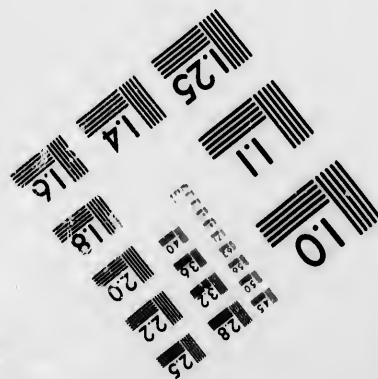
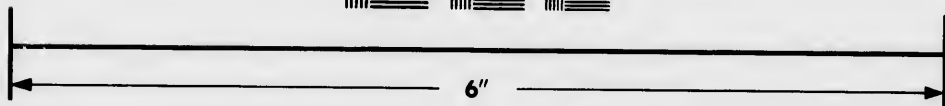
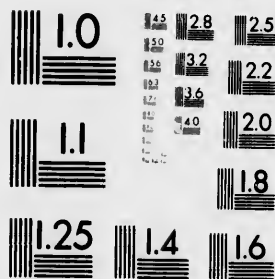


**IMAGE EVALUATION
TEST TARGET (MT-3)**



**Photographic
Sciences
Corporation**

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503



**CIHM/ICMH
Microfiche
Series.**

**CIHM/ICMH
Collection de
microfiches.**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques



© 1981

Technical and Bibliographic Notes/Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/
Couverture de couleur
- Covers damaged/
Couverture endommagée
- Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- Cover title missing/
Le titre de couverture manque
- Coloured maps/
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- Bound with other material/
Relié avec d'autres documents
- Tight binding may cause shadows or distortion
along interior margin/
La reliure serrée peut causer de l'ombre ou de la
distortion le long de la marge intérieure
- Blank leaves added during restoration may
appear within the text. Whenever possible, these
have been omitted from filming/
Il se peut que certaines pages blanches ajoutées
lors d'une restauration apparaissent dans le texte,
mais, lorsque cela était possible, ces pages n'ont
pas été filmées.
- Additional comments:/
Commentaires supplémentaires:

- Coloured pages/
Pages de couleur
- Pages damaged/
Pages endommagées
- Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached/
Pages détachées
- Showthrough/
Transparence
- Quality of print varies/
Qualité inégale de l'impression
- Includes supplementary material/
Comprend du matériel supplémentaire
- Only edition available/
Seule édition disponible
- Pages wholly or partially obscured by errata
slips, tissues, etc., have been refilmed to
ensure the best possible image/
Les pages totalement ou partiellement
obscurcies par un feuillet d'errata, une pelure,
etc., ont été filmées à nouveau de façon à
obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

The copy filmed here has been reproduced thanks to the generosity of:

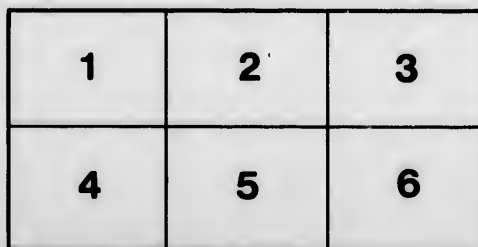
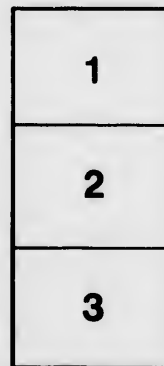
National Library of Canada

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol \rightarrow (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

Bibliothèque nationale du Canada

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole \rightarrow signifie "A SUIVRE", le symbole ∇ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.



VI.—*On Cretaceous Plants from Port McNeill, Vancouver Island.*

By SIR W. DAWSON, F.R.S and DR. G. M. DAWSON, F.G.S.

(Read May 25, 1888.)

I.—NOTE ON THE GEOLOGY. (*G. M. Dawson.*)

The fossil plants referred to in the following note were obtained at Port McNeill, on the north-east coast of Vancouver Island, in 1885. The precise locality is situated on the north shore of Port McNeill, bearing N. 65° E. (Mag.) from the Eel Reef. The beds here lie at an angle of about ten degrees, or not far from horizontal; and the plants are found in shales or shaly sandstones about five feet above a small seam of coal from one to two inches thick.

The Cretaceous rocks of the northern part of Vancouver Island appear to belong to a basin or deposition-area distinct from that of the Comox and Nanaimo districts to the south, and more closely connected with that of the Queen Charlotte Islands to the north. The best general section of the rocks in question, so far observed, is that in Quatsino Sound, where there seem to be represented the three higher members of the Cretaceous section of the Queen Charlotte Islands, as it exists in the vicinity of Skidegate Inlet. The cretaceous rocks which extend along the north-east coast of Vancouver Island, from Port McNeill to Beaver Harbour, may in part represent the lowest or coal-bearing portion of the Quatsino section. A few fossil plants obtained at Beaver Harbour are Middle Cretaceous, and possibly referable to a horizon near that of the lowest beds at Quatsino. The Port McNeill beds are, so far as stratigraphical evidence exists, probably much later than these; but their stratigraphical position has not been fully determined, and as no fossils but plants have been found in them, these constitute the best evidence as to their precise age at present available. (See Part B, Annual Report Geological Survey of Canada, 1886.)

II.—NOTICE OF THE PLANTS. (*Sir Wm. Dawson.*)

The plants from Port McNeill are almost entirely dicotyledonous leaves, with a few fruits. Large slabs have been procured, some with very perfect specimens of these leaves. There are no ferns or cycads in the collection, and conifers are rare. The latter are limited to fragments of a *Sequoia* of the type of *S. Langsdorffii*, branchlets of *Torreia*, apparently the species *T. densifolia* of a former paper,¹ and two species of *Satisburia*, or Ginkgo. One of these Ginkgos is a beautiful little form, with leaves resembling those of the modern

¹ Trans. Roy. Soc. Can., 1883, Sect. iv. p. 25.

Ginkgo when less than half grown in early spring. It is near to *S. integrifolia*, Heer, a Jurassic species; but also near to *S. primordialis*, Heer, from the Upper Cretaceous of Greenland. It is, however, probably new.

The exogenous leaves are very numerous, and belong to a number of genera, among which are probably *Ficus*, *Alnus*, *Betula*, *Quercus*, *Diospyros*, *Cinnamomum*, *Ceanothus*, *Populus*, *Salix*, *Proteoides*, *Juglans*, *Rhamnus*, *Aralia*, and possibly several others, evidencing a very rich and varied forest flora of warm temperate aspect.

The material is extensive, and requires so much working out, that it has not yet been fully examined; but it must include at least twenty species of exogenous trees and shrubs.

The facies of the flora, as a whole, is Upper Cretaceous, and several of the species are apparently identical with those found at Nanaimo and elsewhere in the southern basin of Vancouver Island. Others, however, are different. On the whole, the assemblage is of decidedly later type than that of Beaver Harbour, above referred to, and probably somewhat newer than that of Nanaimo, and more resembling the Upper Cretaceous plants found by Richardson at Protection Island. It is certainly more modern than the Dakota group of the United States, and the Duvegan group of Peace River, and its nearest analogues elsewhere seem to be in the Atané and Patoot series of Greenland, as described by Heer.

The collection will, when fully worked out, add a number of interesting species to the known Cretaceous flora of British Columbia, which will be farther augmented by new species in additional collections of Dr. Dawson, made at the Wellington mine at Nanaimo.

a
n-

g
s,
y

t
d

e
n
s
y
s
n
r
y

e
y
t

