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GEOLOGY

STEVENSON RIDGE (NORTHEAST PART)

Yukon

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Cover Illustration

Large tors of granite in the Dawson Range phase of the Whitehorse plutonic suite, in the unglaciated Yukon Plateau, western Yukon. Photograph by Jim Ryan. 2013-059

ABSTRACT

The northeastern Stevenson Ridge map sheet (parts of NTS 115-J, I, P and O) is underlain by Paleozoic to Paleogene rocks that locally host Cu-Au porphyry and Au mineralization. The southwestern part of the area is dominated by the mid-Cretaceous Whitehorse plutonic suite which forms the backbone of the Dawson Range Mountains. The north side of the Dawson Range comprises rocks typical of the Yukon-Tanana terrane, including a belt of Permian Klondike schist (metavolcanic rocks), Permian Sulphur Creek plutonic suite and pre-Devonian Snowcap assemblage metasedimentary rocks. The northeast side of the area is dominated by the Mississippian Simpson Range plutonic suite that is intruded by the Triassic Pyroxene Mountain suite and early Jurassic Aishihik suite. The Mississippian to Jurassic rocks are thrust over the Snowcap assemblage along the post-Triassic Yukon River thrust. Late Cretaceous and younger faults occur throughout the area but have only modest offsets.

RÉSUME

La partie nord-est de la région du chaînon Stevenson (SNRC parties de 115-J, I, P et O) renferme des roches d'âge paléozoïque à paléogène qui encaissent localement une minéralisation porphyrique en Cu-Au ou une minéralisation aurifère. La partie sud-ouest de cette région est dominée par la suite plutonique de Whitehorse, datant du milieu du Crétacé, qui forme l'épine dorsale de la chaîne de Dawson. Le versant nord de cette chaîne de montagnes est constitué de roches typiques du terrane de Yukon-Tanana, dont une zone linéaire de schiste de Klondike (roches métavolcaniques d'âge permien) et des roches de la suite plutonique de Sulphur Creek, également d'âge permien, ainsi que des roches métasédimentaires de l'assemblage de Snowcap, antérieures au Dévonien. La partie nord-est de la région est dominée par la suite plutonique de Simpson Range (Mississippien), qui a été pénétrée par la suite de Pyroxene Mountain (Trias) et la suite d'Aishihi (Jurassique précoce). Les roches d'âge mississippien à jurassique chevauchent l'assemblage de Snowcap le long du chevauchement de Yukon River, postérieur au Trias. Des failles d'âge crétacé tardif ou plus récentes sont présentes dans toute la région, mais les déplacements qui leur sont associés sont minimes.

ABOUT THE MAP

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Geological compilation by J.J. Ryan and A. Zagorevski (2012)

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Joint initiative of the Geological Survey of Canada and the Yukon Geological Survey, conducted under the auspices of the Multiple Metals Northwest Canadian Cordillera Project as part of Natural Resources Canada's Geo-mapping for Energy and Minerals (GEM) program

Map projection Universal Transverse Mercator, zone 7.
North American Datum 1983

Base map at the scale of 1:50 000 from Natural Resources Canada, with modifications.
Elevations in feet above mean sea level

Mean magnetic declination 2013, 21º47'E, decreasing 23.0' annually. Readings vary from 21º31'E in the SW corner to 22º03'E in the NE corner of the map.

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ABOUT THE GEOLOGY

Descriptive Notes

INTRODUCTION

Bedrock geology of northeast Stevenson Ridge area consists of metamorphosed and poly-deformed Paleozoic basement intruded and overlapped by relatively little-deformed Mesozoic and Tertiary successions. In this generally unglaciated terrain (Duk-Rodkin, 1999), exposures on the broad upland ridges are limited to scattered tors separated by extensive frost-shattered felsenmeer. Outcrop is rarely found in the heavily forested valleys. Extension of geological elements beneath cover, however, has been aided by recent aeromagnetic surveys (http://gdr.nrcan.gc.ca/aeromag). The present work has also benefitted from observations outlined in Payne et al. (1987), Tempelman-Kluit (1974), Johnston (1995) and Colpron (2006). Current work in the northern parts of Stevenson Ridge area is published as two adjoining 1:100 000 scale maps covering northwestern (NTS 115-K, J; Ryan et al., 2013) and northeastern sections respectively (parts of NTS 115-J, I, P and O; this sheet). Mapping and compilation of northeast Stevenson Ridge area overlaps and supersedes interpretations published in Gordey and Ryan (2005) and Ryan et al. (2010).

GEOLOGICAL FRAMEWORK

Yukon-Tanana Terrane

The oldest parts of Yukon-Tanana terrane (YTT), the polydeformed and metamorphosed basement, consist of the pre-Devonian Snowcap assemblage of mostly amphibolite facies siliciclastic rocks including quartzite, micaceous quartzite and psammitic quartz-muscovite-biotite (± garnet) schist (unit PDSA**C**). Marble (unit PDSAT) occurs as decametre-thick lenses. Interlayered amphibolite and garnet amphibolite, the metamorphosed equivalents of mafic sills and dykes are also common.

The Snowcap assemblage is locally in structural contact with massive amphibolite and coarse hornblende-garnet-plagioclase garbenschiefer correlated to the Devonian to Mississippian Finlayson assemblage (unit MF). These rock types are locally preserved

as rafts and xenoliths within the Simpson Range suite (see following). Finlayson assemblage rocks are more widely distributed in Stewart River map area to the north (Gordey and Ryan, 2005).
In the southwest part of the area the Late Devonian-Early Mississippian Stevenson Ridge schist (unit MSRS) forms a monotonous sequence of grey to black, carbonaceous quartzite, psammite and phyllite. Protoliths likely included carbonaceous, siliceous shale, pelite and chert. The graphitic, quartz-rich composition, general lack of aluminous mica schist and absence of marble distinguishes the Stevenson Ridge schist from the Snowcap assemblage, as well as from the Scottie Creek formation in the northwestern Stevenson Ridge area (Ryan et al., 2013).

Early Mississippian Simpson Range suite (unit MSR; ca. 346 Ma: N. Joyce, unpublished data) is extensive in the northeast third of the area and small outliers are present south of the Yukon River. The Simpson Range suite is characterized by highly foliated to gneissic hornblende-biotite and biotite granodiorite. The granodiorite is interlayered with foliated to gneissic monzogranite, diorite, and amphibolite. The Mississippian age distinguishes the Simpson Range suite from the Devonian Mt. Baker suite in the White River assemblage (Ryan et al., 2013). Simpson Range suite gabbro and diorite are locally difficult to distinguish from Finlayson assemblage amphibolite. The Simpson Range suite is thrust over the Snowcap along the Yukon River thrust (see below); however, regionally it is known to intrude the Snowcap assemblage (eg., Gordey and Ryan, 2005; Ryan et al., 2010).

The Snowcap and Finlayson assemblages are intruded by K-feldspar porphyroclastic augen granite of the Permian Sulphur Creek suite (unit PKSC; ca. 260 Ma: N. Joyce, unpublished data). An extrusive equivalent, the Permian Klondike schist (unit PKC), which is prevalent in the adjoining map sheet to the west (Ryan et al., 2013), occurs as a single small locality on this map. Permian magmatism is herein shown to be more widespread than previously assumed, and extends east-southeast from the Alaska border in southwest Stewart River map area (Gordey and Ryan, 2005) 180 km to Carmacks map area.

Stikinia/Quesnellia
In contrast to their metamorphosed and deformed substrate, Mesozoic rocks in the area lack evidence of regional polyphase deformation and metamorphism. Several Mesozoic suites and their extrusive equivalents represent a Mesozoic arc (Stikinia/Quesnellia) built upon the Paleozoic basement. The Late Triassic Pyroxene Mountain suite (unit uTPM; ca. 220 Ma: M. Villeneuve, unpublished data) occurs only in the northern part of the map area, exclusively as sills and plugs in the Simpson Range suite. The type locality at Pyroxene Mountain comprises massive, coarse-grained, equigranular clinopyroxenite that is locally completely replaced by hornblendite. The replacement is locally accompanied by formation of gabbro, gabbro pegmatite, diorite and granodiorite pods and veins. The northern margin of the pluton is marked by a shear zone that separates it from the Jurassic Walhalla Creek pluton of the Aishihik suite (unit EJA).

The Late Triassic Semenof Formation (unit uTS) is extensive in the northeast quadrant of the map. It comprises augite-phyric andesite to dacite volcanic flows, tuff and

volcaniclastic rocks. Cleavage is locally well-developed, but metamorphism does not exceed sub-greenschist facies (Colpron and Ryan, 2010). Considered correlative with Povoas Formation of the Lewes River Group, these Late Triassic rocks represent a volcanic arc built on YTT.

The Aishihik suite (unit EJA) in the eastern part of the area, is characteristically coarse grained, equigranular or alkali-feldspar porphyritic biotite ± hornblende granodiorite to monzogranite (locally quartz monzonite and quartz monzodiorite). Aishihik suite plutons commonly exhibit strong magmatic foliation and locally a well-developed solid-state foliation. Regionally, Aishihik suite granites exhibit primary magmatic epidote, thought to be indicative of crystallization at mid-crustal depths. However, in many localities this is difficult to confirm due to presence of extensive secondary epidote within clots of mafic minerals and along fractures. The Aishihik suite stitches and obscures much of the contact between the Semenof Formation and the YTT in this map area.

Mesozoic-Tertiary successor rocks

Mid-Cretaceous to Tertiary plutonic, volcanic and sedimentary successions indicate renewed arc- and extension-related magmatism superimposed on the older Paleozoic basement and early Mesozoic arc (Stikinia-Quesnellia).

The central core of the northeast Stevenson Ridge area is transected by the Middle Cretaceous Whitehorse suite, which is made up of two distinct phases. The more voluminous Dawson Range phase (unit mKW2) (a.k.a. Dawson Range batholith) is composed of white to beige, hornblende-biotite granodiorite and lesser granite, tonalite, quartz diorite, and diorite. It is characteristically blocky weathering, hornblende-phyric and medium- to coarse-grained. Foliation is weak to absent. The less voluminous Coffee Creek phase (unit mKW1) (a.k.a. Coffee Creek granite) is composed of unfoliated pink to beige, biotite monzogranite. It is medium- to coarse-grained, characterized by smoky quartz phenocrysts, and is locally pegmatitic. The Dawson Range and Coffee Creek phases generally occur as distinct plutons. Where locally in contact their boundary is transitional and poorly defined. The Whitehorse suite intrudes the Moose Creek thrust, the fundamental boundary (terrane boundary?) separating markedly different tectonic elements of YTT and the White River assemblage (Ryan et al., 2013).

Mount Nansen Group (unit mKMN), coeval with the Whitehorse suite (unit mKW), includes massive aphyric and feldspar-phyric andesite to dacite breccias, flows and tuff, flow-banded quartz-phyric rhyolite, and quartz-feldspar porphyry plugs and dykes (Carlson, 1987). Mount Nansen Group locally contains granitic clasts probably derived from the Whitehorse suite. Mount Nansen Group is present near the south side of the map sheet suggesting that the mid-Cretaceous rocks are exposed in a tilted section and are more deeply exhumed to the north.

The late Cretaceous Casino suite (unit uKCS; ca.74 to 77 Ma: Selby and Creaser, 2001, Bennett et al., 2010) comprises sparse, small volume porphyritic quartz monzonite to dacite plutons that host Cu-Au porphyry mineralization in the area (e.g., Casino, Sonora Gulch, Revenue). Casino suite intrusions are fine- to medium-grained, and alkali

feldspar-plagioclase-biotite-quartz-phyric. At the Casino Cu-Mo deposit, a distinct matrix-supported heterolithic breccia is interpreted as partly explosive and partly intrusive, because it contains clasts of both Casino and Whitehorse suites, as well as from the YTT. The Prospector Mountain suite (unit uKPM; 68-70 Ma: W. Ciolkiewicz, unpublished data) is largely cospatial with the Casino suite. The Prospector Mountain suite is characterized by light grey to pink alkali feldspar-biotite-hornblende porphyritic, fine to medium grained quartz monzonite dykes, sills and hypabyssal plugs. This suite has been investigated for porphyry- and epithermal-style gold mineralization (e.g., Prospector Mountain, Mount Cockfield). The co-linear alignment of Prospector Mountain, Casino and Whitehorse suites suggest that Middle to Late Cretaceous magmatism and associated mineralization is spatially coincident with and possibly controlled by an older, crustal-scale structure such as the Moose Creek thrust.

The Colorado Creek conglomerate (unit muKCC) unconformably overlies the Stevenson Ridge schist and mid-Cretaceous Whitehorse suite. Metamorphic clasts predominate in the conglomerate, but a significant proportion includes Mount Nansen volcanic and Whitehorse suite clasts. Carmacks basalt clasts are absent from the conglomerate. The unit probably correlates with the Caribou Creek conglomerate of Carlson (1987).

The Late Cretaceous Carmacks Group (unit uKC; ca. 70-69 Ma) comprises an intermediate to mafic volcanic and volcaniclastic lower sequence, and a more mafic, flow-dominated upper sequence. Basalt to andesite flows, sills, and tuff-breccia are the most abundant rock type, and are in part coeval with the Prospector Mountain suite. Carmacks Group volcanic rocks overlie the Colorado Creek conglomerate. The Carmacks Group is widespread throughout west central Yukon.

The Paleogene Rhyolite Creek complex (unit PRC; ca. 59-56 Ma: N. Joyce, unpublished data) constitute small erosional remnants and intrusions in the southwest part of the area. Quartz- (generally smoky) and feldspar-porphyritic dykes predominate, with less common flow-banded rhyolite and locally grey green to mauve andesitic volcanic to hypabyssal rocks. These are easily confused with similar looking hypabyssal varieties of the Casino suite and the Coffee Creek phase. The andesitic rocks, commonly hornblende-plagioclase porphyritic, are difficult to distinguish from those of the Carmacks Group.

Latest Tertiary to Quaternary Selkirk Group (unit PPS) consists of vesicular and olivine porphyritic basalt. These flows and breccias occupied some modern drainages near the eastern edge of the map area. Remnant outcrops on valley walls are characterized by high magnetic susceptibility and where covered by recent sediments are revealed by strong positive aeromagnetic anomalies.

STRUCTURAL GEOLOGY

A variety of mesoscopic structural styles are observed across the area. The central belt of the Yukon-Tanana terrane is characterized by at least two phases of isoclinal folding and development of transposition foliation. The main foliation observed in these rocks developed at upper greenschist – amphibolite facies conditions and may represent a

second generation fabric. This second regionally pervasive foliation is present in Permian and older rocks, and is thought to have developed in the Late Permian (Berman et al., 2007). This dominant foliation is itself deformed locally by less pervasive open F3 and F4 folds.

Small lenses of harzburgite, dunite, orthopyroxenite, serpentinite, talc-tremolite schist and listwaenite occur in the Snowcap assemblage and along the southwestern edge of the Klondike schist to the west (Ryan et al., 2013), and help demarcate crustal scale structural breaks. One of these lenses, the Buffalo Pitts peridotite south of Hayes Creek, is interpreted to represent exhumed mantle that was tectonically interleaved with Snowcap quartzite in the Permian (Johnston et al., 2007). The Moose Creek thrust highlighted by Ryan et al. (2013) is thought to represent a terrane boundary between amphibolite facies White River assemblage and greenschist facies Klondike schist of YTT, is dotted with lozenges of harzburgite, and is interpreted as being post-Late Triassic, and pre-Mid Cretaceous.

Another regional-scale compressional structure in the area is the Yukon River thrust. Simpson Range suite rocks in the hanging wall of the Yukon River thrust are emplaced on Snowcap assemblage schist and Sulphur Creek suite metaplutonic rocks. Because the Pyroxene Mountain suite is restricted to the hanging wall of the Yukon River thrust, it suggests that motion on the thrust was post-Late Triassic. The outliers of Simpson Range suite that lie to the south of the main Yukon River thrust are probably also structurally bound, however, poor exposure does not preclude that their contacts might be intrusive. The Yukon River thrust is a regional scale thrust within YTT.

The open folds of the Permian fabrics (above) are defined by an axial planar crenulation cleavage that likely developed during episodes of Triassic and/or Jurassic contraction. The Early Mesozoic thrust faults and Cretaceous rocks were overprinted by Middle to Late Cretaceous strike slip and normal faults. These structures appear to have long strike length, but not necessarily significant offset. This is suggested by modest vertical displacements of the sub-Carmacks Group unconformity and small horizontal displacements of unit boundaries along strike-slip faults (e.g., along Hayes Creek, or east of Mount Pattison). In the northeast corner of the map, strike slip faults are probably related to Cretaceous dextral displacement along the northwest-trending Teslin fault system (Colpron and Ryan, 2010). Locally, Paleogene volcanics overly faults, indicating that most fault displacement in the map are probably complete by Paleogene time.

MINERALIZATION.

No definitely syngenetic occurrences are recognized in the area covered by this map, although felsic and amphibolite rock types within the Finlayson assemblage rocks of YTT have regional VMS potential (Colpron et al. 2006). A new occurrence discovered by Arcus Development Group near Touleary Creek, at the maps northern margin, may be an exception in that it exhibits possible VMS characteristics; however it remains to be demonstrated if it resides in Mississippian or Permian stratigraphy.

Granodiorite and monzogranite intrusions of the Aishihik suite on the eastern side of the map represents the northwest extension of the Minto pluton, which is host to the high-

grade Cu-Au deposit of the Minto mine, and this deserve exploration interests for Minto style mineralization.

The majority of occurrences of interest for gold potential in the area are aligned with Cretaceous structures. Big Creek fault appears to offset the Yukon River thrust, and marks the southwest side of the Isaac Hayes pluton. To the southeast, the Big Creek fault may have focused lode gold mineralization at Sonora Gulch, and its northwest extension approaches the Whitegold property in southern Stewart River map area. As stated earlier, the late Cretaceous Casino suite hosts significant potential for Cu-Au porphyry mineralization, and the Prospector Mountain suite has been investigated for porphyry- and epithermal-style gold mineralization. No mineralization has yet been recognized in the Rhyolite Creek complex within the map area.

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Coordinate System

Projection: Universal Transverse Mercator
Units: metres
Zone: 7
Horizontal Datum: NAD83
Vertical Datum: mean sea level

Bounding Coordinates

Western longitude: 139°00’00” W
Eastern longitude: 137°30’00” W
Northern latitude: 63°06’00” N
Southern latitude: 62°22’00” N

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Surface bedrock data are organized into feature classes and themes consistent with logical groupings of geological features. All field observation point data are related through the Station_ID property of the Station theme. These feature attribute names and definitions are identical in the shapefiles and the XML files.

Consult PDFs in Data folder for complete description of the feature classes, feature attributes, and attribute domains.

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6.0 TERMINATION

1. Notwithstanding section 5.0, this Agreement shall terminate:

   i automatically and without notice, if the Licensee commits or permits a breach of any of its covenants or obligations under this Agreement;

   ii upon written notice of termination by the Licensee at any time, and such termination shall take effect thirty (30) days after the receipt by Canada of such notice; or

   iii upon mutual agreement of the parties.

2. Upon the termination for whatever reason of this Agreement, the Licensee's obligations under section 4.0 shall survive; and the Licensee's rights under section 2.0 shall immediately cease.

3. Upon the termination for whatever reason of this Agreement, the Licensee shall delete or destroy all Data acquired under this Agreement immediately or within a reasonable timeframe where the

Data is required to complete orders of Derivative Products made before the termination date of this Agreement.

7.0 GENERAL

1. **Applicable Law**
   This Agreement shall be construed and enforced in accordance with, and the rights of the parties shall be governed by, the laws of Ontario and Canada as applicable. The parties hereto attorn to the jurisdiction of the Superior Court of the Province of Ontario.

2. **Entire Agreement**
   This Agreement constitutes the entire agreement between the parties with respect to its subject matter. This Agreement may only be amended in writing, signed by both parties, which expressly states the intention to amend this Agreement.

3. **Dispute Resolution**
   If a dispute arises concerning this Agreement, the parties shall attempt to resolve the matter by negotiation.

ACCORD DE LICENCE

ACCORD DE LICENCE D'UTILISATION SANS RESTRICTION DE DONNÉES NUMÉRIQUES DE GÉOGRATIS

CE DOCUMENT constitue une entente légale entre vous (ci-après le " Détenteur de licence ") et SA MAJESTÉ LA REINE DU CHEF DU CANADA (ci-après le " Canada "), représentée par le Ministre des Ressources naturelles du Canada. **EN ATTEIGNANT, TÉLÉCHARGEANT, IMPRIMANT OU UTILISANT LES DONNÉES, L'INFORMATION OU LE MATÉRIEL FOURNIS OU ACCESSIBLES SELON CETTE ENTENTE, VOUS VOUS ENGAGEZ À RESPECTER LES MODALITÉS DE CET ACCORD.** SI VOUS ÊTES EN DÉSACCORD AVEC CES MODALITÉS, VOUS DEVEZ IMMÉDIATEMENT ÉLIMINER TOUTE COPIE DE CES DONNÉES, INFORMATION, MATÉRIEL ET PRODUITS DÉRIVÉS.

I. **ATTENDU QUE** le Canada détient les droits de propriété sur les données (les " Données ") accessibles aux termes des modalités de cet Accord;

II. **ATTENDU QUE** le Détenteur de licence désire obtenir certains droits sur les Données, sous réserve des modalités énoncées ci-après;

III. **ATTENDU QUE** le Canada déclare avoir la pleine autorité pour accorder les droits demandés par le Détenteur de licence, sous réserve des modalités énoncées ci-après;

IV. **ET ATTENDU QUE** les parties veulent en venir à une entente d'utilisation à partir de ce qui suit.

V. **À CES CAUSES**, en considérant les conventions contenues dans cet Accord, les parties conviennent de ce qui suit :

1.0 DÉFINITIONS

1. Données du Canada signifie toute Donnée dont le Canada détient le droit de propriété.

2. Données signifie toute donnée numérique, métadonnée ou documentation visée par les modalités de cet Accord.

3. Produits dérivés signifie tout produit, système, sous-système, appareil, composant, matériel ou logiciel qui comprend ou utilise toute partie des Données.

4. Droits de propriété intellectuelle signifie tout droit de propriété intellectuelle reconnu par la loi, y compris tout droit de propriété intellectuelle protégé par une législation telle que celle qui régit, sans être limitée à, les droits d'auteur et les brevets.

2.0 CESSION D'UNE LICENCE

1. 2.1 Sous réserve des modalités du présent Accord, le Canada octroie au Détenteur de licence une licence non exclusive, sans frais ni redevances exigibles, et le droit d'exercer tous les Droits de propriété intellectuelle sur les Données. Ceci comprend le droit d'utiliser, incorporer, accorder des licences d'utilisation (avec droit subséquent d'accorder des licences d'utilisation), modifier, améliorer, développer et distribuer les Données; et de fabriquer ou distribuer des Produits dérivés.

2. Les Droits de propriété intellectuelle découlant de toute modification, amélioration, développement ou traduction des Données, ou de la fabrication de Produits dérivés, effectués par ou pour le Détenteur de licence seront détenus par le Détenteur de licence ou tout substitut identifié par le Détenteur de licence.

3.0 PROTECTION ET IDENTIFICATION DE LA SOURCE

1. L'utilisation des Données ne constitue en aucune façon une reconnaissance par le Canada d'un Produit dérivé. Le Détenteur doit identifier la source de données, de la façon suivante, lorsque toute partie des Données est redistribuée ou comprise dans un Produit dérivé :

   © Le ministère des Ressources naturelles Canada. Tous droits réservés.

4.0 GARANTIE, EXCLUSION ET INDEMNISATION

1. Le Canada ne fait aucune représentation ou garantie, expresse ou tacite, découlant de la loi ou d'autres sources, en ce qui concerne entre autres l'exactitude, l'utilité, la nouveauté, la validité, l'étendue, l'intégralité ou l'actualité des Données et rejette expressément toute garantie implicite de qualité loyale et marchande ou l'à propos à une fin particulière des Données. Le Canada n'assure ni ne garantit la compatibilité du site qui contient les Données avec les versions antérieures, actuelles et futures de n'importe quel fureteur.

2. Le Canada ne peut être tenu responsable par le Détenteur de licence en ce qui a trait à toute réclamation, revendication ou action en justice, quelle qu'en soit la cause, concernant toute perte ou tout préjudice ou dommage ou frais, direct ou indirect, qui pourrait résulter de la possession ou de l'utilisation des Données par le Détenteur de licence.

3. Le Détenteur de licence tiendra le Canada et ses représentants, employés, agents et exécutants, indemnes et à couvert à l'égard de toute réclamation, revendication ou action en justice, quelle qu'en soit la cause, alléguant toute perte, tout frais, toute dépense, tout dommage ou toute blessure (y compris toute blessure mortelle) qui pourrait résulter de la possession ou de l'utilisation des Données par le Détenteur de licence.

4. Le Détenteur de licence devra accorder des licences d'utilisation à toute personne ou partie qui obtient les Données ou des Produits dérivés au moyen d'un accord de licence, et cet accord devra imposer à ces personnes ou parties les mêmes modalités que celles qui sont énoncées dans la section 4.0 de cet Accord.

5. L'obligation du Détenteur de licence d'indemniser le Canada selon cet Accord ne peut affecter ni empêcher le Canada d'exercer tout autre droit selon la loi.

5.0 DURÉE

1. Cet Accord entre en vigueur à partir de la date et de l'heure d'acceptation des modalités de l'Accord (Heure de l'Est) et restera en vigueur pour une période d'un (1) an, en vertu de la sous-section 5.2 et de la section 6.0 qui suivent.

2. À la fin du premier terme, cet Accord sera automatiquement renouvelé pour des termes successifs d'un (1) an, en vertu de la section 6.0 qui suit.

6.0 RÉSILIATION

1. 6.1 Nonobstant la section 5.0, cet Accord peut être résilié :

   i. automatiquement et sans préavis, si le Détenteur de licence manque à ses engagements ou obligations selon cet Accord;

   ii. par un préavis écrit de résiliation émis par le Détenteur de licence, en tout temps, et cette résiliation prendra effet trente (30) jours suivant la réception d'un tel préavis par le Canada; ou

   iii. par consentement mutuel des parties.

2. Lors de la résiliation de cet Accord, pour quelque raison que ce soit, les obligations qui incombent au Détenteur de licence en vertu de la section 4.0 continueront de s'appliquer et les droits du Détenteur de licence en vertu de la section 2.0 cesseront immédiatement.

3. Lors de la résiliation de cet Accord, pour quelque raison que ce soit, le Détenteur de licence devra immédiatement effacer ou détruire toutes les Données obtenues en vertu de cet Accord, ou à l'intérieur d'un délai raisonnable lorsque les Données sont nécessaires pour terminer la livraison de Produits dérivés commandés avant la résiliation de cet Accord.

7.0 GÉNÉRAL

1. **Lois d'application**
   Le présent Accord est régi et interprété en vertu des lois en vigueur dans la province de l'Ontario. Les parties acceptent de tomber sous la juridiction de la Cour supérieure de la Province de l'Ontario.

2. **Totalité de l'Accord**
   Le présent Accord constitue l'intégralité de l'entente conclue entre les parties relativement à l'objet du présent Accord. Toute modification à cet Accord ne peut être que par écrit, doit porter la signature de chaque partie et exprimer clairement l'intention de modifier cet Accord.

3. **Solution des litiges**
   Si un litige survient à propos de cet Accord, les parties tenteront de le résoudre par des négociations de bonne foi.