187 | CM 20 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46188 | CM 21 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46189 | CM 22 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46190 | CM 23 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46191 | CM 24 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46192 | CM 25 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46193 | CM 26 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46194 | CM 27 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46195 | CM 28 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46196 | CM 29 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46197 | CM 30 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46198 | CM 31 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46199 | CM 32 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46200 | CM 33 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46201 | CM 34 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46202 | CM 35 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46203 | CM 36 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46204 | CM 37 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46205 | CM 38 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46206 | CM 39 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46207 | CM 40 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46208 | CM 41 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46209 | CM 42 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46210 | CM 43 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46211 | CM 44 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46212 | CM 45 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46213 | CM 46 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46214 | CM 47 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46215 | CM 48 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46216 | CM 49 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46217 | CM 50 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46218 | CM 51 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46219 | CM 52 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46220 | CM 53 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |


| YF46221 | CM 54 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| YF46222 | CM 55 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46223 | CM 56 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46224 | CM 57 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46225 | CM 58 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46226 | CM 59 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46227 | CM 60 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46228 | CM 61 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46229 | CM 62 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46230 | CM 63 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46231 | CM 64 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46232 | CM 65 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46233 | CM 66 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46234 | CM 67 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46235 | CM 68 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46236 | CM 69 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46237 | CM 70 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46238 | CM 71 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46239 | CM 72 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46240 | CM 73 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46241 | CM 74 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46242 | CM 75 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46243 | CM 76 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46244 | CM 77 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46245 | CM 78 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46246 | CM 79 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46247 | CM 80 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46248 | CM 81 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46249 | CM 82 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46250 | CM 83 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46251 | CM 84 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46252 | CM 85 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46253 | CM 86 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46254 | CM 87 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46255 | CM 88 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46256 | CM 89 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46257 | CM 90 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46258 | CM 91 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46259 | CM 92 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46260 | CM 93 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46261 | CM 94 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46262 | CM 95 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46263 | CM 96 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |
| YF46264 | CM 97 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | \$300.00 |


| YF46265 | CM 98 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| YF46266 | CM 99 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46267 | CM 100 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46268 | CM 101 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46269 | CM 102 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46270 | CM 103 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46271 | CM 104 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46272 | CM 105 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46273 | CM 106 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46274 | CM 107 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46275 | CM 108 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46276 | CM 109 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46277 | CM 110 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46278 | CM 111 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
| YF46279 | CM 112 | 20.9 | 14-Jul-2014 | 14-Jul-2020 | $\$ 300.00$ |
|  | Total Area: | $2,340.8$ | Representation Work Cost: | $\$ 33,600.00$ |  |
|  |  |  | Certification Cost: | $\$ 1,680.00$ |  |

### 1.3 HISTORY AND PREVIOUS INVESTIGATIONS

Initial prospecting of the area was completed by Dahrouge during the summer of 2012 to assess the quality of the limestone; the Canyon Mountain claims were later staked in 2014. Dahrouge completed a sampling program in September 2014 to investigate carbonate quality on the Property. To the knowledge of the authors, no historic exploration for high-calcium limestone has occurred in the Canyon Mountain Property area. There are, however, four expired quartz claims underlying the Canyon Mountain claims (Golcondo, Florence, Concord and Mohawk) which were staked prior to the Canyon Mountain Property; it is unknown whether the owner registered work for them.

### 1.4 PURPOSE OF WORK

The work described herein was undertaken to accurately identify the location and extent of limestone units throughout the Canyon Mountain Property, and consisted of mapping and sampling. The 2015 exploration program is a follow-up to work completed in 2014 by Dahrouge (Krueger and Lole, 2014).

### 1.5 SUMMARY OF WORK

In September 2015, Dahrouge conducted a 6-day geologic mapping and sampling program on the Canyon Mountain Property.

A total of 32 limestone samples were obtained within the Canyon Mountain Property, representing approximately 93.5 m of stratigraphy (Fig. 4.2). A traverse totalling 2.29 km was also completed on and near the Property in order to map geologic units and identify outcrops. Samples were collected by chipping outcrops perpendicular to defined or assumed bedding. Bedding was commonly difficult to identify due to the nondescript and cryptocrystalline nature of the limestone. Where bedding was uncertain or had been obscured by structure, stratigraphic thicknesses were calculated using the best estimated orientation from adjacent units. Where more than one bedding orientation was measured, the mean orientation was used.

Geological observations were recorded, including lithologic information, measurements of structural elements, and other pertinent details (Appendix 4). A solution of $10 \% \mathrm{HCl}$ was used to assess carbonate quality in the field. Samples were shipped to a lab in Salt Lake City, Utah for preparation and analyses by standard ICP techniques, and LOI. Analytical procedures are described in Appendix 2 and assay sheets are provided in Appendix 3.

Personnel were based in a hotel in Whitehorse, Yukon, and access to and from the Property was by rented four-wheel-drive vehicle. Access throughout the Property was by extensive hiking.

## 2. <br> REGIONAL GEOLOGY

### 2.1 STRATIGRAPHY

The Canyon Mountain Property is located within the Whitehorse Trough, part of the Stikine Terrane. The Whitehorse Trough is a 500 km long, northwest-trending intermontane basin located in south-central Yukon, which originated as a forearc basin, but progressively developed into a piggy-back basin near the end of the Pliensbachian during orogenic events (Colpron, 2014). The basin straddles the Yukon-British Columbia border, with its northernmost margin in the Carmacks area, approximately 175 km north of the Canyon Mountain Property. The area of the Trough covers approximately 2.44 million hectares. The basin contains up to 3 km thick Jurassic Laberge Group sedimentary rocks, underlain by Triassic Lewes River Group sediments. Overlying the sedimentary sequences are Cretaceous and Neogene volcanics (Fig. 4.3).

### 2.1.1 Laberge Group

The Jurassic Laberge Group has been informally subdivided into the Richthofen, Nordenskiold and Tanglefoot formations. The Richthofen Formation is characterized by thin- to medium-bedded turbidite beds, massive sandstone intervals, and fossiliferous conglomerates. It ranges from 500-10,000 m in thickness, and is restricted to the southern half of the basin, so is not present in the Whitehorse area. The Nordenskiold Formation consists of dark-grey, massive dacites with quartz, plagioclase, biotite and hornblende phenocrysts in a cryptocrystalline groundmass. The Tanglefoot Formation consists of coal-bearing, fluvial to marginal marine interbedded sandstones and mudstones, conglomerates, and rare bioclastic limestones. The limestones locally contain abundant ammonites, pelecypods, and carbonaceous material. It is at least 600 m thick and is restricted to the northern half of the Whitehorse Trough, and has not been seen in outcrop near the Canyon Mountain Property to date. The Richthofen, Nordenskiold and Tanglefoot formations unconformably overlie the Triassic Lewes River Group and are unconformably overlain by the Jurassic-Cretaceous Tantalus Formation (Colpron, 2011).

### 2.1.2 Lewes River Group

The Lewes River Group was determined to range in age from Carnian to Norian, based on dating of spiriferids, pelecypods, ammonites and colonial corals. It generally consists of limestone, argillite, greywacke and sandstone. Lees (1934) recognized the presence of 3 units: a lower limestone sequence, middle sequence of greywacke and argillite with interbedded limestone intervals, and an upper limestone unit. The Lewes River Group is informally subdivided into the Povoas and Aksala formations. The Povoas Formation is a volcanic unit that consists of basalts and andesites, with minor carbonate rocks. It is overlain by the CarnianNorian Aksala Formation, which has been subdivided into 2 main members: Casca and overlying Hancock. Sequences of sandstones, conglomerates and mudstones comprise the Casca Member, which overlies the reefal carbonates of the Hancock Member (Colpron, 2011). Large areas of the sedimentary sequence were subsequently intruded by granitic rocks during the Cretaceous.

### 2.2 STRUCTURE

The structural geology of the area is dominated by two major sub-parallel, north-northwest trending faults that divide and define the boundaries between the Cache Creek Terrane (to the east) and the Whitehorse Trough and between the Whitehorse Trough and the Yukon-Tanana

Terrane (to the west). The Nahlin Fault more or less marks the western extent of the Cache Creek Terrane and eastern extent of the Whitehorse Trough. It is a steeply dipping to vertical fault, or series of faults and has seen intermittent activity from the Late Triassic to Tertiary time. The Llewellyn fault marks the boundary between the regionally metamorphosed Yukon-Tanana Terrane and the Whitehorse Trough. It is also steeply dipping and appears to have been active from Late Triassic to Tertiary time (Shaw, 1989).

## TABLE 2.1 STRATIGRAPHY OF THE WHITEHORSE AREA*

| Period | Stage/Age | Stratigraphic Unit |  |  | Lithological Description | Approx. Thickness (m) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Group | Formation/ Member |  |  |  |
| Jurassic | Bathenian |  | Tantalus Fm. |  | Quartzite, chert and pebble conglomerate, minor sandstone, shale and minor coal | 200-300 |
|  | Bajocian <br> Aalenian | Laberge Gp. | Tanglefoot Fm. |  | Interbedded sandstones and mudstones, conglomerates, rare limestones | Up to 600 m |
|  | Toarcian |  | Nordenskiold Fm. |  | Volcanics including dacites | unknown |
|  | Pliensbachian |  |  |  |  |  |
|  | Sinemurian |  | Richtofen Fm. |  | Massive sandstones, conglomerates | 500-900 m |
|  | Hettangian |  |  |  |  |  |
| Triassic | Norian | Lewes River Gp. | Aksala Fm. | Casca Mbr. | Sandstones, conglomerates and mudstones, limestone | unknown |
|  |  |  |  | Hancock Mbr. | Massive to thick-bedded limestone | Up to 600 |
|  | Carnian |  | Povoas Fm. |  | Volcanics including basalts and andesites, minor carbonates |  |

*Adapted from Clapham et al., 2002.

## 3. <br> PROPERTY GEOLOGY

### 3.1 STRATIGRAPHY \& LITHOLOGY

As limited work has been performed on the Canyon Mountain Property, a detailed description of the property geology is not yet possible. In the Whitehorse area, carbonate
lithologies are known to occur within Triassic sequences. The Triassic limestones encountered within the Canyon Mountain Property are from the Hancock member of the Carnian-Norian Aksala Formation (Fig. 4.2). The massive, resistant limestone exposures in the Whitehorse area are likely part of the Hancock Member. The following is a brief summary of the units underlying the Canyon Mountain Property.

### 3.1.1 Mount Nansen Group

Mount Nansen Group outcroppings have yet to be mapped by Dahrouge on any portions of the Canyon Mountain Property. Mapping completed by the Yukon Geological Survey, however, indicates that the unit outcrops in the southwest corner of the Property. The Mount Nansen group consists of Eocene age extrusive volcanics. Typical lithologies include andesite, dacite, and brecciated tuffs (CSPG Lexicon of Canadian Stratigraphy). The Mount Nansen is not a unit with any high-calcium potential.

### 3.1.2 Whitehorse Suite (Group)

Whitehorse Suite felsic volcanics have yet to be mapped on the Canyon Mountain Property by Dahrouge. However, the Yukon Geological Survey has mapped outcroppings along the eastern border of the Property. The intrusive Middle-Cretaceous Whitehorse Suite consists of two distinct batholiths (Ryan, J.J., et al., 2013). Typical lithologies include; granite, hornblendebiotite rich granodiorite, monzogranite and tonalite. The Whitehorse Suite is not a unit with any high-calcium potential.

### 3.1.3 Laberge Group - Richtofen Formation

While the Richthofen Formation has yet to be mapped on the Canyon Mountain Property by Dahrouge, the Yukon Geological Survey has confirmed that the unit outcrops along the western edge of the Property. The Formation typically consists of massive sandstones and conglomerates and is not a unit with high-calcium potential.

### 3.1.4 Aksala Formation - Hancock Member

The massive cliff-forming Hancock Member was mapped in 2015 within the southern and central portions of the Canyon Mountain Property. The member consists of very light-grey to medium-grey weathered, light-grey to medium-grey fresh, cryptocrystalline to micritic lime mudstones. Both massive and resistant, the Hancock Member limestones have minor carbonaceous stringers and oxide alteration along fractures. The Hancock Member is the
geologic unit that was targeted during the 2015 exploration program, as it has the most potential for high-calcium limestone.

### 3.2 STRUCTURE

Given the early stage of exploration on the Property, the structure is currently largely unknown. Bedding measurements taken along the central-west edge of the Property were steeply dipping (83-89 ) to the northeast, while beds in the southwest portion exhibited much shallower dips, ranging from 51 to $75^{\circ}$ approximately due east. A fault has been mapped by the Yukon Geological Survey along the Richthofen-Aksala contact in the southwest portion of the Property (Fig.'s 4.2 \& 4.3). No evidence of this fault was found during the 2015 exploration.

## 4. RESULTS OF 2015 EXPLORATION

The 2015 exploration program was conducted in order to further assess the limestone quality of the Aksala Formation, Hancock Member limestone and provide more constraint on geologic contacts with other units in the area. A total of 32 limestone samples were collected at nine separate locations (Fig. 4.2).

The groundwork also involved mapping along the south-central portion of the Property, along the flanks of Grey Mountain.

During the program, geological observations were recorded, including lithologic information, measurements of structural elements, and other pertinent details (Appendix 4). A solution of $10 \% \mathrm{HCl}$ was used to assess carbonate quality in the field. In some instances, interval thicknesses were determined by measuring outcrops perpendicular to bedding, where it could be identified. In many cases the interval thickness can only be considered approximate (at best) due to the lack of reliable bedding surfaces.

All samples from the 2015 program were shipped to a lab in Salt Lake City, Utah for preparation and analyses by standard ICP techniques, and LOI (Appendices 2 and 3). Samples collected from the Hancock Member in 2015 returned minimal variation in quality. The best sample interval examined in 2015 was Section 2015-01, which averaged $94.55 \% \mathrm{CaCO}_{3}, 1.75 \%$ $\mathrm{MgCO}_{3}$ and $2.03 \% \mathrm{SiO}_{2}$ over an estimated 52.5 m . Section 2015-01 would have averaged approximately $97 \% \mathrm{CaCO}_{3}$, but three limestone samples (127042-127044) within the section were cross-cut by volcanic dykes (dioritic). The presence of these intrusives resulted in high $\mathrm{SiO}_{2}$ percentages over 6.75 m of stratigraphy within the section. Section 2015-02 averaged $98.37 \% \mathrm{CaCO}_{3}, 1.09 \% \mathrm{MgCO}_{3}$ and $0.41 \% \mathrm{SiO}_{2}$ over approximately 12 m . Several isolated
limestone samples in the southwest of the Property (Fig. 4.2) contained argillaceous beds (sample 127071), resulting in high $\mathrm{SiO}_{2}$ content.

Dahrouge was able to further delineate the contact between the Richthofen Formation and Hancock Member limestone in the southwest portion of the Property during the 2015 exploration program. Mapping revealed that the Hancock Member extends further west than anticipated prior to the 2015 field work.

## 5. DISCUSSION AND CONCLUSIONS

Within the Canyon Mountain Property, limestone of the Norian-Carnian Hancock Member of the Aksala Formation was mapped and tested by measuring and sampling stratigraphic sections. A total of 32 Hancock Member limestone samples were collected from the southwest and west-central portions of the Property. Where cross-cutting dykes were absent, Hancock samples exhibited minimal variation in quality, generally averaging in excess of $96 \% \mathrm{CaCO}_{3}$. Intrusive dioritic dykes contaminated sample intervals 2015-01 and 2015-03. Several isolated samples in the southwest contained high silica content, resulting in assays below $75 \% \mathrm{CaCO}_{3}$. The best section of Hancock Member (Section 2015-01) averaged over $94.55 \% \mathrm{CaCO}_{3}$ across an estimated 52.5 m . Limited time for exploration prevented a conclusive analysis of the quality of the Hancock Member throughout the Property.

The next phase of exploration on the Canyon Mountain Property should consist of additional mapping and sampling, focusing on the unexplored northern half of the Property. Identifying and mapping Aksala Formation contacts with adjacent stratigraphic units in the southwest portion of the Property should also be a priority. A ground magnetic survey is recommended in areas surrounding confirmed intrusives, to assess their lateral extent where overburden is thick and outcrops are sparse. Claims CM 38-57 should be allowed to lapse if, during the next exploration program, higher quality limestones are not discovered.
6. STATEMENT OF QUALIFICATIONS

I, Kelly Krueger, residing at 1820 Rutherford Road, Edmonton, Alberta, do hereby certify that:

- I am a geologist of Dahrouge Geological Consulting Ltd., Suite 18, 10509-81 Ave., Edmonton, Alberta, T6E 1X7.
- I am a 2012 graduate of the University of Alberta, Edmonton, Alberta with a B. Sc. in Geology.
- I have practiced my profession as a geologist continuously since 2012.
- I am a registered Geologist in Training with the Association of Professional Engineers and Geoscientists of Alberta, member M96506.
- I managed the 2015 work described in this report.
- I am co-author of the report entitled " 2015 Geological and Geochemical Exploration on the Canyon Mountain Property" and accept responsibility for the veracity of technical data and results.
- I hereby consent to the copying or reproduction of this Assessment Report following the confidentiality period.

Dated this $4^{\text {th }}$ day of April, 2016.


Kelly Krueger, B.Sc., Geo. I.T.
APEGA M96506

I, Henry Lole, residing at 11140 36A Ave, Edmonton, Alberta, do hereby certify that:

- I am a geologist of Dahrouge Geological Consulting Ltd., Suite 18, 10509 - 81 Ave., Edmonton, Alberta, T6E 1X7.
- I am a 2011 graduate of Cardiff University, Cardiff, Wales, with a B.Sc. (Hons) in Exploration and Resource Geology.
- I have practiced my profession as a geologist continuously since 2011.
- I am a registered Fellow of The Geological Society, member 1019264.
- I co-managed the 2015 work described in this report.
- I am co-author of the report entitled " 2015 Geological and Geochemical Exploration on the Canyon Mountain Property" and accept responsibility for the veracity of technical data and results.
- I hereby consent to the copying or reproduction of this Assessment Report following the confidentiality period.

Dated this $4^{\text {th }}$ day of April, 2016.


Henry Lole, B.Sc., FGS
FGS 1019264

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## ITEMIZED COST STATEMENT FOR THE 2015 EXPLORATION - CANYON MOUNTAIN

a) Personnel
J. Dahrouge, geologist

| 0.13 days | Project management |  |  |
| :---: | :---: | :---: | :---: |
| 0.13 days @ | \$ 990.00 | \$ | 128.70 |
| P. Kluczny, geologist |  |  |  |
| 0.26 days | Project management |  |  |
| 0.26 days @ | \$ 795.00 | \$ | 206.70 |
| H. Lole, geologist |  |  |  |
| 5.50 days | Field work and travel Sept 11-16 |  |  |
| 0.41 days | Office work, reporting |  |  |
| 5.91 days @ | \$ 580.00 | \$ | 3,427.80 |
| K. Krueger, geologist |  |  |  |
| 5.50 days | Field work and travel Sept 11-16 |  |  |
| 1.54 days | Project planning \& preparations, reporting |  |  |
| 7.04 days @ | \$ 520.00 | \$ | 3,660.80 |
| D. Hayes, geologist |  |  |  |
| 8.87 days | Office work, data entry, reporting |  |  |
| 8.87 days @ | \$ 475.00 | \$ | 4,213.25 |
| A. Molella, receptionist |  |  |  |
| 2.25 hours | Data entry, research, reporting |  |  |
| 2.25 hours @ | \$ 42.00 | \$ | 94.50 |

b) Food and Accommodation

| 11 | man-days @ |
| :--- | :--- |
| 14 | man-days @ |
| @ | 171.73 |
| Accommodation |  |
| 60.50 Meals |  |


| $\$$ | $1,889.06$ |  |  |
| :--- | ---: | :--- | :--- |
| $\$$ | 830.52 |  |  |
| $\$$ |  |  |  |

c) Transportation

## Vehicles:

SUV Rental (Whitehorse)
ATV Rental (Whitehorse)
Parking
Fuel

```
$ 1,191.45
$ 1,374.19
$ 94.38
$ 124.88
\$ 2,784.90
```

d) Instrument Rental
GPS Rental (2)
SPOT Locator (1)

| $\$$ | 42.03 |  |  |
| :--- | :--- | :--- | :--- |
| $\$$ | 21.01 |  |  |
| $\$$ | 75.64 |  |  |
|  |  |  | 138.68 |

e) Analyses

Software Rental
Disposable Supplies
Overhead \& Supply

Total
Central Lab of Graymont Western U.S. Inc.
(32 rock samples)
32 samples @ \$ 4.50 Preparation fee
32 samples @ \$ 25.00 Sample analysis

| $\$$ | 144.00 |
| :--- | :--- |
| $\$$ | 800.00 |

$\$ 944.00$
f) Other
Software Rental
Disposable Supplies
Overhead \& Supply


Kelly Krueger, B.Sc., Geo. I.T.

## APPENDIX 2: ANALYTICAL LABORATORY INFORMATION AND TECHNIQUES

## Name and Address of the Lab:

Graymont Western US Inc., Central Laboratory.
670 East 3900 South, Suite 200
Salt Lake City, Utah, 84107

## Statement of Qualifications:

Jared Leikam obtained a B.S. in Chemistry from the University of Utah in the class of 2003. Jared started working for Graymont in February of 2004 and has been working with the ICP Spectrometer for two and a half years, under the direct supervision of Carl Paystrup (Lab Supervisor).

Vonda Stuart obtained a B.S. in Chemistry from Weber State University in 2004. Vonda started with Graymont in August of 2007 and started working in the ICP Lab the following September.

## Sample Preparation, Procedures, Reagents, Equipment, etc.:

For the ICP sample preparation, 0.5 grams of the sample is mixed with 3 g of lithium carbonate. The sample and the lithium carbonate are then fused together in a muffle furnace at $850^{\circ} \mathrm{C}$. Following the fusion process, the samples are dissolved in $1: 1 \mathrm{HCl}$; a total of $40 \mathrm{~mL} 1: 1 \mathrm{HCl}$ is used in the dissolving process. The samples are then diluted to 200 mL and spiked with 10 ppm Co. Cobalt is used as an internal standard. At this point the samples are ready for analysis on the Perkin Elmer, Optima 7300V.

## Mesh Size Fraction, Split and Weight of Sample:

Upon receiving the samples, the prep room technician riffles and then splits the stone down to a manageable size (roughly 200 g ). The stone is then dried in an oven at $120^{\circ} \mathrm{C}$. Once the samples have been dried they get pulverized to a -200 mesh size. A split of this pulverized material is then sent for testing in the main part of the lab.

## Quality Control Procedures:

The ICP spectrometer is calibrated with two certified reference materials prior to analyzing a batch of samples. A batch typically contains 96 samples. Every $12^{\text {th }}$ sample in a batch is a certified limestone reference sample. In addition to the 8 reference samples imbedded in the batch, there are 2 limestone reference samples analyzed at the beginning and at the end of the batch to ensure the accuracy of our Na and P numbers. Every element being analyzed in a sample is backed up by data from the certified reference materials. We also use an internal standard ( 10 ppm Co ) to further ensure the quality and accuracy of the analysis.

## APPENDIX 3: ASSAY RESULTS - CENTRAL ANALYTICAL LABORATORY OF GRAYMONT WESTERN U.S. INC

| LabID | Location | Tag \# | $\begin{gathered} \% \\ \mathrm{CaCO}_{3} \end{gathered}$ | $\begin{gathered} \text { \% } \\ \text { CaO } \end{gathered}$ | $\begin{gathered} \% \\ \mathrm{MgCO}_{3} \end{gathered}$ | $\begin{gathered} \% \\ \mathrm{MgO} \end{gathered}$ | $\begin{gathered} \% \\ \text { Fe2O3 } \end{gathered}$ | $\begin{gathered} \text { \% } \\ \text { Al2O3 } \end{gathered}$ | ppm <br> SrO | ppm <br> MnO | $\begin{gathered} \text { \% } \\ \text { SiO2 } \end{gathered}$ | ppm <br> BaO | ppm <br> K2O | ppm <br> Na 2 O | ppm P2O5 | ppm <br> TiO2 | $\% \text { ICP }$ <br> Total | \% LOI | \% <br> Sulfur |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2015122045 | Canyon Mtn | 127035 | 97.6 | 54.7 | 1.44 | 0.69 | 0.13 | 0.14 | 341 | 42 | 0.43 | 18 | 260 | 235 | 323 | 41 | 99.8 | 43.72 | 0.000 |
| 2015122046 | Canyon Mtn | 127036 | 96.7 | 54.2 | 1.57 | 0.75 | 0.12 | 0.22 | 308 | 51 | 0.74 | 12 | 313 | 265 | 1213 | 62 | 99.4 | 43.71 | 0.000 |
| 2015122047 | Canyon Mtn | 127037 | 96.6 | 54.1 | 1.74 | 0.83 | 0.12 | 0.20 | 309 | 53 | 0.99 | 14 | 443 | 281 | 909 | 45 | 99.6 | 42.58 | 0.000 |
| 2015122048 | Canyon Mtn | 127038 | 96.4 | 54.0 | 1.36 | 0.65 | 0.17 | 0.25 | 413 | 60 | 0.84 | 25 | 376 | 405 | 1121 | 422 | 99.0 | 43.76 | 0.000 |
| 2015122049 | Canyon Mtn | 127039 | 95.3 | 53.4 | 1.84 | 0.88 | 0.12 | 0.30 | 950 | 63 | 1.46 | 24 | 458 | 477 | 856 | 73 | 99.0 | 43.49 | 0.006 |
| 2015122050 | Canyon Mtn | 127040 | 96.0 | 53.8 | 1.86 | 0.89 | 0.14 | 0.26 | 1266 | 68 | 1.47 | 30 | 473 | 382 | 513 | 170 | 99.8 | 43.01 | 0.000 |
| 2015122051 | Canyon Mtn | 127041 | 96.6 | 54.1 | 1.65 | 0.79 | 0.17 | 0.33 | 905 | 72 | 1.28 | 29 | 556 | 545 | 574 | 73 | 100.0 | 42.95 | 0.001 |
| 2015122052 | Canyon Mtn | 127042 | 86.4 | 48.4 | 2.41 | 1.15 | 0.56 | 1.45 | 359 | 120 | 5.71 | 96 | 2090 | 3072 | 788 | 695 | 96.5 | 39.59 | 0.021 |
| 2015122053 | Canyon Mtn | 127043 | 77.1 | 43.2 | 3.26 | 1.56 | 1.25 | 2.37 | 436 | 242 | 10.85 | 234 | 2654 | 6455 | 1135 | 1652 | 94.9 | 33.86 | 0.062 |
| 2015122054 | Canyon Mtn | 127044 | 75.1 | 42.1 | 2.97 | 1.42 | 1.23 | 2.68 | 384 | 199 | 12.67 | 248 | 4150 | 8393 | 1192 | 1695 | 94.7 | 33.02 | 0.033 |
| 2015122055 | Canyon Mtn | 127045 | 97.8 | 54.8 | 1.38 | 0.66 | 0.09 | 0.11 | 298 | 45 | 0.32 | 12 | 191 | 337 | 315 | 27 | 99.7 | 43.88 | 0.000 |
| 2015122056 | Canyon Mtn | 127046 | 97.4 | 54.6 | 1.30 | 0.62 | 0.25 | 0.10 | 287 | 60 | 0.41 | 16 | 164 | 221 | 271 | 83 | 99.5 | 43.81 | 0.000 |
| 2015122057 | Canyon Mtn | 127047 | 98.0 | 54.9 | 1.17 | 0.56 | 0.12 | 0.10 | 299 | 67 | 0.36 | 11 | 161 | 222 | 365 | 5 | 99.7 | 43.77 | 0.000 |
| 2015122058 | Canyon Mtn | 127048 | 95.8 | 53.7 | 1.86 | 0.89 | 0.13 | 0.29 | 933 | 60 | 1.15 | 39 | 807 | 256 | 669 | 70 | 99.3 | 43.51 | 0.000 |
| 2015122059 | Canyon Mtn | 127049 | 98.0 | 54.9 | 1.19 | 0.57 | 0.10 | 0.10 | 225 | 60 | 0.52 | 12 | 157 | 248 | 406 | 7 | 99.9 | 43.62 | 0.000 |
| 2015122060 | Canyon Mtn | 127050 | 97.1 | 54.4 | 1.74 | 0.83 | 0.08 | 0.22 | 320 | 41 | 0.71 | 12 | 358 | 263 | 452 | 53 | 99.8 | 43.48 | 0.000 |
| 2015122061 | Canyon Mtn | 127051 | 96.2 | 53.9 | 2.07 | 0.99 | 0.08 | 0.22 | 289 | 50 | 1.16 | 11 | 273 | 204 | 232 | 49 | 99.7 | 43.44 | 0.000 |
| 2015122076 | Canyon Mtn | 127066 | 96.0 | 54.0 | 1.07 | 0.51 | 0.07 | 0.08 | 710 | 49 | 2.80 | 15 | 156 | 216 | 490 | 8 | 100.0 | 42.25 | 0.000 |
| 2015122077 | Canyon Mtn | 127067 | 98.2 | 55.0 | 1.13 | 0.54 | 0.09 | 0.10 | 560 | 41 | 0.65 | 13 | 148 | 233 | 620 | 14 | 100.1 | 43.35 | 0.000 |
| 2015122078 | Canyon Mtn | 127068 | 98.4 | 55.7 | 1.09 | 0.52 | 0.10 | 0.08 | 554 | 48 | 0.37 | 11 | 88 | 210 | 448 | 45 | 100.0 | 43.00 | 0.000 |
| 2015122079 | Canyon Mtn | 127069 | 98.7 | 55.5 | 1.02 | 0.49 | 0.09 | 0.10 | 686 | 71 | 0.28 | 22 | 118 | 229 | 418 | 11 | 100.2 | 43.20 | 0.000 |
| 2015122080 | Canyon Mtn | 127070 | 98.4 | 55.5 | 1.09 | 0.52 | 0.11 | 0.09 | 527 | 51 | 0.33 | 19 | 135 | 234 | 492 | 33 | 100.0 | 43.25 | 0.004 |
| 2015122081 | Canyon Mtn | 127071 | 55.7 | 31.2 | 4.12 | 1.97 | 2.10 | 3.63 | 1121 | 567 | 21.44 | 232 | 2775 | 12103 | 1757 | 2709 | 87.0 | 24.32 | 0.003 |
| 2015122082 | Canyon Mtn | 127072 | 79.4 | 44.5 | 6.97 | 3.33 | 0.23 | 0.45 | 1807 | 116 | 10.72 | 39 | 890 | 435 | 1087 | 177 | 97.8 | 38.14 | 0.009 |
| 2015122083 | Canyon Mtn | 127073 | 66.9 | 37.5 | 3.22 | 1.54 | 1.07 | 2.91 | 1249 | 433 | 17.14 | 389 | 7986 | 4857 | 1384 | 1416 | 91.3 | 31.07 | 0.043 |
| 2015122084 | Canyon Mtn | 127074 | 84.6 | 47.4 | 2.07 | 0.99 | 0.74 | 1.65 | 1876 | 208 | 8.05 | 134 | 1271 | 3636 | 1360 | 685 | 97.1 | 38.20 | 0.040 |
| 2015122085 | Canyon Mtn | 127075 | 92.5 | 51.8 | 4.33 | 2.07 | 0.13 | 0.17 | 1024 | 86 | 3.37 | 20 | 330 | 322 | 593 | 35 | 100.5 | 42.05 | 0.000 |
| 2015122086 | Canyon Mtn | 127076 | 74.8 | 41.9 | 1.61 | 0.77 | 0.42 | 0.97 | 3174 | 170 | 16.39 | 120 | 1847 | 461 | 2792 | 374 | 94.2 | 34.12 | 0.034 |
| 2015122087 | Canyon Mtn | 127077 | 97.4 | 54.6 | 1.23 | 0.59 | 0.13 | 0.10 | 753 | 49 | 0.40 | 15 | 93 | 323 | 480 | 8 | 99.3 | 43.89 | 0.000 |
| 2015122088 | Canyon Mtn | 127078 | 98.5 | 55.2 | 1.09 | 0.52 | 0.06 | 0.08 | 523 | 39 | 0.26 | 8 | 82 | 207 | 382 | 11 | 100.0 | 43.70 | 0.000 |
| 2015122089 | Canyon Mtn | 127079 | 99.4 | 55.7 | 1.09 | 0.52 | 0.11 | 0.07 | 533 | 50 | 0.31 | 10 | 76 | 208 | 536 | 6 | 101.0 | 43.00 | 0.000 |
| 2015122090 | Canyon Mtn | 127080 | 98.2 | 55.0 | 0.98 | 0.47 | 0.09 | 0.09 | 478 | 50 | 0.44 | 15 | 85 | 243 | 648 | 0 | 99.8 | 43.80 | 0.000 |

APPENDIX 4: 2015 SAMPLE DESCRIPTIONS AND ASSAY RESULTS FROM THE CANYON MOUNTAIN PROPERTY

Notes: Stratigraphic thicknesses are based on measured attitudes of bedding listed below, with appropriate interpolations. Attitudes are strike and dip (right-hand rule). Sections are listed in numerical order of samples, which does not necessarily represent stratigraphic order. Most samples consist of chips at 30 cm intervals. UTM coordinates are NAD83, Zone 8N. Section locations are shown in Figure 4.2. Stratigraphy Abbreviations: Th - Triassic Aksala Formation (Hancock Member)

| Sample | Strat Unit | $\begin{gathered} \text { Strat } \\ \text { Tkns (m) } \end{gathered}$ | Description | $\mathrm{CaCO}_{3}$ (\%) | $\mathrm{MgCO}_{3}$ <br> (\%) | $\mathrm{SiO}_{2}$ <br> (\%) | $\mathrm{Al}_{2} \mathrm{O}_{3}$ (\%) | $\begin{gathered} \mathrm{Fe}_{2} \mathrm{O}_{3} \\ (\%) \end{gathered}$ | $\begin{gathered} \mathrm{SrO} \\ \text { (ppm) } \end{gathered}$ | $\begin{gathered} \mathrm{MnO} \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{gathered} \mathrm{P}_{2} \mathrm{O}_{5} \\ (\mathrm{ppm}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Isolated Samples |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & 127066 \\ & \text { UTM } 506 \end{aligned}$ | Th OE, | $5433 N^{3}$ | Lime Mudstone, very-light grey to light grey weathered and fresh, micritic, thinly-bedded to moderately-bedded, resistant, vuggy (open), alteration: oxide, localized, weak intensity, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, moderate; bedding (definite), outcrop-scale, 4/62 E | 96.00 | 1.07 | 2.80 | 0.080 | 0.070 | 710 | 49 | 490 |
| 127071 <br> UTM 50 | Th 3E, | 5330N | Argillaceous Lime Mudstone, light grey to medium grey weathered and fresh, micritic, thinly-bedded to massively-bedded, resistant, homogeneous, strong HCl reaction, structure(s): calcite vein, outcrop-scale, strong | 55.68 | 4.12 | 21.44 | 3.630 | 2.100 | 1121 | 567 | 1757 |
| $\begin{aligned} & 127075 \\ & \text { UTM } 507 \end{aligned}$ | $\begin{aligned} & \text { Th } \\ & 34 \mathrm{E}, 6 \end{aligned}$ | $\frac{2.5}{5263 \mathrm{~N}}$ | Slightly Dolomitic Lime Mudstone, light grey to medium grey weathered, medium grey fresh, micritic, moderately-bedded to thickly-bedded, resistant, fissile, strong HCl reaction, structure(s): fracture, outcrop-scale, moderate; calcite veinlet, outcrop-scale, weak; bedding (undulatory), outcrop-scale, 342/60 NE | 92.45 | 4.33 | 3.37 | 0.170 | 0.130 | 1024 | 86 | 593 |
| $\begin{aligned} & 127076 \\ & \text { UTM } 507 \end{aligned}$ | Th 7E, | ${ }_{221 \mathrm{~N}}^{2.5}$ | Argillaceous Lime Mudstone, light grey weathered, medium grey to black fresh, micritic to very fine-grained, thinly-bedded, slightly resistant, fissile, argillaceous, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 74.78 | 1.61 | 16.39 | 0.970 | 0.420 | 3174 | 170 | 2792 |
| 127077 <br> UTM 50 | $\begin{gathered} \text { Th } \\ 2 \mathrm{E}, 6 \end{gathered}$ | $216 N^{3}$ | Lime Mudstone, very-light grey to light grey weathered, light grey to medium grey fresh, micritic, thinly-bedded to moderately-bedded, resistant, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, moderate; bedding (definite), outcrop-scale, $12 / 75 \mathrm{E}$ | 97.45 | 1.23 | 0.40 | 0.100 | 0.130 | 753 | 49 | 480 |
| Section 2015-01 (UTM 504807E, 6728082N) |  |  |  |  |  |  |  |  |  |  |  |
| 127035 | Th | 2 | Lime Mudstone, very-light grey weathered, light grey to medium grey fresh, cryptocrystalline to micritic, thinly-bedded to moderately-bedded, resistant, fissile, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, moderate | 97.63 | 1.44 | 0.43 | 0.140 | 0.130 | 341 | 42 | 323 |
| 127036 | Th | 4 | Lime Mudstone, very-light grey weathered, light grey to medium grey fresh, cryptocrystalline to micritic, thinly-bedded to moderately-bedded, resistant, fissile, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, moderate | 96.73 | 1.57 | 0.74 | 0.220 | 0.120 | 308 | 51 | 1213 |
| 127037 | Th | 4 | Lime Mudstone, very-light grey weathered, light grey to medium grey fresh, cryptocrystalline to micritic, thinly-bedded to moderately-bedded, resistant, fissile, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, moderate; bedding (definite), outcrop-scale, 310/74 NE | 96.56 | 1.74 | 0.99 | 0.200 | 0.120 | 309 | 53 | 909 |
| 127038 | Th | 3 | Lime Mudstone, very-light grey weathered, light grey to medium grey fresh, cryptocrystalline to micritic, thinly-bedded to moderately-bedded, resistant, fissile, strong HCl reaction, structure(s): calcite vein, outcrop-scale, weak; bedding (definite), outcrop-scale, 326/70 NE | 96.38 | 1.36 | 0.84 | 0.250 | 0.170 | 413 | 60 | 1121 |
| 127039 | Th | 3 | Lime Mudstone, light grey to very-light grey weathered, medium grey to dark grey fresh, micritic, resistant, hard, fissile, argillaceous, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 95.31 | 1.84 | 1.46 | 0.300 | 0.120 | 950 | 63 | 856 |


| Sample | Strat Unit | $\begin{gathered} \text { Strat } \\ \text { Tkns (m) } \end{gathered}$ | Description | $\begin{gathered} \mathrm{CaCO}_{3} \\ (\%) \\ \hline \end{gathered}$ | $\mathrm{MgCO}_{3}$ <br> (\%) | $\mathrm{SiO}_{2}$ (\%) | $\mathrm{Al}_{2} \mathrm{O}_{3}$ <br> (\%) | $\mathrm{Fe}_{2} \mathrm{O}_{3}$ (\%) | $\begin{gathered} \mathrm{SrO} \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{gathered} \hline \mathrm{MnO} \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{gathered} \mathrm{P}_{2} \mathrm{O}_{5} \\ (\mathrm{ppm}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 127040 | Th | 2.25 | Lime Mudstone, light grey to very-light grey weathered, medium grey to dark grey fresh, micritic, resistant, hard, fissile, argillaceous, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 96.02 | 1.86 | 1.47 | 0.260 | 0.140 | 1266 | 68 | 513 |
| 127041 | Th | 3.75 | Lime Mudstone, light grey to very-light grey weathered, medium grey to dark grey fresh, micritic, resistant, hard, fissile, argillaceous, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 96.56 | 1.65 | 1.28 | 0.330 | 0.170 | 905 | 72 | 574 |
| 127042 | Th | 1.75 | Lime Mudstone to Volcanic, light grey to very-light grey weathered, medium grey to dark grey fresh, micritic, resistant, hard, fissile, argillaceous, strong HCI reaction, structure(s): dyke, outcrop-scale, very strong, $328 / 83 \mathrm{NE}$; calcite veinlet, outcrop-scale, weak | 86.38 | 2.41 | 5.71 | 1.450 | 0.560 | 359 | 120 | 788 |
| 127043 | Th | 2.5 | Lime Mudstone to Volcanic, light grey to very-light grey weathered, medium grey to dark grey fresh, micritic, resistant, hard, fissile, argillaceous, strong HCl reaction, structure(s): dyke, outcrop-scale, strong; calcite veinlet, outcrop-scale, weak | 77.10 | 3.26 | 10.85 | 2.370 | 1.250 | 436 | 242 | 1135 |
| 127044 | Th | 2.5 | Lime Mudstone to Volcanic, light grey to very-light grey weathered, medium grey to dark grey fresh, micritic, resistant, hard, fissile, argillaceous, strong HCl reaction, structure(s): dyke, outcrop-scale, moderate; calcite veinlet, outcrop-scale, weak | 75.14 | 2.97 | 12.67 | 2.680 | 1.230 | 384 | 199 | 1192 |
| 127045 | Th | 3.75 | Lime Mudstone, light grey to very-light grey weathered, medium grey to dark grey fresh, micritic, resistant, hard, fissile, argillaceous, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 97.81 | 1.38 | 0.32 | 0.110 | 0.090 | 298 | 45 | 315 |
| 127046 | Th | 3.5 | Lime Mudstone, light grey to very-light grey weathered, medium grey to dark grey fresh, micritic, resistant, hard, fissile, argillaceous, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 97.45 | 1.30 | 0.41 | 0.100 | 0.250 | 287 | 60 | 271 |
| 127047 | Th | 5.5 | Lime Mudstone, light grey to very-light grey weathered, light grey to medium grey fresh, micritic, resistant, hard, fissile, argillaceous, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 97.98 | 1.17 | 0.36 | 0.100 | 0.120 | 299 | 67 | 365 |
| 127048 | Th | 1.25 | Lime Mudstone, light grey to very-light grey weathered, medium grey to dark grey fresh, micritic, fossils: fragment (indeterminate), rare, resistant, hard, fissile, argillaceous, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 95.84 | 1.86 | 1.15 | 0.290 | 0.130 | 933 | 60 | 669 |
| 127049 | Th | 1.75 | Lime Mudstone, light grey weathered and fresh, cryptocrystalline to micritic, thinly-bedded to thickly-bedded, resistant, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 97.98 | 1.19 | 0.52 | 0.100 | 0.100 | 225 | 60 | 406 |
| 127050 | Th | 3.25 | Lime Mudstone, light grey weathered and fresh, cryptocrystalline to micritic, thinly-bedded to thickly-bedded, resistant, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak; bedding (definite), outcrop-scale, 340/85 NE | 97.09 | 1.74 | 0.71 | 0.220 | 0.080 | 320 | 41 | 452 |
| 127051 | Th | 4.75 | Lime Mudstone, light grey weathered and fresh, cryptocrystalline to micritic, thinly-bedded to thickly-bedded, resistant, sucrosic, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 96.20 | 2.07 | 1.16 | 0.220 | 0.080 | 289 | 50 | 232 |
| Section 2015-02 (UTM 506898E, 6725350N) |  |  |  |  |  |  |  |  |  |  |  |
| 127067 | Th | 3 | Lime Mudstone, light grey to medium grey weathered and fresh, micritic, thinly-bedded to massively-bedded, resistant, homogeneous, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, moderate | 98.16 | 1.13 | 0.65 | 0.100 | 0.090 | 560 | 41 | 620 |
| 127068 | Th | 2.75 | Lime Mudstone, light grey to medium grey weathered and fresh, micritic, thinly-bedded to massively-bedded, resistant, homogeneous, strong HCI reaction, structure(s): calcite veinlet, outcrop-scale, moderate | 98.41 | 1.09 | 0.37 | 0.080 | 0.100 | 554 | 48 | 448 |


| Sample | Strat Unit | Strat Tkns (m) | Description | $\mathrm{CaCO}_{3}$ <br> (\%) | $\mathrm{MgCO}_{3}$ <br> (\%) | $\mathrm{SiO}_{2}$ <br> (\%) | $\mathrm{Al}_{2} \mathrm{O}_{3}$ (\%) | $\begin{gathered} \mathrm{Fe}_{2} \mathrm{O}_{3} \\ (\%) \end{gathered}$ | $\begin{gathered} \mathrm{SrO} \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{gathered} \mathrm{MnO} \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{gathered} \mathrm{P}_{2} \mathrm{O}_{5} \\ (\mathrm{ppm}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 127069 | Th | 1.25 | Lime Mudstone, light grey to medium grey weathered, medium grey to tan fresh, micritic, thinly-bedded to massively-bedded, resistant, homogeneous, moderate HCl reaction, structure(s): calcite veinlet, outcrop-scale, moderate | 98.70 | 1.02 | 0.28 | 0.100 | 0.090 | 686 | 71 | 418 |
| 127070 | Th | 5 | Lime Mudstone, light grey to medium grey weathered and fresh, micritic, thinly-bedded to massively-bedded, resistant, homogeneous, strong HCI reaction, structure(s): calcite veinlet, outcrop-scale, moderate; bedding (definite), outcrop-scale, 0/51E | 98.40 | 1.09 | 0.33 | 0.090 | 0.110 | 527 | 51 | 492 |
| Section 2015-03 (UTM 507129E, 6725390N) |  |  |  |  |  |  |  |  |  |  |  |
| 127072 | Th | 2.25 | Argillaceous Lime Mudstone, light grey weathered, medium grey to dark grey fresh, micritic, thinly-bedded to moderately-bedded, resistant, fissile, moderate HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 79.42 | 6.97 | 10.72 | 0.450 | 0.230 | 1807 | 116 | 1087 |
| 127073 | Th | 4.5 | Lime Mudstone to Volcanic, light grey weathered, medium grey to dark grey fresh, micritic, thinly-bedded to moderately-bedded, resistant, fissile, strong HCI reaction, structure(s): dyke, outcrop-scale, strong; calcite veinlet, outcrop-scale, weak | 66.93 | 3.22 | 17.14 | 2.910 | 1.070 | 1249 | 433 | 1384 |
| 127074 | Th | 2.5 | Argillaceous Lime Mudstone, light grey weathered, medium grey to dark grey fresh, micritic, thinly-bedded to moderately-bedded, resistant, fissile, moderate HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 84.60 | 2.07 | 8.05 | 1.650 | 0.740 | 1876 | 208 | 1360 |
| Section 2015-04 (UTM 506977E, 6725231N) |  |  |  |  |  |  |  |  |  |  |  |
| 127078 | Th | 1.5 | Lime Mudstone, light grey weathered and fresh, micritic, moderately-bedded to thickly-bedded, resistant, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak; bedding (definite), outcrop-scale, 358/74 E | 98.52 | 1.09 | 0.26 | 0.080 | 0.060 | 523 | 39 | 382 |
| 127079 | Th | 1 | Lime Mudstone, light grey weathered and fresh, micritic, moderately-bedded to thickly-bedded, resistant, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 99.41 | 1.09 | 0.31 | 0.070 | 0.110 | 533 | 50 | 536 |
| 127080 | Th | 1.75 | Lime Mudstone, light grey weathered and fresh, micritic, moderately-bedded to thickly-bedded, resistant, strong HCl reaction, structure(s): calcite veinlet, outcrop-scale, weak | 98.16 | 0.98 | 0.44 | 0.090 | 0.090 | 478 | 50 | 648 |







