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ALL COMMUNICATIONS SHOULD BE ADDRESSED TO THE
DIRECTOR OF SURVEYS AND MAPPING
THE REPLY TO THIS LETTER SHOULD BE MARKED
FOR THE ATTENTION OF:

THE DIRECTOR.....
AIR DIVISION.....
GEOGRAPHIC DIVISION.....
LEGAL SURVEYS DIVISION.....
TOPOGRAPHIC DIVISION.....



THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA

193
YOUR FILE NO.

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SURVEYS AND MAPPING BRANCH
DEPARTMENT OF LANDS, FORESTS,
AND WATER RESOURCES
VICTORIA, B.C.

August 23, 1967

01294

CIRCULAR LETTER

To whom it may concern

Dear Sir,

Rectangular Coordinates on Polyconic Projection.

The Polyconic Projection has long been used in British Columbia for provincial mapping and as the basis for rectangular coordinates. For certain projects it may, on occasions, be necessary to use other projections but the Polyconic Projection will remain in use for most purposes including integrated surveys and surveys under the Petroleum and Natural Gas Act.

The Geodetic Survey of Canada, all provincial control surveys and legal surveys in Integrated Survey Areas are based on the North American Datum and the Clarke 1866 Spheroid. The Surveys and Mapping Branch has developed a computer program for conversions between Geographical and Polyconic Rectangular Coordinates also based on the Clarke 1866 Spheroid.

In north east British Columbia, Polyconic Rectangular coordinates for surveys under the Petroleum and Natural Gas Act have been computed using "Dominion Manual Tables". Unfortunately, these tables are NOT based on the Clarke 1866 Spheroid and at one degree east or west of the origin there is a difference of about 3 feet between "Dominion Manual" coordinates and the computer program coordinates. This situation which allows two different sets of coordinates for one station has been accepted because the only method available to the private surveyor for the computation of rectangular coordinates from geographicals was the "Dominion Manual" method.

This dual system of coordinates will now be discontinued and in future polyconic rectangular coordinates for all purposes will be based on the Clarke 1866 Spheroid and the use of the Dominion Manual Tables will cease.

The Surveys and Mapping Branch now have a computer program to convert from "Dominion Manual" rectangulars to rectangulars on the Clarke 1866 Spheroid and in a systematic way, conversion of the following will be undertaken.

- i) All Triangulation, Tellurometer, B.C.-Alberta and B.C. Northwest Territories-Yukon Boundary Control and also Alaska Highway Survey Traverses.



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CENTENARY OF THE UNION OF THE COLONIES OF VANCOUVER ISLAND AND BRITISH COLUMBIA UNDER THE NAME BRITISH COLUMBIA.
CENTENARY OF THE CONFEDERATION OF CANADA.

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- ii) All Well Site Surveys on record.
- iii) All Pipe Line Traverses which are used as control.

As soon as possible, a new station location plan for the north-eastern portion of British Columbia will be available showing the triangulation and tellurometer control surveys with their positions, elevations and other particulars concerning same. This plan will supersede other plans previously issued.

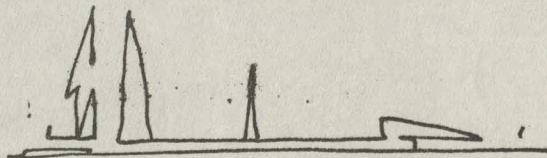
The conversion of any other stations with "Dominion Manual" coordinates will be undertaken only if and when they are required.

Some survey firms with computers of their own or who have access to a computer, have been supplied with program "SURMAP 125" and for them this change will be no problem. To private surveyors or firms who do not have this facility, the following methods are available:-

- i) The Surveys and Mapping Branch offer to process data with program SURMAP 125 free of charge. Surveyors wishing to avail themselves of this service will be supplied with data sheets which should be completed and mailed. The average time required will be 2 days plus mailing time.
- ii) Existing tables, at $2\frac{1}{2}$ minutes interval for Geographicals to Rectangulars and 10,000 feet interval for Rectangulars to Geographicals, may be used to obtain the coordinate of any point by double interpolation. These tables cover a range in latitude from 48° to 60° , North Latitude.
- iii) Tables of greater accuracy, from which coordinates may be obtained to .01 foot by double interpolation, have now been prepared with tabular intervals of 1 minute or 5,000 feet for a range of latitudes from 55° to 60° . These tables will be made up into booklets for a single degree with a range of 62 minutes north of the latitude of origin and 70 minutes east or west of the longitude of origin. The cost of a book of tables for one degree will be \$10.00.

While these tables have been computed and are now in the form of a "deck of cards", no arrangement for printing will be made until the demand is known. Will you therefore please place an order with this office for the degrees you require by not later than September 30th 1967. It will then be decided whether to make printing plates for the reproduction of the tables or to list the tables a single copy at a time on the computer.

Yours truly,



G.S. Andrews,
Surveyor General & Director,
Surveys & Mapping Branch.