

INTERNATIONAL JOINT COMMISSION

IN THE MATTER OF THE APPLICATION OF THE CRESTON RECLAMATION COMPANY, LIMITED

FOR PERMISSION TO CONSTRUCT CERTAIN
PERMANENT WORKS IN AND ADJACENT TO
THE CHANNEL OF THE KOOTENAY RIVER IN
THE PROVINCE OF BRITISH COLUMBIA
AT CRESTON

ORDER OF APPROVAL
APPLICATION - HEARING
1928



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON
1928

INTERNATIONAL JOINT COMMISSION

UNITED STATES

CLARENCE D. CLARK, *Chairman.*

FRED T. DUBOIS.

P. J. McCUMBER.

WILLIAM H. SMITH, *Secretary.*

CANADA

CHARLES A. MAGRATH, *Chairman.*

HENRY A. POWELL, K. C.

SIR WILLIAM HEARST, K. C. M. G.

LAWRENCE J. BURPEE, *Secretary.*

(II)

INTERNATIONAL JOINT COMMISSION

In the Matter of the Application of the Creston Reclamation Company, Limited, for Permission to Construct Certain Permanent Works in and Adjacent to the Channel of the Kootenay River in the Province of British Columbia at Creston.

ORDER

WHEREAS, the Kootenay River is a river flowing across the boundary between Canada and the United States within the meaning of Article IV of the Treaty between the United States and Great Britain dated the 11th day of January, 1909; and

WHEREAS, the Creston Reclamation Company, Limited, has presented to and filed with the Commission plans and specifications for the construction of permanent works for the reclamation of certain lands adjacent to the channel of the said Kootenay River, near Creston in the Province of British Columbia, namely:

1. The construction of a levee or dike around the area shown on plan of Unit No. 1 of the reclamation of the Kootenay River flats, said levee to be constructed to elevation 1769.0 of the dimensions shown on plans and specifications.

2. The diversion of Goat River into the Kootenay River on Section 4, Township 8, in accordance with said plans and specifications.

3. The construction within the area reclaimed of the necessary drainage ditches to satisfactorily drain said area.

4. The installation of a four foot concrete drainage pipe through the levee, with suitable iron sluiceway valve or flap valve on the river end of same, both ends of the drainage pipe to be protected by satisfactory concrete retaining walls.

5. The installation of the necessary centrifugal pumps and engines on concrete foundations in a suitable building, with the necessary suction and discharge pipes and accessories thereof; and

WHEREAS, said application came on for hearing at the City of Nelson in the Province of British Columbia on the 29th day of November, 1927, after due notice to all parties interested in both countries of the filing of said application and of the time and place of said hearing, when evidence was adduced and all parties so desiring were heard; and

WHEREAS, at said hearing a letter was read from the Secretary of State for the United States requesting that proceedings on the application subsequent to said hearing be postponed for a period of one year, to afford time for the collection and study of the necessary hydrographic and topographic data; and

WHEREAS, upon the matter coming on this day for further consideration, counsel for the United States appeared and withdrew all opposition to the matter being now disposed of in so far as it affected said Project No. 1, and consented on behalf of the United States to an order now being made with respect to said Project No. 1 as asked by the applicant; and

WHEREAS, the members of this Commission, after having read said application and specifications and perused said plans, and having heard the evidence adduced and what was alleged by all parties appearing before them as aforesaid, determined that the said works should be approved and authority given for the construction thereof pursuant to said Treaty, subject to the conditions hereinafter set forth.

THIS COMMISSION THEREFORE ORDERS AND DIRECTS:

1. That the said plans and specifications be and the same are hereby approved, and the construction of works in accordance therewith authorized under the provisions of said Treaty, upon and subject to the following conditions:

2. That the said applicant make suitable and adequate provisions to the satisfaction of this Commission for the protection and indemnity against injury by reason of such works of all interests on either side of the boundary.

3. That this Commission doth hereby reserve to the applicant and to all parties having claims for injuries in respect of said works, the right to apply for such further order, direction or action with reference to such claims as may seem proper.

4. And this Commission doth further order and declare that nothing in this order contained, in the recital or elsewhere, shall by implication or otherwise be construed as an adjudication upon the right of the applicant to construct reclamation works other than those particularly shown and mentioned in said plans and specifications in connection with Project No. 1, nor be considered as a precedent in any way in connection with projects other than said Project No. 1.

Dated at Washington, D. C., this 3rd day of April, A. D. 1928.

C. D. CLARK.

C. A. MAGRATH.

FRED T. DUBOIS.

W. H. HEARST.

P. J. McCUMBER.

H. A. POWELL.

**APPLICATION OF CRESTON RECLAMATION COMPANY,
LIMITED**

To the International Joint Commission for Permission to Construct Certain Permanent Works in and Adjacent to the Channel of the Kootenay River in the Province of British Columbia at Creston

N. G. GUTHRIE, Ottawa, *Solicitor for the Applicant*

**TO THE HONOURABLE THE INTERNATIONAL JOINT
COMMISSION:**

Application made by Creston Reclamation Company hereinafter called the Applicant, for permission to construct and operate certain permanent works in and adjacent to the channel of the Kootenay River in the Province of British Columbia at a point at or near Creston, in the said Province of British Columbia,

RESPECTFULLY SHEWETH:

1. Status of the Applicant.

The applicant is a corporation duly incorporated as a limited company under the provisions of the Companies Act of the Province of British Columbia, a copy of the certificate of incorporation bearing date 14th day of December in the year of Our Lord, one thousand nine hundred and twenty-five and a copy of the Memorandum of Association of the Creston Reclamation Company, Limited, together with a certificate under the hand of the Registrar of Companies of the Province of British Columbia bearing date 4th day of January, in the year of Our Lord, one thousand nine hundred and twenty-six, entitling the Company to commence business, are set forth as appendices I, II, and III respectively hereto.

The head office of the applicant is at the Village of Creston in the Province of British Columbia in the Dominion of Canada.

The directors of the Company are: Clarence Franklyn Hayes of Creston, British Columbia, editor; George Johnson of Creston, British Columbia, butcher; Samuel Arthur Speers of Creston, British Columbia, merchant; Cecil Watson Allan of Creston, British Columbia, bank manager; Hugh Stuart McCreath of Creston, British Columbia, merchant.

The capital stock of the applicant is \$50,000.00 divided into 50,000 shares of \$1.00 each, 3,400 of which have been issued and paid for.

The list of subscribers to capital stock is set forth in appendix IV hereto. By the Memorandum of Association of the applicant, set forth in appendix II hereto, the applicant has power, among other things, by paragraphs (b) and (c) of the objects for which the Company is established:

(b) To undertake, construct and maintain upon any land owned or leased by the Company, or in which the Company has any interest, operations for the purpose of reclaiming and bringing under cultivation such land or part thereof.

(c) To construct, improve, maintain, equip, alter, work, operate, manage carry out or control any roads, ways, waterways, reservoirs, dams, aqueducts, canals, sluices, flumes, tramways, dykes, ditches, bridges, wharfs, manufacturies, warehouses, works, houses, shops, stores, buildings and other works and conveniences which may seem calculated, directly or indirectly to advance the Company's interest. And to contribute to, subsidize or otherwise aid or take part in any such operations though undertaken, constructed or maintained by an other person, persons or company.

2. The Applicant proposes by the construction of a levee or dyke to reclaim certain lands adjacent to the Kootenay River.

The applicant proposes to reclaim a portion of the lands adjacent to the Kootenay River near Creston, B. C., that are flooded yearly by the flood waters of the Kootenay River, and make these lands commercially valuable for agricultural purposes.

The reclamation project as planned will consist in constructing a levee or dyke around the lands to be reclaimed to an elevation well above flood level; to construct the necessary drainage ditches in the same, and to construct the necessary Centrifugal Pumping station to pump out all storm water and seepage water from the reclaimed lands.

These levees will be constructed well back from the top of the River bank, and will in no way interfere with the natural flow of the Kootenay River, excepting in such years as the flood overtops the river bank, happening on an average of one year in four years. The River banks through the Kootenay flats are approximately 20 to 24 feet above low water in the River, and from 12 to 14 feet above the general level of the land to be reclaimed.

The Kootenay River flats extend from Kootenay Landing in British Columbia to above Bonners Ferry in Idaho, a distance in an air line of 45 miles, of which 20 miles is in British Columbia. Of these lands it is estimated that 30,000 acres in British Columbia, and 30,000 acres in Idaho can be reclaimed for agricultural purposes by dyking and ditching as is proposed to be done by the Creston Reclamation Company in Unit No. 1.

In the State of Idaho approximately 18,000 acres of these lands have already been reclaimed and cropped, of which Unit No. 1 at Bonners Ferry consisting of 5,000 acres has been cropped each year since 1922 with great success so that the feasibility of the reclamation is well established.

3. Description of the Work and Plans Submitted.

There is submitted with this application the following plans on tracing linen:

(1) Plan showing the contour lines on the land proposed to be reclaimed in Unit No. 1, as well as the location of the Levees or dykes, etc., etc.

(2) Plans showing the cross section and details of the work to be constructed.

(3) General plan showing Kootenay River flats in British Columbia from Kootenay Landing to the International Boundary.

(4) The specifications for the construction of the necessary work in Unit No. 1.

The Kootenay River Flats in British Columbia it is proposed to reclaim in units as is being done in the State of Idaho. The first unit to be reclaimed is Unit No. 1, comprising 8,600 acres, No. 2 unit will be west of the River and immediately west of No. 1 unit.

4. Effect of Proposed Works on International Waters.

The effect of the construction of the proposed works of the British Columbia Unit No. 1 on International waters is merely nominal, it will have no effect whatever on low water, and during flood water it is merely intended to keep the flood water off the land reclaimed.

When, however, the whole area of the Kootenay River Flats on both sides of the International Boundary line has been reclaimed by the method proposed, and the banks on both sides of the River are raised by the levees or dykes to a height of 5 feet above the 1916 flood as is proposed, and the flood waters are confined within the River banks, then in the occasional year that the flood would be higher than the natural river banks, and this flood is kept within the levees, the peaklevel of the flood in the River will be somewhat higher than in its natural state. The River surface also will assume an hydraulic gradient greater than the normal one, with an increased velocity of flow.

This Application is therefore respectfully submitted for your consideration.

Petition.

The Applicant Company does now pray for such order, ruling or decision, authorizing and empowering the Applicant Company to

proceed with the said works as may in the opinion of your Honourable Commission be required by the "Waterways Treaty Act" together with such provisos as may be deemed fitting in the premises. All of which is respectfully submitted.

N. G. GUTHRIE,
Solicitor for Creston Reclamation Company, Limited.

OCTOBER 14, 1927.

APPENDIX I

CANADA
PROVINCE OF BRITISH COLUMBIA } No. 8433

"COMPANIES ACT"

I HEREBY CERTIFY THAT "CRESTON RECLAMATION COMPANY LIMITED" has this day been incorporated under the "Companies Act" as a limited Company.

The capital of the Company is Fifty thousand (\$50,000.00) Dollars, divided into fifty thousand (50,000) shares.

The registered office of the Company is situate at Creston in the Province of British Columbia.

GIVEN under my hand and Seal of Office at Victoria, Province of British Columbia, this 14th day of December, one thousand nine hundred and twenty-five.

[SEAL]

H. G. GARRETT,
Registrar of Companies.

APPENDIX II

CANADA
PROVINCE OF BRITISH COLUMBIA } No. 8433

"COMPANIES ACT"

I HEREBY CERTIFY THAT "CRESTON RECLAMATION COMPANY LIMITED" is now entitled, under the "Companies Act", to commence business.

Given under my hand and Seal of Office at Victoria, Province of British Columbia, this 4th day of January, one thousand nine hundred and twenty-six.

[SEAL]

H. G. GARRETT,
Registrar of Companies.

APPENDIX III

MEMORANDUM OF ASSOCIATION OF "CRESTON RECLAMATION COMPANY,
LIMITED"

I

The name of the Company is "Creston Reclamation Company, Limited."

II

The registered office of the Company will be situate in the village of Creston, in the Province of British Columbia.

III

The objects for which the Company is established are:

(a) To acquire by purchase, exchange, grant, lease, or by any other legal title, and to own, hold, improve, operate, lease, pledge, sell, exchange, or otherwise deal in and with real estate and property, both movable and immovable, and rights therein and thereof of every kind and description.

(b) To undertake, construct and maintain upon any land owned or leased by the Company, or in which the Company has any interest, operations for the purpose of reclaiming and bringing under cultivation such land or part thereof.

(c) To construct, improve, maintain, equip, alter, work, operate, manage, carry out or control any roads, ways, waterways, reservoirs, dams, aqueducts, canals, sluices, flumes, tramways, dykes, ditches, bridges, wharfs, manufactories, warehouses, works, houses, shops, stores, buildings and other work and conveniences which may seem calculated, directly or indirectly to advance the Company's interest. And to contribute to, subsidize or otherwise aid or take part in any such operations though undertaken, constructed or maintained by another person, persons or company.

(d) To record, purchase or otherwise acquire water and water-records, rights, privileges and grants and to develop and turn same to account.

(e) To enter into any arrangement with any Government or authorities, municipal, local or otherwise, that may seem conducive to the Company's objects, or any of them, and to obtain from any such Government or authority any rights, privileges and concessions which the Company may think it desirable to obtain and carry out, exercise and comply with any such arrangements, rights, privileges and concessions.

(f) To undertake upon any land owned or leased by the Company, or in which the Company has any interest, or any part thereof, farming and ranching operations, to market, buy and sell, or otherwise deal in farm and ranch products of all kinds including fruit, vegetables, hay, grain and live stock and dairy products.

(g) To carry on a general mercantile business and to manufacture, buy, sell and deal in, all kinds of articles necessary and convenient to be used in connection with the business of the Company, or with the sale of any articles dealt in by the Company.

(h) To acquire, hold, manufacture, build, maintain and operate all stock and plant, machinery and appliances necessary for the carrying out of any of its undertakings, and for this purpose to acquire any patent rights, patents, inventions, trade marks, and other similar rights and privileges.

(i) Generally to purchase, take on lease, or in exchange, hire, or otherwise acquire any real or personal property and any rights and privileges which the Company may think necessary, or convenient, for any purpose of its business, and in particular any land, buildings, easements, franchises, machinery, plant and stock and trade.

(j) To acquire by purchase, lease or otherwise water privileges and grants, docks, wharfs and piers and generally all shipping facilities requisite for the Company's business and to purchase, or otherwise acquire, sell, dispose of, build, repair and operate steam tugs, gasoline launches and vessels of any description.

(k) To sell out the undertakings of the Company in whole or in part for such consideration as the Company may deem fit, and in particular for shares, debentures, or securities of any other company having objects similar in whole or in part of this Company.

(l) To invest and deal with the monies of the Company not immediately required in such manner as from time to time may be determined.

(m) To sell, improve, manage, develop, exchange, lease, mortgage, dispose of, turn to account or otherwise deal with all or any part of the property and rights of the Company.

(n) To amalgamate with any company having powers similar to those of this Company, upon such terms and conditions as may be agreed upon.

(o) To enter into partnership, or into any arrangement for share in profits, union of interests, or co-operation with any person, firm or company or persons, firms or companies, carry-

ing on or engaged in, or about to carry on or engage in, any business or transaction which this Company is authorized to carry on or engage in, or any business transaction capable of being conducted so as directly or indirectly to benefit this Company; and to lend money to, guarantee the contracts of, or otherwise assist any such person or company, and to take or otherwise acquire shares and securities of any such company, and to sell, hold, re-issue, with or without guarantee, or otherwise deal with the same.

(p) To promote any company or companies for the purpose of acquiring all or any of the property and liabilities of this Company or for any other purpose which may seem directly or indirectly to benefit this Company.

(q) To lend money to such persons and on such terms as may seem expedient, and in particular to customers and others having dealings with the Company.

(r) To borrow or raise or secure the payment of money in such other manner as the Company may think fit, and in particular by the issue of Bonds or Debentures or Debenture Stock, perpetual or otherwise, charged upon all or any of the Company's property (both present and future) including its uncalled capital, and to redeem or pay off any such securities.

(s) To remunerate any person or company for services rendered, or assisting to place, or guaranteeing the placing of any of the shares of the Company's capital or any Debentures or other securities, or in or about the formation or promotion of the Company or the conduct of its business.

(t) To draw, accept, make, endorse, discount, execute and issue promissory notes, bills of exchange, bills of lading, warrants, bonds, debentures, and other negotiable or transferable instruments.

(u) To obtain any provisional or other order or act or ordinance for enabling the Company to carry any of its objects into effect or for effecting any modification of the Company's constitution, or for any other purpose which may seem expedient, and to oppose any proceedings or applications which may seem calculated directly or indirectly to prejudice the Company's interests.

(v) To do all such other things as are incidental or conducive to the attainment of the above objects, or any of them, and to exercise generally all such powers as may from time to time be conferred on this Company by Act of Parliament, charter, license or other executive or legislative authority.

The word "Company" throughout this clause shall be deemed to include and mean partnership, associations, or other body of per-

sons whether incorporated or not, and whether registered or domiciled in the Province of British Columbia, or elsewhere.

IV

The liability of the members is limited.

V

The Capital of the Company is Fifty Thousand Dollars (\$50,000.00) divided into Fifty Thousand (50,000) shares, of one dollar each, with power to divide the shares in the Capital for the time being into several classes and to attach thereto respectively any preferential, deferred, qualified or special rights, privileges or conditions.

WE, THE SEVERAL PERSONS whose names and addresses are subscribed are desirous of being formed into a Company, in pursuance of this Memorandum of Association, and we respectively agree to the number and class of shares in the Capital of the Company set opposite our respective names.

Name	Address, description	No. shares taken	Class
Chas. O. Rodgers
Cecil Watson Allan
George Johnson
Clarence F. Hayes
Roy Baird Staples

DATED this 25th day of November 1925.

Witness to the above signatures:

Full name, Edward Clement Gibbs.

Address, Creston, B. C.

Occupation, Deputy Postmaster.

APPENDIX IV

LIST OF SUBSCRIBERS TO CRESTON RECLAMATION COMPANY LIMITED

Rodgers, C. O.....	\$300. 00
Staples, R. B.....	200. 00
Hayes, C. F.....	400. 00
Johnson, George.....	400. 00
Allan, C. W.....	100. 00
Speers, S. A.....	400. 00

Bevans, R. S.	\$100. 00
Henderson, G. B.	300. 00
Fraser, W.	300. 00
Scrimgeour, D. S.	100. 00
McCreath, H. S.	400. 00
Crawford, W. H.	200. 00
Constable, G.	100. 00
Garland, C. B.	100. 00

SPECIFICATIONS

For the Construction of Unit No. 1 of the Reclamation of the Kootenay River Flats, for the Creston Reclamation Company, Limited

GENERAL CONDITIONS

General.

The work to be done in connection with this contract is as follows:

- (1) Constructing a levee or dyke around the area shown on plan of unit No. 1 of the Reclamation of the Kootenay River Flats said levee to be constructed to Elevation 1769.0 of the dimensions shown on plans and specifications.
- (2) To divert the Goat River into the Kootenay River, on section 4 Township 8, in accordance with plans and these specifications.
- (3) To construct within the area reclaimed the necessary drainage ditches so satisfactorily drain said areas.
- (4) To install a 4 foot concrete drainage pipe through the levee with suitable iron sluice way valve or flap valve on the river end of same. Both ends of the drainage pipe to be protected by satisfactory concrete retaining walls.
- (5) To install the necessary centrifugal pumps and engines on concrete foundations in a suitable building, with the necessary suction and discharge pipes and accessories thereof.

Engineer Final Authority.

All these works are to be constructed according to these specifications and in accordance with the plans of the works on file with the secretary of the Creston Reclamation Company, Ltd. at Creston, B. C. Should any discrepancy appear in the said specifications and drawings, or should any misunderstanding arise as to the meaning or import of the said specifications and drawings, or about the quality or quantity of materials, or as to the due and proper execution of the work, or as to the measurement, or quality and valuation of the work executed, the same shall be explained by the engineer in charge of the construction, and this explanation shall be binding on the contractor.

Engineer.

Whenever the word "Engineer" occurs in these specifications it is to be held to mean the engineer in charge of construction, his authorized assistant or other officer appointed to superintend the works.

Company.

Whenever the word "Company" occurs in these specifications, it is to be held to mean the Creston Reclamation Company, Limited, with head office in Creston, B. C.

Contractor.

Whenever the word "Contractor" is used, it shall be held to mean any contractor or firm of contractors, or any member of a firm contracting for the work herein specified, or his or their authorized foreman.

Responsibility of Contractor.

It is understood that the contractor assumes for himself full responsibility for the acts and neglects of his agent or employees until the final completion and acceptance of the work. The contractor and his sureties shall be held severally responsible for all accidents arising from any cause whatever, and for making good any defects occasioned by carelessness, of the action of the elements, or in any way whatsoever that may occur upon or because of the said works, or until the final percentage is paid.

Competency of Contractor.

All bidders must satisfy the company as to the sufficiency of their cash capital for the proper completion of the work, and for their competency for the management of the work.

The methods used and the appliances furnished shall be such as in the opinion of the engineer secure a satisfactory quality of work, and enable the contractor to complete the work in the time specified.

Workmanship.

The workmanship shall not only be of the best quality, but shall be made to conform to the letter and spirit of the specifications and to the requirements of the engineer.

Lines and Grades.

The levee generally shall be located approximately in the position shown on the plans. Along the Kootenay River it is proposed to build at or near the high part of the river bank.

Levee or Dyke Sections.

It is the intention that the final selection location will be selected so as to get the best result obtainable, for that reason variations from the location shown on the plan may be made with the approval of the Creston Reclamation Company, or their engineer. The levee or dyke must conform to the following dimensions. Where the height is 9 feet or less, it shall be 8 feet wide on top, the slope on the river or water side shall be 2 feet horizontal to 1 foot vertical and on the land side a slope of $1\frac{1}{2}$ to 1. Where the height is between 9 feet and 12 feet, the top width shall be 8 feet, the slope on the water side to be 3 horizontal to 1 foot vertical, while on the land side the slope shall be $1\frac{1}{2}$ horizontal to 1 foot vertical. For all levee work over 12 feet in height the top width shall be not less than 16 feet, the slope on the water side to be 3 feet horizontal to 2 feet vertical, and on the land side the slope shall be 2 feet horizontal to 1 foot vertical.

The top of all levees after allowing for natural settlement shall not be less than elevation 1769.0 feet, established by assuming Bench Mark No. 11 near the ferryman's house to be 1762.6 elevation.

To allow for settlement, all levees must be carried to height 10% higher than the central vertical height of same, so that where the height of the levee is 10 feet it shall be carried to a height of 11 feet, etc.

Clearing.

The site for levees, ditches, berms and borrow pits, shall be cleared of all trees, brush and shrubs.

All trees requiring cutting for the removal of same, shall be cut as near the ground as possible, but not to exceed 18 inches in height. No blasting or shooting stumps or trees for their removal will be permitted.

All dead or decayed stumps shall be removed by the drag line or otherwise. All small trees and brush shall be grubbed off close to the ground.

All cleared material shall be disposed of by burning.

Bond Trench.

A ditch 4 feet in width shall be constructed underneath all levees of sufficient depth to penetrate impervious material at least 1 foot. This ditch shall be located approximately one-third of the width of the base in from the flood water toe of the levee. Selected material shall be placed in the bond ditch, and the outside slope of the levee.

In no case will the placing of material with leaf mold or other perishable material be permitted in the bond trench or outside slope of the levee.

Where the levee crosses the Goat River and the bond trench would have to be excavated under water, it will be permissible to omit the bond trench and substitute double thickness of Wakefield sheet piling 16 feet long with a penetration of not less than 10 feet. On the south levee where it crosses the gravel wash of the old Goat River channel, great care must be taken to prevent the seeps of water under the levee, the trench must be filled with selected clay of the best kind, and thoroughly tamped.

Borrow Pits.

Borrow pits may be located on either side of the levee, but in no case shall the borrow pit be less than 8 feet from the toe of the levee and the width of the berm shall not be less than the vertical height of the levee. From this berm the borrow pit must have a slope of not less than 2 feet horizontal to 1 foot vertical. In no case will it be permissible to have a borrow pit on both sides of the levee. Where the borrow pit is close to the levee it must not be continuous, but must have a dam or berm at intervals of 400 feet.

Flood Gate and Outlet Pipe.

Through the levee embankment there shall be laid a 4 foot reenforced concrete pipe for drainage purposes, at a low enough elevation to permit of proper drainage of the reclaimed area. Both ends of this pipe shall be protected by concrete bulkhead retaining walls.

A suitably constructed iron sluice gate shall be installed on the outside of river end of this drainage pipe with proper gate-lifting appliances. The gate to be of the same dimensions as the drain pipe.

Drainage Canals.

The contractor must provide proper and efficient drainage for the whole area reclaimed. For this purpose the Goat River, and the Goat River Slough channels will provide the main drainage channel deepened if necessary.

A main drainage channel will also have to be provided on the easterly portion of the flats by deepening and straightening the slough channel on the east side of the flats and extending north and south throughout the entire length of the reclaimed lands. From these drainage channels, subsidiary drains must be made so as to efficiently drain the whole of the reclaimed area.

Pumping Plant.

The contractor shall provide a proper and efficient pumping plant with ample capacity to handle all the water accumulating in the drainage ditches when the sluice gate is closed. These pumps shall be single stage centrifugal pumps driven by internal combustion engines using fuel oil or gasoline, provided with the necessary iron suction and discharge pipes and gate valves and appurtenances.

KOOTENAY
LAKE.

KOOTENAY
LANDING.

SIRDAR.

KOOTENAY FLATS

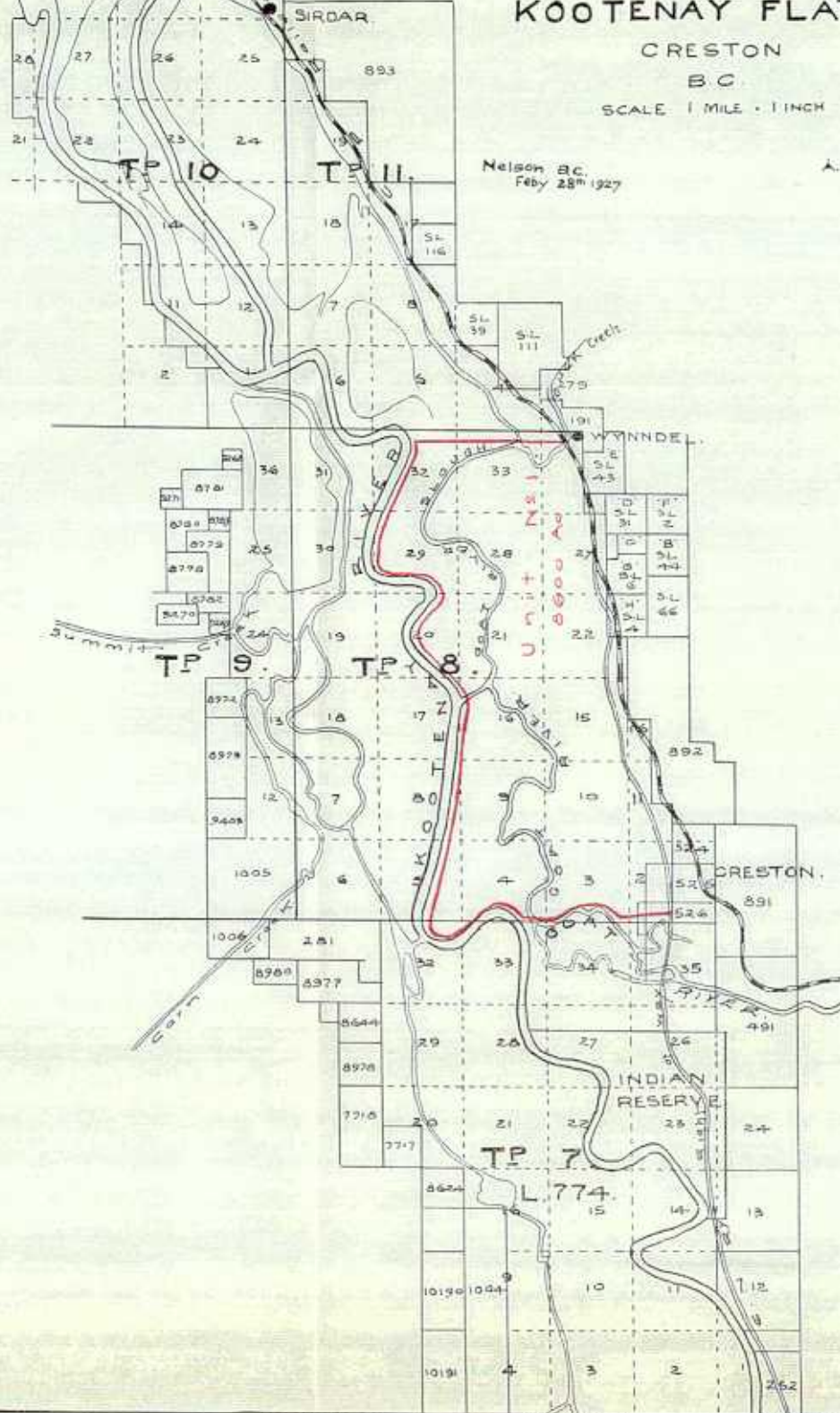
CRESTON

B.C.

SCALE 1 MILE = 1 INCH

Nelson B.C.
Feby 28th 1927

A.L. McCallum
Engineer



INTERNATIONAL
BOUNDARY

PORTHILL.

The pumping plant must include at least one pump of capacity of 7500 gallons per minute against a head of 30 feet.

The machinery must be set on suitable concrete foundations, and housed in a suitable building.

Concrete

The concrete used on the work shall be composed of 1 part of cement to 3 parts of sand and 5 parts of broken stone. The concrete may however be made of gravel providing the gravel has the above proportions. The cement used must be up to the standard set by the Engineering Institute of Canada, the quality of the concrete must be first class in every respect.

Nelson, B. C., *September 2nd/27.*

A. L. McCULLOCH,
Consulting Engineer.

N. G. GUTHRIE,
Solicitor for Creston Reclamation Company.

OCT. 14TH, 1927.

106936—28—2

INTERNATIONAL JOINT COMMISSION

HEARING

NELSON, BRITISH COLUMBIA,
Tuesday, November 29, 1927.

The International Joint Commission met, pursuant to notice, in the City Hall, Nelson, B. C., at 10 o'clock a. m., November 29, 1927.

Present: Charles A. Magrath (presiding), Clarence D. Clark, Henry A. Powell, K. C., Fred T. Dubois, Sir William Hearst, K. C. M. G., and P. J. McCumber, and Secretary Wm. H. Smith.

Mr. MAGRATH. Gentlemen, please come to order. I see that the morning papers have saved me the necessity of saying anything but a few words to you about the International Joint Commission.

This is the first time that the Commission has appeared west of the Rocky Mountains. In the fifteen years which it has been in operation it has held meetings on the American side all the way from Idaho to Maine and to Massachusetts, and on the Canadian side from Alberta to New Brunswick. It was brought into existence through a treaty that was entered into in 1909 between Great Britain, acting on behalf of Canada, and the United States. The treaty was ratified in 1911. In our opinion, and in the opinion of a great many people in both countries, it has been the greatest move forward between any two neighboring nations up to the present time. We find that in the conduct of our work the people on both sides of the boundary are always reasonable when there are questions to be discussed and determined; we find that by having those questions threshed out in the presence of both parties reasonable settlements can be effected; and I am pleased to say that in the work that we have accomplished we have always reached unanimous decisions.

It is a great tribute to both peoples on all this international border. There is a function that the Commission is called upon under the treaty to perform of settling any questions of difference between these two peoples, those questions having first to be approved by the Senate of the United States and the Government of Canada. When you appreciate that the two neighboring nations have gone that far, it is an evidence after all that there is some hope for the world, because so far as we can see as members of the Commission we do not think there is any reason why other neighboring nations might not do likewise.

I am not going to take up any more of your time, except to have the record read. After that we will call upon you for the appearances and then proceed with the application.

Secretary SMITH. The following communication has been received from the Department of the Interior of Canada:

DEPARTMENT OF THE INTERIOR, CANADA,
OTTAWA, *October 26th, 1927.*

GENTLEMEN: I have the honour to transmit herewith an application, in duplicate, of the Creston Reclamation Company, Limited, to the International Joint Commission, for permission to construct certain permanent works in and adjacent to the channel of the Kootenay river in the Province of British Columbia at Creston.

The material herewith includes:

- (a) The Application.
- (b) Specifications for the construction of Unit No. 1.
- (c) Tracings—Kootenay Flats:
Plan of Unit No. 1
Details of Unit No. 1

All of these have been duly signed by Mr. N. C. Guthrie, Solicitor for the Creston Reclamation Company, and it is understood that fifty additional copies of the application have already been supplied to the commission.

It will be necessary for the Company to have its proposed works approved by the Dominion Department of Public Works under the provisions of the Navigable Waters Protection Act, application for which has, I believe, already been made.

In transmitting the above application I would respectfully request that the International Joint Commission take appropriate action thereon.

Yours faithfully,

CHARLES STEWART.

Encls.

THE INTERNATIONAL JOINT COMMISSION,
Ottawa, Ontario.

Receipt of this letter was acknowledged by Mr. Burpee, the Canadian Secretary, and under date of October 27, 1927, the following letter was received from Mr. Guthrie:

OCTOBER 27TH, 1927.

L. J. BURPEE, Esq.,
Secretary, International Joint Commission,
Hope Chambers, Ottawa, Ontario.

DEAR SIR:

Re Creston Reclamation Company's Application.

I have been requested by telegram from the applicants and by letter from the President of the Applicant Company, to respectfully request the International Joint Commission to dispose of this Application at the earliest possible date. I am instructed that contractors are waiting to enter into arrangements to commence the dyking immediately upon the approval of the Commission being granted. In these circumstances may I, on behalf of the Company, urge that any rules which the Commission may have as to time may be waived so that the matter may be brought before the Commission, if possible, immediately. It is of the utmost importance to this Company to be able to commence operations this autumn if possible, so that they may be in

a position to have certain areas of land reclaimed for 1928. I think that you probably have precedents for expediting urgent cases of this character and I would be glad to be advised that something can be done in that direction to meet the particular conditions in this case.

Yours sincerely,

N. G. GUTHRIE.

On receipt of the application the following notice was sent out:

INTERNATIONAL JOINT COMMISSION

APPLICATION OF CRESTON RECLAMATION COMPANY, LIMITED, FOR APPROVAL OF CERTAIN PERMANENT WORKS IN AND ADJACENT TO THE CHANNEL OF THE KOOTENAY RIVER AT CRESTON IN BRITISH COLUMBIA

Notice is hereby given that there has been transmitted to and filed with the International Joint Commission by the Government of Canada the application of the Creston Reclamation Company, Limited, for approval of the construction of certain permanent works in and adjacent to the channel of the Kootenay River at Creston in the Province of British Columbia, the said Kootenay River being a river flowing across the boundary within the meaning of Article IV of the treaty between the United States and Great Britain of January 11, 1909.

Further notice is hereby given that by special order of the Commission suspending certain of its rules all statements in response to said application must be filed with the Commission on or before the 25th day of November, 1927, and all statements in reply on or before the 28th day of November, 1927; and further notice is hereby given that the above mentioned application will be heard in the city of Nelson, British Columbia, on November 29, 1927, at 10 o'clock a. m., at which all parties interested are entitled to be heard.

LAWRENCE J. BURPEE,

WM. H. SMITH,

Secretaries, International Joint Commission.

The notice was sent by Mr. Burpee to Dominion and Provincial officials and to private parties in Canada and by the American secretary to Federal and State officials and private parties in the United States, the notice being sent to the following:

O. D. Skelton, Under Secretary of State for External Affairs, Ottawa;

Duncan C. Scott, Deputy Superintendent General of Indian Affairs, Ottawa;

The Deputy Minister of Public Works, Ottawa;

The Deputy Minister of the Interior, Ottawa;

J. T. Johnston, Director, Water Power and Reclamation Service, Ottawa;

The Honourable the Premier of British Columbia, Victoria, B. C.;

Hon. T. D. Pattullo, Minister, Department of Lands, Victoria, B. C.;

The Deputy Minister of Public Works, Victoria, B. C.;

The Deputy Minister of Agriculture, Victoria, B. C.;

The Comptroller of Water Rights, Victoria, B. C.;

The Board of Trade, Nelson, B. C.;

His Worship the Mayor, Nelson, B. C.;
 The Board of Trade, Creston, B. C.;
 His Worship the Mayor, Creston, B. C.;
 N. G. Guthrie, Barrister, Ottawa;
 Hon. Dr. James H. King, Minister of Public Health, Ottawa;
 W. K. Esling, M. P., Rossland, B. C.;
 E. W. Beatty, K. C., President, Canadian Pacific Railway, Montreal;

The Honorable The Secretary of State, Washington;
 The Honorable The Secretary of the Interior, Washington;
 Honorable William E. Borah, United States Senate, Washington;
 Honorable Frank R. Gooding, United States Senate, Washington;
 Honorable Burton L. French, House of Representatives, Washington;

Honorable Addison T. Smith, House of Representatives, Washington;

Honorable Elwood Mead, Commissioner, Bureau of Reclamation, Washington;

Director, Office of Public Roads and Rural Engineering, U. S. Department of Agriculture, Washington;

N. C. Grover, Chief Hydraulic Engineer, Geological Survey, Washington;

Honorable Vincent Massey, Canadian Minister at Washington;

His Excellency The Governor of Idaho, Boise, Idaho;

The Attorney General, Boise, Idaho;

The State Engineer, Boise, Idaho.

The notice also was published in the Canada Gazette and in the local papers in Nelson and Creston, B. C., and in the Bonners Ferry Herald in the United States, in accordance with the rules of the Commission.

The following replies have been received to the notice which was sent out:

OFFICE OF THE DEPUTY MINISTER,

Ottawa, November 4th, 1927.

DEAR SIR: I beg to acknowledge receipt of your letter of the 1st instant enclosing copy of the application of the Creston Reclamation Company, Limited, which will be heard at Nelson, B. C., on November 29th, 1927, at ten o'clock a. m., at which all interests will have an opportunity of being heard, and note that at the request of the applicants the Commission has waived its rules in order to give a speedy hearing and that statements in response to applications must be filed with the Commission on or before November 25th.

Yours very truly,

J. B. HUNTER,

Deputy Minister.

LAWRENCE J. BURPEE, ESQ.,

Secretary, International Joint Commission,

Ottawa.

PRIME MINISTER,
PROVINCE OF BRITISH COLUMBIA,
Victoria, Nov. 8th, 1927.

MR. LAWRENCE J. BURPEE,
Secretary, International Joint Commission,
Ottawa, Ontario.

DEAR SIR: Yours of the 1st instant with the application of the Creston Reclamation Company, in reference to the reclamation at Kootenay River Flats, reached here in the absence of Honourable Premier MacLean.

As the matter is one which particularly affects the Department of Lands under which the Water Rights Branch is also operated, I am forwarding your communication to the Minister, the Honourable T. D. Pattullo, for consideration and reply direct.

Yours truly,

J. MORTON,
Secretary.

MINISTER OF AGRICULTURE,
PROVINCE OF BRITISH COLUMBIA,
Victoria, November 11th, 1927.

LAWRENCE J. BURPEE, ESQ.,
Secretary, International Joint Commission,
Ottawa, Canada.

DEAR SIR: Your letter of November 1st, with printed booklets bearing on the subject of reclamation of the flats near Creston, has been received. The Water Rights Branch of the Government, I understand, has this matter in hand, and will be prepared to take such steps as may be necessary.

Yours very truly,

E. D. BARROW,
Minister.

OFFICE OF THE UNDER SECRETARY OF STATE
FOR EXTERNAL AFFAIRS, CANADA,
Ottawa, Nov. 15, 1927.

L. J. BURPEE, ESQ.,
Secretary, International Joint Commission,
Ottawa.

MY DEAR MR. BURPEE: I desire to acknowledge your letter of November 14th, notifying this Department that the hearing in the matter of the application of the Creston Reclamation Company, Limited, will be held in the Council Chamber of the City Hall, Nelson, B. C., on Tuesday, November 29th, at ten o'clock a. m.

Yours sincerely,

O. D. SKELTON,
Under Secretary of State for External Affairs.

CANADIAN PACIFIC RAILWAY COMPANY,
LAW DEPARTMENT,
Montreal, November 17, 1927.

LAWRENCE J. BURPEE,
Secretary, International Joint Commission,
Ottawa.

CRESTON RECLAMATION

DEAR SIR: I acknowledge your letters of the 1st and 14th instant to the President, who directs me to thank you for sending a copy of the application.

So far as I am at present informed, no interest of the Company appears to be affected, but we are obliged, nevertheless, for notice of the matter.

Yours truly,

W. H. CURLE,
General Solicitor.

DEPARTMENT OF INDIAN AFFAIRS, CANADA,
OFFICE OF THE DEPUTY SUPERINTENDENT GENERAL,
Ottawa, November 17, 1927.

LAWRENCE J. BURPEE, ESQ.,
Secretary, International Joint Commission,
Ottawa, Canada.

DEAR SIR: I beg to acknowledge the receipt of your letter of November 1st, informing me that the application of the Creston Reclamation Company, Limited, will be heard at Nelson, B. C., on Tuesday, November 29th, at 10 o'clock.

After due consideration I have to inform you that it is not considered essential that this Department should be represented at the hearing or at this stage of the proceedings take further action.

Certain lands set apart for the Lower Kootenay Indians and confirmed as reserves by the Dominion Government and the Government of the Province of British Columbia have not yet been conveyed to the Dominion for the Indians. It is not improbable that some arrangement may be made to cancel these allotments and substitute for them land for the use of the Indians which will not be affected by the Creston Reclamation Company's scheme, or to otherwise compensate the Indians.

For the information of your Commission I may state that while the Minute of the Indian Reserve Commission, when allotting these lands for the use of the Indians of the Kootenay band, expresses an opinion as follows, "That the Commission in dealing with the reserve lands of the Lower Kootenay Tribe or Bands places itself upon record as of the opinion that the Government of the Dominion of Canada should contribute pro rata as guardian of the Indians concerned to the cost of any work of reclamation of valley lands at Creston or in connection with any lands which the Commission may recommend to be added to the reserve thereat," the Commission concluded this minute by adding "On the same being approved by such Government after such expert inquiry as it may cause to be made." Up to the present time, so far as I am aware, the Dominion Government has not directed an expert inquiry into the project.

Yours very truly,

DUNCAN C. SCOTT,
Deputy Superintendent General.

UNITED STATES DEPARTMENT OF THE INTERIOR,
GEOLOGICAL SURVEY,
Washington, November 10, 1927.

MR. WILLIAM H. SMITH,
Secretary, The International Joint Commission,
Old Land Office Building, 7th and F Streets, Washington, D. C.

MY DEAR MR. SMITH: I wish to thank you for your letter of November 7, 1927, enclosing copy of application of the Creston Reclamation Company, Limited, and other information relative to the question.

The information furnished by you has been forwarded to Mr. C. G. Paulsen, district engineer at Federal Building, Boise, Idaho, and Mr. G. L. Parker,

district engineer at 404 Federal Building, Tacoma, Washington, and they have been requested to attend the hearings at Nelson, on November 29.

Very truly yours,

N. C. GROVER,
Chief Hydraulic Engineer.

THE SECRETARY OF THE INTERIOR

WASHINGTON, November 14, 1927.

Mr. WM. H. SMITH,

Secretary, International Joint Commission,

Washington, D. C.

MY DEAR MR. SMITH: Receipt is acknowledged of your letter of November 7, 1927, inclosing copy of an application filed with the International Joint Commission through the Canadian Government by the Creston Reclamation Company, Limited, for permission to construct certain permanent works in and adjacent to the channel of the Kootenay River in British Columbia, with accompanying drawings and notice of hearing to be held thereon at Nelson B. C., on November 29, 1927.

While a drainage project in the Kootenay valley above Kootenay Lake was investigated by this Department a number of years ago, it is not believed at the present time that this Department has any direct interest in this or any other reclamation project that might be affected by the above-mentioned application. In view of this situation, it is believed that the appointment of a representative to attend this hearing would not be justified.

Thanking you for calling my attention to the date of this hearing, I am,

Sincerely yours,

HUBERT WORK, *Secretary.*

UNITED STATES DEPARTMENT OF THE INTERIOR,

BUREAU OF RECLAMATION,

Washington, November 10, 1927.

Mr. WM. H. SMITH,

Secretary, International Joint Commission,

Washington, D. C.

MY DEAR MR. SMITH: Receipt is acknowledged of your letter of November 7, 1927, enclosing copy of an application filed with the International Joint Commission through the Canadian Government by the Creston Reclamation Company, Limited, for permission to construct certain permanent works in and adjacent to the channel of the Kootenay River in British Columbia, with accompanying drawings and notice of hearing to be held thereon at Nelson, B. C., on November 29, 1927.

While a drainage project in the Kootenay valley above Kootenay Lake was investigated by this bureau a number of years ago, it is not believed at the present time that this bureau has any direct interest in this or any other reclamation project that might be affected by the above mentioned application. In view of this situation, it is believed that the appointment of a representative to attend this hearing would not be justified.

Thanking you for calling my attention to the date of this hearing, I am,

Very truly yours,

ELWOOD MEAD, *Commissioner.*

STATE OF IDAHO,
OFFICE OF THE GOVERNOR,
Boise, November 16, 1927.

Mr. WM. H. SMITH,
Secretary, International Joint Commission,
Washington, D. C.

MY DEAR SIR: Acknowledgment is hereby made of copy of application filed with your commission, through the Canadian Government, by the Creston Reclamation Company, Limited, for permission to construct permanent works in and adjacent to the channel of the Kootenay River, in the Province of British Columbia, at Creston; together with copy of notice of filing of the application and hearing thereon.

Yours very truly,

H. C. BALDRIDGE, *Governor.*

Mr. MAGRATH. We would be pleased now to have each representative offer his appearance.

APPEARANCES

Charles B. Garland, Nelson, B. C., on behalf of the applicant, the Creston Reclamation Company, Limited.

R. C. CROWE, of Nelson, B. C., appearing for the West Kootenay Power & Light Company. It is quite true, Mr. Chairman, that we are not on the record, but we are a very much interested party in the river and while we are not objecting or protesting, we will have at a later time an application of our own. Owing to force of circumstances, that application is not before your body at the present time. My position is rather an unusual one, not being upon the record and not having an objection, but it is in consequence of the fact that we will later have a petition here, and possibly after hearing the present application your body might consider it wise to delay your decision at least until ours is here. We will bring it on at the earliest possible opportunity.

Mr. POWELL. Do the two applications clash?

Mr. CROWE. Not necessarily, but they are all on the same river.

T. L. Cory, Ottawa, representing the Department of the Interior of Canada.

G. H. Whyte, Vancouver, B. C., representing the Department of the Interior of Canada.

P. E. Doncaster, Nelson, B. C., representing the Department of Public Works of Canada.

Andrew Nelson Winlaw, Winlaw, B. C., representing J. B. Winlaw Company.

J. C. MacDonald, Victoria, B. C., representing the Department of Lands, Province of British Columbia.

George N. Carter, Boise, Idaho, representing the Commissioner of Reclamation, State of Idaho.

C. G. Paulsen, Boise, Idaho, District Engineer, United States Geological Survey.

G. A. Hunt, Spokane, Washington, representing the Great Northern Railway Company.

Mr. MAGRATH. Mr. Garland, will you proceed now with your presentation?

STATEMENT OF MR. CHARLES B. GARLAND ON BEHALF OF THE APPLICANT

Mr. GARLAND. Before proceeding with the practical matters respecting the works to be done and the application that is before you, I should like, if I may be permitted for a few moments, to dwell upon what I may consider to be the purposes of this Commission in so far as they affect our application.

The lands which we propose to reclaim lie in waters which are international in that they flow from the American side to the Canadian side. They are provincial lands and are owned by the Province as provincial domain, and apart from the interest of the Department of Lands in British Columbia, that Department which represents and owns the public domain, there is also interested the Dominion Government in its capacity as the protector of the navigable waters. So also interested in this application is the War Department of the Province of British Columbia within whose jurisdiction all waters of this Province are confined. Further than that, in respect of this particular application, also the Indian Department is interested by reason of the fact that certain lands within the area proposed to be reclaimed are the lands of the Indians of this country and the wards of the Department. Consequently, presuming for a moment that the lands which we propose to reclaim were withheld, say, to the north in the Great Slave Lake or the Lesser Slave Lake, all conflicting interests would be reconciled and the conflicting interests between all parties having any desire for the use and diversion of those waters would be governed purely and simply by the domestic tribunals of this country and by the Dominion Government departments. But by reason of the fact that these particular lands are adjacent to waters which are international in their course, this application now appears before this Commission.

So that I have considered, and am subject to correction, that the main purpose of this Commission is in following the words of the treaty to consider the petition now before it in relation of the inhabitants of one country to the inhabitants of the other, and that the domestic issues, that is, any conflicting interests which may arise between the nationals of this country, are matters which are exclusively within the jurisdiction of the dominion and the provincial governments; that all rights and all obligations will be considered by those dif-

ferent departments and that elements in regard to the conflicting interests will not be a matter upon which the members of this Commission will rest their decision.

In other words, I am fortified in my argument by the very words of the treaty wherein it is expressly reserved by the High Contracting Parties that the exclusive jurisdiction over the waters within their respective boundaries is essentially a matter for the domestic governments, and I say with respect to that if this Commission should entertain in approaching its decision on this application the fact that conflicting interests may exist within the Dominion of Canada, it may well be that in the consideration of those conflicting interests a decision resting or based upon or supported by any grounds as conflicting interests might well interfere and override the policy of the Province of British Columbia or the Dominion of Canada, which exclusive policy or right is expressly reserved to the High Contracting Parties as between the nationals of their respective countries.

Mr. CLARK. Suppose it should develop that these conflicting interests, each of them or any of them, also interfere with the rights of the nationals on the other side of the border? Then would that properly come before this Commission at this hearing?

Mr. GARLAND. No, sir. The application now before this hearing is the application of the Creston Reclamation Company to reclaim 8,600 acres of land, and I submit that this Commission will concern itself with the effect of that reclamation upon the inhabitants of the other country; that is, using the words of the treaty itself and the jurisdiction which is vested in the members of this Commission.

With respect permit me to say that all conflicting interests within this Dominion and this Province are safeguarded by the departments which are set up by the respective governments, and that it is their duty, of course, to take care of the interests of their nationals. So that, so far as any interjections may be made at this hearing of conflicting interests in Canada, may I assure the members of this Commission that the rights of all interests of all people and conflicting interests within the Dominion of Canada are safely within the hands of the departments of the Province and of the Dominion vested with that authority.

So in opening I ask that I may be permitted to present my case to you and to deal with it upon the assumption that the Commission will consider the application of the Creston Reclamation Company in so far as it affects an international aspect or an international interest, and, to use the words of the treaty itself in so far as it involves the rights, obligations and interests of the people of our great Republic to the south, and not so far as it is affected by the conflicting interests upon these waters. That, I submit, is a domestic question within the exclusive jurisdiction of the Dominion and the Province.

Mr. McCUMBER. Suppose a serious question arose between the conflicting interests on the Canadian side; we will say a power company upon one side and a reclamation company upon the other, both of them presenting their cases and being diametrically opposed to each other. What would you say would be the position of the Commission in this hearing with respect to their differences?

Mr. GARLAND. Presuming at the present moment, sir, that there were two applications before this Commission, one application, we will say, by a power company and one application by a reclamation company, both petitioning that certain proposals which they may present should receive the approval of this Commission; presuming that it is demonstrated to this Commission that it will not in any way affect our neighbors to the south; and presuming that as far as the international aspect is concerned no detriment, damage, objection or right of our neighbors to the south is involved; I submit that under those circumstances, although the application of the power company and the application of the reclamation company might in themselves conflict as far as provincial rights are concerned and as far as the waters of this country are concerned, this Commission could extend its approval to both those applications, while relying upon the fact that in the last analysis the jurisdiction within these waters is purely and simply within the dominion and provincial governments, and as between the power company and the reclamation company this Commission could extend approval to both and leave the matter then to the provincial and dominion governments.

Mr. McCUMBER. You think, then, that the Commission could make a report favoring two propositions which were diametrically opposed to each other?

Mr. GARLAND. I believe that is true.

Mr. McCUMBER. You think an international commission such as this is could make a report favoring two propositions diametrically opposed to each other?

Mr. GARLAND. Yes, sir, presuming—

Mr. McCUMBER. Presuming that neither of them affected the interests on the other side of the line.

Mr. GARLAND. Exactly, sir.

Mr. CLARK. If neither of them affected any interest on the other side of the line, how could the Commission act at all?

Mr. GARLAND. The Commission would be here for the purpose of satisfying itself to that effect, but if such a condition arose in waters that are not international, then decision as between one another would remain with the Province and the Dominion.

Sir WILLIAM HEARST. What do I understand your position to be in this hearing? I am led to ask this question by your last remark. Do you come here to satisfy us that no international right is in-

volved, or do you come here to ask our approval of a work that has or may have an international effect?

Mr. GARLAND. We come here to ask your approval of a work which should you find it has no international effect you would approve.

Sir WILLIAM HEARST. But if we should find that it has an international effect, then what is your position?

Mr. GARLAND. Then, sir, you will take the matter under advisement and you will prepare your decision according to the evidence that appears before you at this time.

Mr. CLARK. Your statement itself says that it has an international effect.

Mr. GARLAND. Yes, it does; we admit that it has an international effect but we say it will not be a matter of any great consideration.

Sir WILLIAM HEARST. In what way and under what provision of the treaty do you present this proposal?

Mr. GARLAND. I have searched the treaty to endeavor to find out whether interests affected within the boundaries of Canada or the United States have any rights before this Commission.

Sir WILLIAM HEARST. Of course, we have the right to call upon the applicant to make compensation to any interests that may be affected by reason of the work.

Mr. GARLAND. Exactly, and I presume that in considering this matter, if it should be found that our proposals call for compensation to the people on either side of the line, your judgment would be in accordance with the powers vested in you by the treaty; but I cannot find in this treaty any jurisdiction in this board to give damages, we will say, to anyone on this side of the line.

Sir WILLIAM HEARST. You have not yet answered the question I put to you or that I intended to put: What is the specific provision of the treaty that you say applies to your case and compels you to get the permission of the Commission?

Mr. GARLAND. I refer now to Article III.

Sir WILLIAM HEARST. What part of that article will your work violate?

Mr. GARLAND. We say it may come within these words, "affecting the natural level or flow of boundary waters on the other side of the line."

Sir WILLIAM HEARST. Are these boundary waters within the meaning of the treaty?

Mr. GARLAND. I presume they would be.

Mr. MAGRATH. Are you not quoting the wrong article? It would be Article IV referring to waters flowing across the boundary.

Mr. GARLAND. Yes, "in waters at a lower level than the boundary."

Sir WILLIAM HEARST. There is a preliminary Article of the treaty defining boundary waters and which reads as follows:

For the purposes of this treaty boundary waters are defined as the waters from main shore to main shore of the lakes and rivers and connecting waterways, or the portions thereof, along which the international boundary between the United States and the Dominion of Canada passes, including all bays, arms, and inlets thereof, but not including tributary waters which in their natural channel would flow into such lakes, rivers and waterways, or waters flowing from such lakes, rivers, and waterways, or the waters of rivers flowing across the boundary.

Mr. GARLAND. The Kootenay River flows across the boundary; it rises in Canada and goes down into the United States.

Sir WILLIAM HEARST. But under the definition on page 12 your boundary waters are excluded.

Mr. POWELL. They are expressly excluded.

Mr. GARLAND. That is Article——?

Mr. POWELL. Article IV.

Sir WILLIAM HEARST. No, the preliminary article which defines what is meant under the treaty by boundary waters.

Mr. GARLAND. Well, I frankly admit, sir, that I find myself at a loss in regard to that particular matter.

Mr. POWELL. Within what words of this treaty definition do you think your case falls so that it will come within waters called boundary waters?

Mr. GARLAND. I may say I have only entered upon this question and that all preliminary matters have been in the hands of the agent of the company in the east. I took it for granted that he had properly laid his jurisdiction and that from the fact that it was being presented to this Commission all matters of this kind had been properly dealt with. When you ask me to tell you in detail I can do nothing more beyond assuring you that I will not delay a moment until I advise myself in regard to these matters.

Mr. MAGRATH. I understand you are taking the position that any domestic matters in this province as between your client and any other interests would be settled by the province itself and that this Commission would have nothing to do with them?

Mr. GARLAND. That is my purpose.

Mr. MAGRATH. Do I understand you to say that we could deal with these two applications, this and the other application, and that if we approved of both, it would then be for the Governments to decide as between your respective rights? That is your contention?

Mr. GARLAND. Yes, that being a matter of policy.

Mr. MAGRATH. Well, you may go ahead.

Mr. POWELL. Take the case of these particular waters. We have two companies, one that deals with the improvement of land, and the other with power and its generation. Power requires the eleva-

tion of the water, the improvement of the land requires the lowering of the water. An application is made on behalf of the power company, or intending power company, to raise the water. If we decided to grant that what would be the result to the other fellows who want the water lowered? We can not say to the powerman, "Increase the height of the water," and to the other applicant, "You shall not."

Mr. GARLAND. Exactly, sir.

Mr. POWELL. It would be absurd to say we could grant both applications.

Mr. MAGRATH. That can not arise until the question comes up.

Mr. POWELL. We were discussing what inevitably would come before us. You, yourself, can see it?

Mr. GARLAND. Yes.

Mr. CLARK. Mr. Powell, suppose we make a decision on one of these applications, this one and another in prospect; suppose we decide definitely in regard to one of them, what effect would that decision have upon the other when it came before you? Would we be bound by our prior decision?

Mr. POWELL. I would think that we would be bound by our previous decision.

Sir WILLIAM HEARST. Perhaps if Mr. Garland went on and opened his case to us we could then consider whether it is a matter coming under our jurisdiction or what course we should take. We are here and we should get the data before us.

Mr. POWELL. I did not ask the question merely for the purpose of asking it, but at least to get what Mr. Garland's attitude would be in respect to these two cases.

Mr. McCUMBER. I understand your position really to be not that we should approve of two conflicting applications but that the approval would be tentative only and that it would depend upon the final action of the Canadian Government and the government of the province.

Mr. GARLAND. That would be so presuming the two applications were before you for consideration at the same time.

I have thought it well to obtain for you these maps of the country. They are maps from the department of the government of the Province of British Columbia and of course are authentic as being public records. The right side of the map marks the boundary between British Columbia and Alberta, and if you will be good enough to proceed somewhat to the left at about the conjunction of latitude 50 with longitude 116 you will find the words "Canal Flats." You will find to the right and to the north the words "Canal Flats" the source of the Kootenay River. This, as will be seen, flows south to the place called Canal Flats and from then continues south as far

as this map shows to the international boundary. At this particular place called Canal Flats and in close conjunction to it rises a further river which instead of flowing south as does the Kootenay River flows north into Columbia Lake and proceeds north from Windermere Lake which is shown on the map. It continues north in a great bend until above the word "belt" it will be seen to curve southerly and turn down, eventually arriving at the upper Arrow Lake. That is the Columbia River, the source of which is very close to the source of the Kootenay River; but while the Kootenay River runs to the south the Columbia River runs to the north. Eventually, after proceeding through the United States for about eighty miles, the Kootenay River again reenters Canada. It will be seen on the map near the 117th and 116th degrees of longitude. It at this time is northerly in its direction and extends into Kootenay Lake which will be seen on the map. Part way up Kootenay Lake will be found the West Arm. The overflow from Kootenay Lake continues down this West Arm until it meets the Columbia River at Castlegar.

Mr. POWELL. The intersection is at what parallel?

Mr. GARLAND. It is between the 117th and 118th degrees of longitude. It is just above the word "Trail".

Sir WILLIAM HEARST. The West Arm drains all the waters of Kootenay Lake?

Mr. GARLAND. Yes, sir. It is on this West Arm that Nelson is situated. It will be observed between the 116th and 117th degrees of longitude where the river enters Kootenay Lake that there is a considerable area of land and a portion of this is the land which it is now proposed to reclaim.

The proposal for the reclamation of land in the Kootenay Valley is not a new matter. In or about the year 1885 a British engineer by the name of Grohman was in British Columbia and made himself familiar with the conditions which exist in regard to the proximity of the sources of these two rivers. He became familiar with that great area of land lying along the Kootenay River where it enters Canada and realized how great was the wealth created by the delta which had there been formed. In or about the year 1887 he entered into an arrangement with the provincial government whereby it was provided that if he reclaimed these lands, some thirty thousand acres in extent in the delta district, he should receive from the Province a grant of them. He proceeded upon the principle that the method under which the reclamation of these lands would be best achieved would be by removing as far as possible the cause of the high water which occurs each year by reason of the freshet in the Kootenay River at its source. He proposed to flow the high water of the Kootenay River at or near its source into the Columbia River thereby

directing its course northerly and relieving the stream flowing in a southerly direction.

Mr. POWELL. By means of the diversion of the Kootenay River?

Mr. GARLAND. By means of the diversion of the Kootenay River. He at the same time contemplated taking out certain obstructions in the West Arm of Kootenay Lake within a few miles of this city. He proceeded with the work, took out some of the obstructions in the Arm and carried out certain engineering projects at Kootenay Flats.

Mr. MAGRATH. Do you mean that he did some dredging in the lake?

Mr. GARLAND. He took out some rock at the place called Grohman's Rapids.

Mr. DUBOIS. In 1887?

Mr. GARLAND. About that time.

Mr. POWELL. What depth of channel on the average did he secure?

Mr. GARLAND. I have no information.

Mr. POWELL. It is not very material.

Mr. GARLAND. No, sir. I bring this forward to show you that nearly forty years ago the scheme of reclamation was present in the minds of the men of this country.

Sir WILLIAM HEARST. No waters are being diverted at the sources of these rivers now?

Mr. GARLAND. No.

Sir WILLIAM HEARST. That old canal is closed up?

Mr. GARLAND. It is useless. I do not know whether it is closed up or not but it is not used. Due to financial and other vicissitudes the project of Baillie Grohman did not succeed. He went so far but was unable to proceed farther. He is no longer in this country and has been in England, I think, for many years. The vision that he had at that time of the reclamation of this land has persisted among those people who lived beside him. They have carried out the idea and during thirty years at least have taken every opportunity of directing attention to it. They have presented it to persons, governments, departments, and to others whose interests and sympathies they might hope to enlist.

Mr. POWELL. Did this engineer get the grant?

Mr. GARLAND. He got a grant of a certain amount, some seven thousand acres, for the work he did.

Mr. POWELL. That is still in force?

Mr. GARLAND. Yes; he received a Crown grant of this land. Since that time the members of the Creston Board of Trade and residents of the district have taken every opportunity, in conjunction with our friends to the south, because south of the boundary there is a delta of equal size, to direct public attention to this project. For many years they have endeavored to create interest where indifference may have

existed and, having created that interest, they have sought to establish the conviction that the thing is possible.

As far as its feasibility is concerned, these men, while making their appeal for assistance and sympathy had a visible demonstration of the success of the project in the dykes which had been constructed and the crops which had been grown on reclaimed land by our friends south of the boundary and this was an added incentive to the advocates of the undertaking in their efforts to interest, to persuade and if possible to convince. These efforts extending over a period of about thirty years have culminated in the sitting of this Commission today.

In regard to the fertility of the soil and in regard to the practicability of this project, I have only to say to you that, in spite of anything that might be said to the contrary, there is a visual demonstration upon the other side of the international boundary in the eighteen thousand acres of arable land reclaimed and producing crops. On one of the areas across the boundary the crops alone the first year after reclamation paid the cost of the work. In other words, the entire overhead of the reclaimed area, by the abundance of the crops grown on that land, was met and the capital outlay repaid. I have some photographs which I will be pleased to place before you to give you an idea of the wealth that is sunk in this land. For centuries nature has been bringing down this soil and depositing it for the, at some day, use of man. These photographs will give you some conception of what has been done in the past and what can be done in the time to come if certain other conditions arise. These photographs illustrate the actual conditions as they exist.

Mr. POWELL. Are the conditions on both sides of the line the same? Is the character of the soil the same? I suppose it is alluvial deposit.

Mr. GARLAND. Yes, sir.

Mr. POWELL. Not clay?

Mr. GARLAND. No, sir, not clay and not soil that is sour.

Mr. POWELL. And not gravel?

Mr. GARLAND. There is a certain amount of gravel in the creeks but it is negligible. I do not wish to encumber the record with these photographs.

Mr. MAGRATH. For the purpose of the record, what is the nature of the photographs? Do they show what has been accomplished elsewhere?

Mr. GARLAND. On the other side of the international boundary upon land similar to ours, adjacent to ours, and deposited there by the same great force of nature.

Mr. DUBOIS. These lands are around Bonners Ferry?

Mr. GARLAND. Yes, sir; and our lands are adjoining them, adjacent to the same soil and subject to the same conditions.

Mr. CLARK. I understand that the proposal in your first unit is to reclaim between eight thousand and nine thousand acres of land.

Mr. GARLAND. Yes, sir.

Mr. CLARK. What is the ultimate purpose of your plan in regard to the acreage?

Mr. GARLAND. About the ultimate purpose I am unable to tell you. The whole of the lands in this delta are provincial domain. Some years ago, in 1922 or 1923, to be exact, a deputation waited upon the Minister of Lands of the Province of British Columbia, who at that time was passing through Creston and inquired about our attempt to advance this project. We attended upon him at Creston and at that time he, complimenting us upon our strength of purpose over so many years, eventually said, "If you will reclaim 10,000 acres the Province will give you a Crown grant when that has been done."

I am instructed by Mr. Guthrie that the notarial copy is before this Commission and a part of this record. So that as far as this reclamation company is concerned, our rights are confined to 10,000 acres only.

Mr. CLARK. I know your rights, perhaps, will be confined to that, but what I was trying to get at was the expectation of your company.

Mr. GARLAND. We have no further expectation, sir.

Mr. CLARK. There is something in the record that speaks about Unit No. 2.

Mr. GARLAND. I have no knowledge of that, sir.

Mr. CLARK. The fourth paragraph on page 6 of the application states: "The Kootenay River Flats in British Columbia it is proposed to reclaim in units as is being done in the State of Idaho. The first unit to be reclaimed is Unit No. 1, comprising 8,600 acres."

That, I understand, is the basis of your present application.

Mr. GARLAND. Yes, sir.

Mr. CLARK. The paragraph continues:

"No. 2 unit will be west of the river and immediately west of No. 1 unit."

If that means anything it certainly indicates that your company is proposing to improve this 8,600 acres and as soon as that is done to go on and make further improvements.

Mr. GARLAND. That would be true.

Mr. CLARK. What I am trying to get at is the ultimate purpose of the company, so far as the development of this land is concerned, if you know.

Mr. GARLAND. Well, sir, I can only explain that to you by saying that as far as the company is concerned it has now the right to reclaim 10,000 acres and that having been done successfully a Crown grant will be issued to it. That comes from the Department of Lands of this Province.

As to the future disposal by that department of these lands I have no information nor knowledge, but we have no right to expect anything from the provincial government other than the 10,000 acres which are now promised to us. So should there be a Unit No. 2 at all it will consist of the difference between the present 8,600 acres and a further unit of 1,400 acres should that be constructed at any future time.

Mr. CLARK. Let me ask you another question. What have you estimated as the cost of the reclamation of this 8,600 acres?

Mr. GARLAND. I have no figures at all on that, sir.

Mr. CLARK. What has your company done in the way of financing this proposition?

Mr. GARLAND. Until we have the permission of this Commission we can do nothing further than negotiate; and in our negotiations we have no better opportunity than to say that we expect this approval will be extended to us.

Mr. CLARK. What is the capitalization of your company? Fifty thousand dollars I think your application says.

Mr. GARLAND. Yes, sir.

Mr. POWELL. Forty-five hundred dollars is given in the list.

Mr. CLARK. Forty-five hundred dollars out of \$50,000 is subscribed. Does your company expect that \$50,000 will be sufficient to reclaim these 8,600 acres?

Mr. GARLAND. Yes, sir. I am not au fait with the company's ideas in regard to that, but I will tell you this, bearing in mind that down on the other side of the line where these lands have been reclaimed the first year of the crops alone has returned to the investors the whole of their capital amount, I submit that it is not expected that any difficulty will be found in obtaining capital to be interested in this matter.

Mr. CLARK. Then, so far as the financial end of this matter is concerned, that will be attended to after you have secured your undeniable rights?

Mr. GARLAND. Yes, sir.

Mr. CLARK. That is rather a speculative proposition, is it not?

Mr. GARLAND. Well, sir, on the other hand, it would be speculative for capital to enter into any negotiations with us and tie up large amounts of money which may be used for other purposes pending a decision as to our title.

Mr. CLARK. That is all the questions I want to ask on that line. But while I am not expressing a conviction, it does occur to me that your company in making an application of this sort should have some kind of a financial showing that they would be able to carry out some of the purposes for which the application is made and not have that contingent upon a stock-selling proposition. I do not use that expression "stock-selling proposition" in any harsh way,

but that is what it is; that having secured the permission, upon the fact of that permission having been granted you propose to issue stock upon the value of land which becomes yours upon the completion of your work. That is what it is, is it not?

Mr. GARLAND. Sir, if I may be permitted, I do not know that there is anything further from the minds of the directors of this company than that this should be a stock-selling proposition or that it should be financed in that way. Permit me to say this: I have lived in this district close to these lands and for many years have been associated with these gentlemen in this matter. The district adjacent to these lands is composed of bench lands upon which there are a very considerable number of settlers who have come there over a period of many years. Those settlers who came in at that time bought land upon the bench lands above these flats at various amounts, possibly from \$50 up to \$100 an acre. To reclaim that bench land and make it fit for agriculture and arable it has cost those settlers in that district at least \$200 an acre, and that land is fruitful and bears crops now. In the case of the bench lands of this country, due to the fact that they are timbered, and also to other conditions, far from the first cost being the last cost, after the farmer purchases his farm land at a certain value, he must, on top of the purchase price, place the cost of fitting his land for cultivation. Many years of hard work, much trouble and the expenditure of a good deal of money stand between him and the productiveness of the farm he has bought. He will have to expend perhaps \$150 per acre and in some cases \$250 in order to make his land fit for the plough. This delta land at this time is fit for the plough. It can be reclaimed from the inundation of the Kootenay River at an approximate cost of \$50 per acre. Now, I say to you that land in this country, which on the one hand costs the settler somewhere in the neighborhood of \$300 per acre before he can place his plough upon it, is unproductive compared with land which can be made fit for the plough at a cost of \$50 per acre.

Mr. CLARK. Your company does not propose to sell this land to the settler at \$50 per acre?

Mr. GARLAND. We believe we can sell all this land to the man living within a mile or two of the land and whose acre has cost him anywhere between \$250 and \$300. We believe we can get him to help to finance the project. Once we have the permission of this Commission we are then in a position to go to some of our neighbors, who perhaps have not always assisted us, and say to them, "Look what we have done." The result will be that they will all turn in and instead of the small capitalization and paid-up capital you now see, we shall have hundreds of shareholders amongst our neighbors and friends.

Mr. CLARK. This is a very attractive proposition and I have no doubt that you will carry it through, but the purpose of this hearing is to expedite matters so that you can enter into a contract for the prosecution of this work.

Mr. GARLAND. Yes.

Mr. CLARK. I understand you to say that you have not funds for the purpose but that you expect to raise those funds upon the decision of this Commission. That being the case, how are you prepared at this time to enter into contracts for the prosecution of this work? I am trying to get at how well you are prepared on your side to fulfill the obligations you may have to the public either upon this or the other side of the line.

Mr. GARLAND. My answer to that is, in so far as the financing of the project is concerned, I am instructed that the directors have been in touch with men well able in themselves to carry through the reclamation of this land and well able to finance it so that there will be no difficulty in that regard.

Mr. CLARK. Are the parties that you speak of in the east and have they information that you do not have?

Mr. GARLAND. No, sir. These parties are British Columbians and financial men from the other side of the line.

Mr. CLARK. Those who have been given the incorporation?

Mr. GARLAND. No, sir; they are financial men and contractors who are willing to proceed with the reclamation. I am here representing the ideas of a great many men who desire to see this land reclaimed.

Mr. CLARK. We all want to see the land reclaimed but before tying up the country on either side of the line in any proposition of this kind I think it should be looked into carefully so as to make sure the purpose will be achieved and that the land in these districts will not be tied up for a number of years by a company which is trying to do its best but which is unable to produce the results desired.

Mr. GARLAND. I have no better answer than to refer you to the financial condition and the progress of the dyked district within a few miles of our land.

Mr. CLARK. Not any too satisfactory. It has been a pretty hard pull to get these lands into the condition they are in now. It has not been all beer and skittles, as my friend would say, in regard to the reclamation of this land. They have achieved a wonderful success but it has been through years of trouble and disappointment at times followed by years full of promise and accomplishment. It has not been done without hard work.

Mr. GARLAND. Neither has ours. Side by side with these people, we have suffered as they have suffered and we have hoped as they have hoped.

Mr. McCUMBER. I am not acquainted at all with the operations on either side. I have never gone upon this land and therefore I would like to get the fundamental proposition. My first impression is that we have a little over 30,000 acres on each side of the line that can be reclaimed, one part perhaps just as easily as the other, and all the same kind of land.

Mr. GARLAND. Yes, sir.

Mr. McCUMBER. Then, my next impression would be, that whatever is done ought to be done so that there will be harmonious action between both sections of the country and looking ultimately to the opening up of every acre of these 30,000 acres on each side.

Mr. GARLAND. Yes.

Mr. McCUMBER. You speak merely for some 8,000 or 10,000 acres?

Mr. GARLAND. Yes.

Mr. McCUMBER. Will other companies speak for the balance of that 30,000 acres or does your company expect when you develop this first unit to reach out and take care of the remainder of the 30,000 acres in a similar manner, or will there be other companies organized to take over other sections? Do you have in contemplation the opening up and reclamation of the full 30,000 acres of this land?

Mr. GARLAND. This company have not, sir, and among many other reasons the main one is this: On the American side of the line the lands amounting to some 31,000 acres were owned by private individuals. On our side of the line the whole of the land was owned by the provincial government. In other words, any scheme of reclamation would have been a government undertaking but the time was not ripe and the proposition was not looked upon kindly as a government scheme. Then, matters of policy and other considerations entered into the decision no doubt. The whole of the 31,000 acres was provincial government land and could not be reclaimed by any one. No one could utilize that land without the consent of the government. The government did not desire to enter into it in its capacity as a public reclamation scheme but having regard to the length of time, the work and expense that the supporters of this drainage proposal have contributed to it, the government said: "To you who have given this time, who have held the light aloft, we will give 10,000 acres if you will reclaim the land." That is the first and last of it, sir.

Sir WILLIAM HEARST. Is it not in this position, that up to the present the provincial government have said: "If you reclaim your 10,000 acres we will give you the title to this 10,000 acres?"

Mr. GARLAND. Yes.

Sir WILLIAM HEARST. Simply holding back until they see whether you are able to accomplish the reclamation of that 10,000 acres before committing themselves any further?

Mr. GARLAND. That is it.

Sir WILLIAM HEARST. Consequently you are not in a position to say what will be done when you reclaim your 10,000 acres, because the government have not told you what they will do?

Mr. GARLAND. Exactly. Should we reclaim this land thereby creating a new value, any decision that may be taken about that by the provincial government will be based upon an altogether different situation as compared with that existing at the present time. We would have borne the burden of the battle and shown that this land has a value and can be reclaimed. We would have further arguments or rights should we desire to make overtures which is not our intention at the present time. The government would then probably have to deal with different conditions as compared with those existing at the present time.

Mr. McCUMBER. Your Unit No. 1, then, is exclusively private land.

Mr. GARLAND. Exclusively private, sir, the only one on this side of the international boundary.

Mr. McCUMBER. Does it take all private lands from which the government itself has parted with its title?

Mr. GARLAND. No, sir. I referred to the works of Baillie Grohman away back in 1899. As I said, he did certain works down the Columbia and did do certain dyking work between this proposed scheme and down the boundary of Idaho. But due to financial conditions and weather conditions they were not completed or have not answered the purposes for which they were intended, and for many years they have not been operated other than to grow natural hay that grows in these slough lands.

Mr. McCUMBER. But your title is a private title?

Mr. GARLAND. That title is, sir. Ours is not until we get it. We get it not until we reclaim. So that between us and the title is the approval of this Commission and the erection of our works.

Mr. POWELL. Do I understand that this 10,000-acre grant is conditional on your developing that particular 10,000 acres?

Mr. GARLAND. Yes, sir.

Sir WILLIAM HEARST. Unless you are able to develop it you do not get the grant?

Mr. GARLAND. That is it, sir.

Mr. POWELL. I do not think we could go into speculation about what the government is going to do, but suppose that the government agreed to give you 10,000 acres, if you show that it is worth meddling with, and you have your quid pro quo, when you get your grant for the 10,000 acres, we are independent of you altogether then?

Mr. GARLAND. Exactly, sir.

Sir WILLIAM HEARST. I understand Mr. Garland to concede that that is their right, and I assume that he feels that the government

will not permit them to do anything unless they are satisfied they are strong enough to carry through their project.

Mr. GARLAND. It is conditional upon the fact that not only shall we raise our dykes, but that we shall survive one high water. They are protected and have lifted to us the onus of making our representations and carrying on the burden of the work.

Mr. POWELL. As we passed along this tract yesterday afternoon I noticed that there was considerable water there. Do you intend to improve that land that is covered with water?

Mr. GARLAND. We intend to improve just part of it.

Mr. POWELL. Comparing this tract that you seek to develop with the tracts to the south of the boundary line already developed, is there any difference in respect to the height of the bottom lands? Is there any difference in height relative to the water between the lands on this side of the boundary line and the lands on the other side of the boundary line? Are they higher than yours or lower?

Mr. GARLAND. The lands on the other side are somewhat higher than ours.

Mr. POWELL. That would make a difference in cost?

Mr. GARLAND. That is a technical question which I would prefer that a technical man reply to. We will make a note of it and furnish you with the information later in the proceedings.

Mr. CLARK. The boundary line, however, cuts no figure in the contour of the country, does it?

Mr. GARLAND. No, sir.

Mr. CLARK. In other words, in going over the country you could not tell when you passed the boundary line?

Mr. GARLAND. No, sir.

Mr. POWELL. The eye would scarcely detect a difference in elevation of a couple of feet which would make a tremendous difference in the cost of development.

Mr. CLARK. The entire 60,000 acres is practically one flat, as I understand it.

Mr. POWELL. You can see as you pass along that there are bogs.

Mr. CLARK. As you go down the river, of course, it naturally descends somewhat.

Mr. McCUMBER. And yet the river banks might be higher in one section than in the other, and that is the object of Mr. Powell's question.

Mr. GARLAND. Having dealt with the matters which I have placed before you, I have little else to say. I have for your assistance, should you desire to see them, diagrams showing work that has been done in Idaho. I have these photographs here which may be of interest to you. I do not know that you would wish to encumber the record with them, but I can present to you, should you wish it, evidence as to the fertility and evidence as to the cost of the reclama-

tion on the other side, and our proposal is to do on this side what our friends on the other side have done during 1920. They have on that side created several districts, at least about seven, and one is now under course of construction; and we being contiguous to them and we having the same nature of soil, have come to this Commission asking that it extend its approval to us to do that which has been done on the other side and which has been demonstrated there to be a success.

Mr. McCUMBER. These photographs show to the best advantage the good conditions, but are any of these lands so protected now that they do not overflow in some years? Is there any of this land in Idaho that is now free from overflow?

Mr. GARLAND. My instructions are that their dykes are such that they have made provision for the highest water during the last 24 years. With regard to our own particular scheme, our dykes and levees are now provided for a height of 4 feet above the highest known water since 1894. That is 34 years.

Mr. POWELL. That is, your dykes are practically 4 feet above the highest known water?

Mr. GARLAND. The highest known water during the last 34 years.

Mr. McCUMBER. I believe 1916 was a phenomenally high year.

Mr. GARLAND. Yes, sir; and we are providing for 4 feet above that.

Mr. POWELL. Taking a section of your dyke, what is the base and what is the height?

Mr. GARLAND. I cannot tell you offhand. That information is on the maps that are filed.

I do not know that I can tell you of my own volition anything further that would assist you. I can produce for you technical evidence that you may wish to know with regard to the actual matters of the dyking or the manner in which it will be conducted, together with the nature of the pumps and ditches, and shall be pleased to furnish you such evidence.

Mr. CLARK. Suppose the action of the Commission should be favorable to your proposition. Your proposition contains 8,000 acres with a possible additional 1,400 acres under your contract with the government. What effect would that have, if it were granted to you, upon the remaining land and industries of this section that are at present undeveloped and waiting for future development of some sort? Of course, you have satisfied your provincial authorities on that, but I just wanted to get it in the record.

Mr. GARLAND. Exactly, sir. With regard to that all I can say is that information, advice and evidence brought to you at this time upon that matter could only rest their weight upon conditions as they exist at the present time.

Bringing to you estimates, attempts and opinions upon matters which may exist at a future time would be like expert evidence in an

action at law. One brings opinions but at best they are purely an estimate and with the material available at the present time all parties interested in these waters, that is, the dominion government and its staff of engineers, the provincial government and its staff of engineers, the Indian department and other interests that are upon these waters are from time to time keeping records and endeavoring to arrive at conclusions, but those conclusions, as far as I am aware, are not yet final and would be of very little assistance to this Commission.

Mr. POWELL. What do you estimate these lands would be worth if they are properly cultivated?

Mr. GARLAND. From a productive point of view?

Mr. POWELL. No; worth in money value?

Mr. GARLAND. If they are worth any money by reason of an annual crop, the amount that they are obtaining on the other side of the line in producing the crops down there—and I have stood among them—goes up to 75 bushels of wheat to the acre and oats up to 100 bushels to the acre; whereas, in the great wheat-growing portions of this country it is considered a good crop with a general average of 40 bushels. So that this land by its productive capacity should be of value far in excess of the average general lands which are found in this and in other parts of the country.

Mr. POWELL. That is very general.

Mr. GARLAND. Yes, sir.

Mr. POWELL. To be more specific, what is the value of bottom lands to the south in the United States?

Mr. GARLAND. Reclaimed lands?

Mr. POWELL. Yes.

Mr. GARLAND. I could get that information for you, sir.

Mr. POWELL. You have not it offhand?

Mr. GARLAND. No, sir. I could get it for you, however. There is a gentleman here, I think, who can give you that information.

Mr. CLARK. What do you estimate the salable value of these lands will be when you have your works completed?

Mr. GARLAND. That rests like many other things on the law of supply and demand. We believe that they will be taken up more particularly by the people who reside more adjacent to them.

Mr. CLARK. But your company must have some idea.

Mr. GARLAND. We have this, sir, a comparison with other lands which produce 30 bushels of wheat to the acre. It is a matter of comparison as to what values are.

Mr. CLARK. I know nothing about these values, and the mere fact that land in one locality is superior to land in another locality does not give me much information when I do not know the value of either.

Mr. GARLAND. Exactly, sir. There are no similar lands in Canada which have been sold, and all I can say is that due to their productivity any comparison with similar lands will be far in excess and away and above the cost of the reclamation. That is the most that I can tell you, in view of the fact that we have no evidence of the value of similar lands.

Mr. MAGRATH. Is the Idaho representative present?

Mr. CARTER. Yes, sir.

Mr. MAGRATH. What are those lands worth in Idaho in dollars and cents, Mr. Carter?

Mr. CARTER. One hundred and twenty-five dollars an acre.

Mr. GARLAND. I have been instructed to point out to this Commission that assuming that your approval should be extended to this project, and assuming, which was rather far-fetched, that we might fail the approval of this Commission, it would then revert to the Province of British Columbia and they then could turn to any other persons whom they might consider better financially able than we might be, and they could carry on this work. So that regarding the approval of this Commission, so far as its depending upon the financial capacity to complete this work is concerned, that point is not raised as far as the capacity of this company is concerned. Should we fail others will be able to fill our shoes. But may I say that after so many years it is not proposed that we should fail in our financial undertakings.

May I be permitted to withdraw now, sir?

Mr. MAGRATH. Yes. Do you want, Mr. Garland, any others to make statements supporting your case?

Sir WILLIAM HEARST. Mr. Garland, as in a law suit it would be perhaps a most convenient way for you to present your case and then if there are those who are opposed to it they would adduce before the Commission what they have to say.

Mr. GARLAND. I would like to call a witness for the purpose of showing the Commission the effect from an international point of view. I would present Mr. Hugh C. Vernon.

STATEMENT OF MR. HUGH C. VERNON

Mr. GARLAND. Mr. Vernon, have you resided at Bonners Ferry in Idaho?

Mr. VERNON. Yes, sir.

Mr. GARLAND. I believe you are the engineer for the various dyking areas in that state?

Mr. VERNON. Yes, sir; I have been an engineer on several of those districts that we have dyked.

Mr. GARLAND. Will you give the Commission your experience with regard to the possible effect of the reclamation on the Canadian side of 8,600 acres upon those dyking areas in the State of Idaho?

Mr. VERNON. Well, just to say what the effect is going to be upon us over in Idaho is more or less problematical.

Sir WILLIAM HEARST. May I interrupt to say that if you would put on the record first the kind of works you propose, then I think we would better understand the evidence as to what the effect would be.

Mr. POWELL. And also where the dykes are to be placed, if there is any obstruction going in the river itself or where it is to go. I have nothing yet to show me that you are going to do anything in waters flowing across the boundary.

Mr. GARLAND. That is a matter which I will consider during the luncheon hour, if I may do so.

Now, Mr. Vernon, you have some familiarity with the proposal of the Creston Reclamation Company, have you?

Mr. VERNON. Well, I can not say that I have because I have not seen your plans. I know you are figuring on the district, but I do not even know where your district is.

Mr. GARLAND. Then, with the permission of the Commission, I will withdraw Mr. Vernon temporarily and put on the engineer of the Creston Reclamation Company. I present Mr. Andrew McCulloch who prepared the plans of the reclamation company.

STATEMENT OF MR. ANDREW McCULLOCH

Mr. GARLAND. Mr. McCulloch, you are an engineer?

Mr. McCULLOCH. Yes, sir.

Mr. GARLAND. Residing in the city of Nelson?

Mr. McCULLOCH. Yes, sir.

Mr. GARLAND. How long have you resided in this district?

Mr. McCULLOCH. Thirty years.

Mr. GARLAND. During that time to what particular part of engineering have you directed your attention?

Mr. McCULLOCH. Very largely to the hydraulic interests.

Mr. GARLAND. In connection with what waters?

Mr. McCULLOCH. Well, I have had work on most of the streams around the West Kootenay and quite a number of streams extending over a very large area of country.

Mr. GARLAND. Have you any familiarity with what is generally described as the Kootenay waters?

Mr. McCULLOCH. I have had a very familiar acquaintance with the Kootenay waters for the whole period of 30 years and have made a special study of conditions of stream flow and any information that can be obtained.

Mr. GARLAND. You are a consulting engineer and you were engaged by the reclamation company to prepare its plans for the consideration of this Commission?

Mr. McCULLOCH. The Creston Reclamation Company's plans that are before this Commission were prepared by me.

Mr. GARLAND. Will you be good enough to deal with them in detail and explain to the members of this Commission the structural details and other matters connected therewith?

Mr. McCULLOCH. Possibly I might make a general statement as to conditions that will give you a grasp of the thing and the details can be gone into afterwards.

We might assume, for instance, that the lower elevation of Kootenay Lake is 1740 feet on the datum assumed by these plans and with reference to the geodetic survey bench mark the values existing at the time the survey was made.

Mr. GARLAND. Seventeen hundred and forty feet above sea level?

Mr. McCULLOCH. Yes; referred to the dominion government geodetic bench mark.

Mr. POWELL. The sea level datum at New York is generally adopted, is it not?

Mr. McCULLOCH. Well, I hardly think so. From the Pacific coast; they would take the sea level elevations there. There will be a connection between the two and I am not prepared to say just what the Geodetic Survey people have taken, whether it is Atlantic or Pacific; but the average sea level elevation is 1740 feet.

The banks of the river extend to an elevation on our north boundary of 1760 feet, at our south boundary of 1763 feet, being about 20 to 23 feet above the level of water in low water stage. In round figures the elevation of the land that is proposed to be reclaimed would be 1750 feet, a great deal of the areas at an elevation of 1750 feet being 10 feet above the low water in the river and from 10 to 13 feet lower than the banks of the river.

Nineteen hundred and sixteen was conceded to be the highest known water level at Bonners Ferry since 1894.

Mr. McCUMBER. Was 1894 still higher?

Mr. McCULLOCH. I am going to explain that now. Eighteen ninety-four was the highest known high water on the Pacific coast or in the Kootenay River. Such high water has not been known within the memory of the oldest inhabitants, dating back, well, possibly not authentic in the earlier years, but at least 50 years. Since 1847 the records have been kept at the Dalles on the Columbia River. There is no attempt on the part of the Idaho people or any other reclamation interests to guard against the 1894 flood level. At Nelson that 1894 level was 7 feet higher than the 1916 level. So there is no attempt to guard against the flood of 1894. But it is our intention to guard against every other known flood elevation. Nineteen sixteen is what we have based our calculations on.

In 1916 the elevation of Kootenay Lake was approximately 1764. We propose to construct our levee 5 feet higher than that, 1769 feet. To be on the safe side we are going 5 feet higher.

Mr. MAGRATH. You say the elevation of the lake was 1764. What is the fluctuation between high and low there?

Mr. McCULLOCH. Twenty-four feet in the main lake. That is the fluctuation in 1916 flood level. In 1894 it was very much greater.

To reclaim this land we propose to construct a levee or dyke along the river bank to an elevation of 1769 feet; 29 feet above the low water level of the river. Across the north end we will have a dyke from the river bank over to the high ground at the same elevation. Running through the land that we propose to reclaim there is a stream called the Goat River. The Goat River must be diverted from these lands to reclaim them. We propose to divert the Goat River. The Goat River comes into the hills on this side here [indicating] and flows down right through the center of all this land.

Mr. MAGRATH. You say "this side." What part of the country is that?

Mr. McCULLOCH. The east side. The Kootenay River comes in from the east hill side.

Mr. McCUMBER. The Goat River runs north, does it?

Mr. McCULLOCH. It runs west into this flat and when it reaches the flat it runs north. It does not get into the Kootenay River because of the effect of the high bank there. It runs north until it gets into the lake level. At some time in the past it broke through the high river bank at what is called the false mouth of the Goat River. It has two channels, one called the false mouth and the other extended into Duck Lake section which is a continuation of the main lake. At one point on our south limit of the land we propose to reclaim the Goat River impinges against this bank but it does not break through. We propose to cut a channel through there and divert the Goat River into the Kootenay River at that point.

Mr. CLARK. That is for drainage purposes?

Mr. McCULLOCH. Yes, sir; that is for drainage purposes. That is the first essential of reclaiming the land, to divert this Goat River.

Mr. McCUMBER. Does the Goat River overflow so as to flood those lands?

Mr. McCULLOCH. The Kootenay Lake elevation overflows the land and in high water the water runs into this flooded area. The water level is not due to the river but to the Kootenay Lake level.

Sir WILLIAM HEARST. Does Goat River empty into the Kootenay River or lake?

Mr. McCULLOCH. Originally the Goat River ran into the lake entirely independent of the river.

Sir WILLIAM HEARST. But at the present time it empties into the Kootenay River?

Mr. McCULLOCH. It has two outlets. This map that I have here is a key map showing the Kootenay Flats from Bonners Ferry.

Mr. POWELL. Mr. Chairman, had we not better have these maps identified for the purpose of this inquiry? They should be numbered as exhibits.

Mr. McCULLOCH. The key map, numbered 3, of our plans shows the whole area of the flats from the international boundary line to Kootenay Landing where the Kootenay River empties into the lake. Originally the Goat River flowed north through these flats into the Kootenay Lake independent of the Kootenay River entirely, but, as I say, at some time it has broken through and is what is commonly called a false mouth.

Mr. McCUMBER. Has this false mouth had work done upon it which would change it from its natural condition?

Mr. McCULLOCH. No, sir; that was caused by nature.

Mr. McCUMBER. It is one which it flows over continuously?

Mr. McCULLOCH. It flows over continuously. That is, it has scoured itself out to the general level of the Kootenay River. During the low water stage the water is always running through the Kootenay River into that channel.

Mr. McCUMBER. I was just wondering why you called it a false mouth.

Mr. McCULLOCH. It is evidently not a natural channel of the Goat River. At some time it has broken through. It was not originally the Goat River at all. That is the local designation of that.

Mr. POWELL. It is known as such?

Mr. McCULLOCH. It is known as the false mouth of the Goat River.

Now we feel that in taking the elevation of 1750 feet, with five feet above the 1916 flood, we are amply protected against any possible overtopping of the dykes.

Mr. CLARK. You have an additional project in the way of drainage, a pumping plant?

Mr. McCULLOCH. Yes, within the limits of the levee we have to build drains to keep the land fit for cultivation and we will provide pumps to pump off the rainfall and seepage.

Mr. POWELL. How are these pumps driven?

Mr. McCULLOCH. We will have the pumps operated by engines driven by electricity, crude oil, or gasoline. It will probably be crude oil or gasoline depending on whichever is better at the time. I have given you the height of the levee. As to the cross sections, we propose to make the top of the levee or dyke 16 feet in width. The slopes will vary in accordance with the height of the levee, 3

to 2 and 2 to 1 at the highest levee while on the river bank where the elevation is not so great, it will perhaps be 2 to 1 and $1\frac{1}{2}$ to 1.

Mr. POWELL. What will the base be?

Mr. McCULLOCH. The base will vary with the height of the levee. If there is an elevation of 20 feet it would be 3 to 1 on one side and 2 to 1 on the other and 116 feet at the base.

Sir WILLIAM HEARST. What will be the character of construction?

Mr. McCULLOCH. Ordinary earth fill, dredged material. We have a good deal of alluvial soil suitable for the purpose.

Mr. McCUMBER. Do you consider that sufficient in making a permanent dyke against overflow?

Mr. McCULLOCH. That is the way it is always done.

Mr. McCUMBER. I read a statement in the report of the United States Department of Agriculture to the effect that when you brought an entire channel in high water within that compass with dykes of that kind such material would not withstand the current, that the current being swifter, inevitably it would break through and overflow. I am speaking of the statement of the engineer who made that report.

Mr. McCULLOCH. That, I believe, would depend on the velocity of the flow. It varies with different reclamation systems.

Mr. McCUMBER. The position there taken was that when you confined the waters the flow would be very much stronger and that inasmuch as they could not break away and flood the banks at different places as they otherwise would in high water, the material out of which your dykes would be constructed would not be sufficiently strong to prevent the erosion that would result from the high water and the increased velocity of the stream.

Mr. McCULLOCH. The records show that only in 1 year out of 3 does the water ever reach the top of the banks of the river. There might be openings in spots, or little depressions, where some water escapes, but taking the general level of the banks, only once in 3 years does the water reach the bank elevation, so that there is not much elevation above the banks that we have to provide against.

Mr. McCUMBER. But it is this high water once in 3 years that you want to guard against.

Mr. McCULLOCH. Certainly.

Mr. MAGRATH. That is just 1 year in 3 or do you have 2 or 3 years in succession?

Mr. McCULLOCH. There is no regularity. In 1902, 1903, 1913 and 1921 it overtopped the banks of the river.

Mr. MAGRATH. You are speaking of the average?

Mr. McCULLOCH. Yes, that is the average during that period. There will be an overflow, on the average not once every 3 years but an average of 3 years. Nineteen hundred and thirteen and

1916 were two years when the bank was overtopped and in some of these years, like 1898, 1899 and 1911, the water will just reach the top. In a great many of these years it will be just a very little over the top of the banks.

Mr. CLARK. At what do you estimate the cost per acre of this improvement?

Mr. McCULLOCH. We figure that it will probably cost \$50 per acre. The cost in Idaho has varied from \$26 to \$58.

Mr. CLARK. That would be about \$400,000 to complete the work?

Mr. McCULLOCH. About that. I may say that the 8,000 acres is the total area within the limits of the shore line at the high banks and that out of that area will come the width of the levee, drainage ditches, borrow pits and things of that kind. It will not be net.

Mr. McCUMBER. You spoke of an average of 1 year in 3 when the overflow would be greater than could be taken care of by the channel. If I understand the situation correctly, the forests are being denuded more rapidly than they are growing up again. Will not that increase the danger of the overflow inasmuch as your hills and mountains will not hold the waters and snow and the water will flow more rapidly into the rivers? Is there no danger of increasing proportionately the number of times in which the river will overflow?

Mr. McCULLOCH. There is a general opinion that deforestation seriously affects high water conditions. That effect is dependent on the character of the country. In a low-lying country the whole of the snow goes off quickly. But in the mountains the general run of the country has very high elevations, 5000 feet and higher. It does not apply here in the same way as it does in the more low-lying regions and it is only to a very limited extent that the denudation of the forest due to logging operations affects our high water in the Kootenay River. The first rise we get is the result of snow melting on low-lying land. That is all over and the rivers recede somewhat before the water comes from the higher elevation. Therefore I am not prepared to admit that on the Kootenay River the denudation of the forest is going to increase the flood conditions. It may be that forest fires in the hills, mostly caused by lightning, would have some effect upon it, but I am not prepared to admit that the Kootenay River will be affected.

Mr. McCUMBER. Your position being that the overflow is not caused by heavy rains as in the case of the eastern mountains?

Mr. McCULLOCH. It is caused by melting snow.

Mr. McCUMBER. All by melting snow?

Mr. McCULLOCH. Entirely so; our flood is in June and sometimes in July.

Mr. MAGRATH. Roughly, at what height does the top of the dyke stand above the east bank of the Kootenay?

Mr. McCULLOCH. The river bank at our north end is about 1,760; at the south end 1,763. The elevation of 1916 was 1,764, so that it would be 4 feet above the bank at the north end and 1 foot at the south end.

Mr. MAGRATH. The top of your dyke would be how much above the 1916 flood?

Mr. McCULLOCH. Five feet. We have been very liberal in that elevation. There is a 5-foot range in which we are protected, 5 feet about the 1916 flood. That is to the top of the dyke. We will have to allow for a freeboard there of probably $2\frac{1}{2}$ feet. We have treated it very conservatively.

Sir WILLIAM HEARST. You only dyke one part of the stream?

Mr. McCULLOCH. We are only reclaiming one part of the stream.

Mr. CLARK. What effect will this have upon the lands south of the boundary?

Mr. McCULLOCH. The reclamation of Unit No. 1 will not affect them at all on the other side. I think they concede that. Their engineers are here and I understand they are not opposing our application because they do not think they are injuriously affected.

Mr. McCUMBER. When this river overflows at the high water period does it break through the banks mostly on one side or on both sides?

Mr. McCULLOCH. Both sides, through the slope. There are only a few of these breaks in the river banks.

Mr. McCUMBER. You do not think that dyking on the banks of the river will seriously affect the height of the water south of the boundary so long as you do not dyke on the other side and affect the natural overflow?

Mr. McCULLOCH. That is right.

Sir WILLIAM HEARST. There is no dam structure or works of any kind proposed in the bed of the stream?

Mr. McCULLOCH. None whatever in the Kootenay River.

Sir WILLIAM HEARST. You are not suggesting any interference with the channel?

Mr. McCULLOCH. None whatever except that we would confine the water to the channel.

Mr. CLARK. And except also that you would turn in additional water?

Mr. McCULLOCH. The water of the Goat River. The flood flow of Goat River goes through the false mouth.

Sir WILLIAM HEARST. It all goes into the Kootenay now, and you propose to run it in at a different point?

Mr. McCULLOCH. At a different point.

Mr. McCUMBER. That would be several miles above the false mouth?

Mr. McCULLOCH. About 3 miles south of the false mouth. The Goat River is not a very large stream.

Mr. McCUMBER. That would have no material influence in backing the water up farther south?

Mr. McCULLOCH. Certainly not under the plan of reclaiming No. 1 unit.

Mr. MAGRATH. Does this unit No. 1 back the water up to the boundary at all?

Mr. McCULLOCH. No; I do not think so.

Mr. MAGRATH. Well, then, what are you here for?

Mr. McCULLOCH. We are here because we were told that this proposal affects international waters and that we must make an application to this body.

Mr. McCUMBER. As I understand, your application does say that it will affect international waters.

Mr. McCULLOCH. No.

Mr. CLARK. The application itself speaks of it.

Mr. McCUMBER. Yes, it says that during high water it may raise the height south of the boundary.

Mr. McCULLOCH. I will read what the application does state:

The effect of the construction of the proposed works of the British Columbia Unit No. 1 on international waters is merely nominal, it will have no effect whatever on low water, and during flood water it is merely intended to keep the flood water off the land reclaimed.

I do not make any admission that what we propose to do in unit No. 1 is going to affect the water level in the State of Idaho.

Mr. McCUMBER. Is that all? I think there is something further.

Mr. CLARK. Somewhere in the application it says that there are certain years when the flood will be higher.

Mr. McCULLOCH. It goes on to state that with the reclamation of all the land in British Columbia and with the water being confined to the channel in the occasional year there will be some effect.

Sir WILLIAM HEARST. In other words, you say that this project will have no effect but if the whole of the lands are reclaimed it will have some effect.

Mr. McCULLOCH. It will have some effect when all the lands in British Columbia are reclaimed.

Mr. POWELL. There is a paragraph as to that on page 6. That all relates to the completed stage.

Mr. McCULLOCH. The first paragraph applies to conditions as we will find them under the reclamation of unit No. 1.

Mr. McCUMBER. But your position is that if you dyke the other side of the river it will raise the water sufficiently to increase the height south of the boundary?

Mr. McCULLOCH. Paragraph No. 2 refers to the total reclamation of these Canadian lands.

Mr. McCUMBER. It also seems that there will be dykes upon the opposite side of the river still further narrowing the channel.

Mr. McCULLOCH. That is a possibility of the future.

Mr. CLARK. It carries the idea that additional units will be constructed by this same company and by the same method and that if the company proceed that far it will affect some of the lands south of the line. In view of that possible contingency the company has seen fit to guard against the future by making application to this Commission. The application is based upon the fact that they propose to go on with additional works until the operations may affect the water south of the line.

Mr. McCULLOCH. I may explain that I have taken something for granted there. We have only applied for No. 1 unit. I expected they might possibly wish to reclaim the additional 10,000 acres and therefore I have called it No. 1. But I have no knowledge that the company are going to reclaim anything more than is covered by this application.

Mr. CLARK. There is some doubt in my mind in regard to the purpose of the company. If it has no intention to do anything beyond this No. 1 unit and if as a matter of fact it is found that this will be effective and that it does not interfere in any way with the water south of the line, I think the Chairman's question arises very naturally when he asks, "What are we here for?"

Mr. McCULLOCH. I must confess that I do not see how it is going to affect boundary waters but we were informed that we should make application before this Commission and we could make no further headway until we did.

Mr. MAGRATH. Your position is that your present application for No. 1 unit does not involve the backing up of the water beyond the boundary?

Mr. McCULLOCH. I take the stand that what we propose to do does not injuriously affect interests in Idaho. I believe I am right in stating that Idaho interests are not objecting to our application because they feel that it does not affect them.

Mr. CLARK. If as an engineer your conclusions are correct, what authority under the treaty has this Commission to act either favorably or unfavorably to the application?

Mr. GARLAND. With great respect, I can find no authority.

Mr. CLARK. Then you would not ask for any decision, or any action either of approval or disapproval, by the Commission?

Mr. GARLAND. If the Commission finds that the matters are not within its jurisdiction that will end it. But I would suggest that it might be well for the Commission, should it come to such a conclusion, to declare that no international matters are affected.

Mr. McCUMBER. In the application you suggest the possibility of the reclamation of other lands and that such scheme of reclamation during the high water period will have an effect upon the height of the waters upon the other side of the line and under these circumstances it seems to me that it was proper to submit the question to the Commission to consider whether it is of sufficient importance to justify the Commission in withholding consent. That being fairly foreshadowed in the application, it seems to me that it is properly before us.

Mr. CLARK. If we accept that statement. But both of the gentlemen who have been on the stand disclaimed any knowledge of any intention on the part of the company to do anything further than this first unit.

Sir WILLIAM HEARST. They say that for the present they could not possibly because of the promise or suggestion they had from the owners of the land, the provincial government, that if they reclaim this one unit they will give them title to that land. Apparently the province then feels that it would be entitled to any advantage that will accrue from the work which has been done on the first unit.

Mr. McCULLOCH. We have no control farther than the 10,000 acres.

Sir WILLIAM HEARST. Is it the suggestion when you successfully accomplish this you get the balance of the land or is it the idea of the province that you will get this with the idea of demonstrating what can be done and that the province will then be able to reap the benefits which will accrue to the balance of the land?

Mr. McCULLOCH. I have no idea at all.

Mr. MAGRATH. Supposing the Commission should approve unit No. 1, that does not affect any additional reclamation which may interfere with the level beyond the boundary. It seems to me that they will have to come back to the Commission with a further application.

Sir WILLIAM HEARST. At the moment no obstruction is going into the bed of the river; the obstruction is to be placed on the bank of the river and will not affect the level of the river at the boundary. Where is the jurisdiction?

Mr. POWELL. I would like to clarify a matter in my own mind by getting answers to one or two questions. How far above the international boundary line is this contemplated to take place?

Mr. McCULLOCH. So far as the request of the Reclamation Company is concerned, the north limit of No. 1 unit is the north limit that they propose to reclaim.

Mr. POWELL. But how far distant is that from the boundary line?

Mr. McCULLOCH. The south limit to the boundary line, I presume, would be, roughly, about 6 miles.

Mr. POWELL. Would it not be true that the effect, if any, upon the waters at the boundary line, would depend, in the first place, upon the narrowing of the channel?

Mr. McCULLOCH. We are not narrowing the channel.

Mr. POWELL. But just wait a moment; I am putting a general question. Secondly, the distance above the boundary line at which that narrowing would occur. Those would be two very essential elements to consider, would they not?

Mr. McCULLOCH. If the levee were built on the one dam only the rest of the river could not—

Mr. POWELL. I see the point in your mind, but just at present my idea would be a little different from that, because when you speak about narrowing the channel you are diminishing what we might call the section of the river which is carrying away the flood.

Mr. McCUMBER. In other words, you are closing up a spillway.

Mr. POWELL. Yes, sir. Supposing you closed that spillway right across the river and supposing you closed it as far as the eastern side is concerned and then close it on the western side to what we call the western channel; that would be the effect, would it not?

Mr. McCULLOCH. If you close both sides of the bank, yes; but we are not contemplating doing that.

Mr. POWELL. But whether or not that would affect the water down at the boundary line would depend upon the proximity of the point of stoppage. In other words, if the stream had 5 or 6 miles to flow with the natural height of the river at the boundary line with respect to the freshet flow that we are considering, the river would have time to regain itself, and it would not make any difference away down there but it might make a very serious difference at the immediate point where the work ceased.

Mr. CLARK. What effect would it have on the velocity also?

Mr. McCULLOCH. You spoke of a spillway. The west bank of the river for 12 miles in distance is a spillway and it cannot raise the water above the boundary. If we confine the water and build our levee on the river bank, there are still 12 miles of spillway; as a matter of fact, longer than that.

Mr. CLARK. If your experiment is successful on the east bank of the river, undoubtedly some person or company will want to enter on the west bank of the river.

Sir WILLIAM HEARST. Are there lands there on the west side where reclamation might be contemplated?

Mr. McCULLOCH. There are lands on the west side that can be reclaimed.

Mr. CLARK. Now, to complete my question: Would that development on the west side close up this 12 miles of spillway?

Mr. McCULLOCH. It would only close up the portion built for.

Mr. CLARK. Would they naturally from an engineering standpoint dyke across the 12 miles?

Mr. McCULLOCH. I did not catch that question, sir.

Mr. CLARK. Would an engineering proposition contemplate dyking across the entire 12 miles?

Mr. McCULLOCH. That is a possibility for the future.

Mr. McCUMBER. It would seem, Mr. McCulloch, as though it must have some effect, because if there is a natural spillway upon each side of the river in this distance beyond 6 miles, that very spillway of itself it would seem to me would naturally increase the flow of the water, and if you check it the water will not run as rapidly as it otherwise would by this spillway. Also it must have some effect by closing them even on one side. Whether it would have sufficient effect to reach back 6 miles, and if it did have a little effect whether it would be material, is a question of more or less importance at least.

Mr. McCULLOUGH. The 6-foot spillway on the west side of the river opposite our reclaimed lands would certainly prevent the water from backing up to the boundary.

Mr. POWELL. You may be right there. I have not exactly made myself clear. I will put a hypothetical case. Supposing that where you are going to erect your dam at right angles to the bank the width of the surface of the stream, channel and all, is 1 mile. Now, if you start to build a dam across that river every foot that you project that dam into that stream would affect the waters but immediately below until you got across and dammed the whole thing, would it not?

Mr. McCULLOCH. Yes.

Mr. POWELL. Then, if that is the case, would anybody be mathematician enough to determine the particular point at which that influence would cease to be observed? The farther you project your dam the more you are protecting the flow of the stream. I will supplement that with this, that your answer does not satisfy me that I should differ from you when you reach down at the boundary line, because there the stream has got greater velocity, and when you get to the boundary line what would have been the natural condition of the stream would be no obstruction at all. So in the ultimate result I think we are arriving at the same thing. But if you dam a stream, mathematically you must lessen the flow of the stream and lessen the flow below until the current gains its normal condition. Otherwise, you cannot fix a point at which the operation of the principle would cease; and we all know that if you put it all the way across it must have a great effect.

Mr. MAGRATH. Take on the Idaho side. There is reclamation to be done along that area there to the south. Has it been done on both sides of the river?

Mr. McCULLOCH. On a short section of the river only.

Mr. MAGRATH. There is a gentleman here from Idaho who can probably tell us to what extent it backs up the water.

Mr. McCULLOCH. I think that Unit No. 5 and Unit No. 3 are on opposite sides of the river in Idaho.

Mr. DUBOIS. Mr. Chairman, the State of Idaho is very well represented here. Their State Engineer and other officers are present.

Mr. McCULLOCH. That condition is not a condition that we would have here. We are not proposing to build a levee on both sides of the river.

Mr. MAGRATH. I know you are not, but the question is being directed to you as to what effect there would be if somebody should attempt to reclaim opposite you. If that has happened in Idaho you can get facts as to what has really taken place.

Mr. CLARK. Is there any difference in the value of the land agriculturally on the two sides of the river?

Mr. McCULLOCH. I should say not.

Sir WILLIAM HEARST. What area is there that might be reclaimed on the west side? Looking at it yesterday it seemed that the greater proportion was on the eastern side.

Mr. McCULLOCH. Our plan shows the position of the river and the banks on each side. I presume there is about an equal width on each side. Conditions are not so favorable on the west side. There are several mountain streams coming through it and that does not make it quite as favorable. If we had the choice of lands in Canada we would select our present No. 1 Unit.

(The blue print used by the witness in giving his testimony is marked "Exhibit A," and will be found in the files of the Commission.)

STATEMENT OF MR. GEORGE N. CARTER

Mr. CARTER. Mr. Chairman, I was particularly interested in the questions asked by Commissioner Powell as to the effect of dyking on one side of the river bank as compared to the effect on both sides. It just occurred to me that I might be able to help you a little in your line of reasoning by suggesting that if we take a hypothetical case and assume that both sides of the river bank are dyked the increase in flood stage would be 3 feet. If you built a dyke on one side that would not increase it a foot and a half. It is an increasing function as your channel narrows down. As to what it is in this particular case I am not prepared to say. I doubt if anybody else is. Somebody could very likely make an intelligent estimate or forecast.

Mr. McCUMBER. Are you prepared to give an approximation of what it would be if you had the dykes on both sides?

Mr. CARTER. No; I am not. That is another fact that I should like to get before this Commission; that is, that it requires considerable investigation and very careful study in order to make intelligent answers to these problems before these conclusions can be reached and we feel that we would have to have considerably more information in order to make an estimate. The more time we have and the more money that is spent on investigations in the field, as well as office work and analyses and conclusions that may be drawn, the safer we will all be in any intelligent conclusion that we arrive at.

Mr. McCUMBER. What line of investigations have you in mind that you should yet secure?

Mr. CARTER. Primarily there should be a good deal of work done in measurement of the water, the flow of the streams. In addition to that, there should be slope studies made of the river, getting the gradient of the bed, under present conditions and as it may be affected by further dyking. In addition to that it might still be necessary to do some surveying or topographical work in order to get more thorough and complete data on the actual cross-section of the stream channel as it is now and as it may be after more of the valley is dyked.

I think we would then be in a position to give intelligent answers to some of these things that we are now compelled to more or less guess at. We have been guessing at them for several years, and I suppose we will have to guess a little longer unless we get some intelligent information to base figures on.

Mr. CLARK. You spoke of gaining greater and more definite information. How do you expect to gain that? How do you expect to gain the information that you think is desirable?

Mr. CARTER. Do you mean the method or the source or the agency?

Mr. CLARK. I mean the method and the agency. In other words, what reasonable hope is there that this information can be secured?

Mr. CARTER. Well, an appropriation from some federal department, so far as the United States is concerned. They have the agencies very well equipped in experience to do this work and we all assume that the money is there if it can be appropriated.

Mr. CLARK. The Government of the United States does appropriate every year a large amount of money for the Geological Survey and perhaps other agencies of the government for the purpose of determining water supply and flood control and measurement of streams. Now, has such an agency done anything up in this country?

Mr. CARTER. Nothing on the Kootenay; no, sir.

Mr. CLARK. And all improvement on the Kootenay, such as local reclamation, has been without the advice of any of these governmental agencies?

Mr. CARTER. There has been some advice from the state.

Mr. CLARK. But I am speaking of the general government.

Mr. CARTER. No; nothing whatever. In 1916 and 1917 the United States Department of Agriculture made a preliminary investigation and report on this Kootenay Valley reclamation in Idaho. It was a very comprehensive report and the more I study it the more respect I have for the value of it; but there are some things in there that necessarily must be forecasted and projected ahead; they could not hope to hit it all the time, but, generally speaking, that is a very constructive and comprehensive report. That is the only cognizance taken of the Kootenay project by the federal government so far as I know.

Mr. McCUMBER. That report made some 8 suggestions for reclamation in Idaho. It finally recommended suggestion No. 7 of that report. Is that the one that has been adopted? That was made 10 years ago.

Mr. CARTER. No; I think not.

Mr. McCUMBER. I could see no good reason for adopting it, even through the Department of Agriculture recommended it, and I wondered whether you adopted it or not.

Mr. CARTER. No; it has not been adopted.

Mr. McCUMBER. Did you adopt any one of them?

Mr. CARTER. Not in toto; some parts of each plan possibly as modifications as local departments directed. Local conditions might have been disclosed which those men could not have hoped to find in their general study.

Mr. McCUMBER. In the reclamation of the lands in Idaho you are secure against any flood that is not greater than that of 1916, are you?

Mr. CARTER. I am not positive that we are.

Mr. McCUMBER. In fact, you look for floods every 3 or 4 years that may possibly destroy your crops, do you not?

Mr. CARTER. Yes; it is a possibility but not likely as often as once in 3 or 4 years.

Mr. McCUMBER. How often would you say? I mean on an average. Of course, they may come along in successive years.

Mr. CARTER. I should qualify that statement by saying that conditions vary with the various units. Now, there are some units in Idaho that we think are secure against any flood.

Mr. MAGRATH. Why?

Mr. CARTER. Because those dykes have been constructed higher than any flood that has been forecast. Another method is to construct a lower dyke at a considerably cheaper cost with the expectation of being flooded away 1 year out of 5. A district has just recently been finished there on that basis.

Mr. CLARK. How high above the normal flow was the water from the Idaho reach of the river during the flood of 1916?

Mr. CARTER. About 33 feet.

Mr. CLARK. What was that due to, the rains or the melting of the snow?

Mr. CARTER. I think it was due to the melting of the snow because it came in the latter part of June and it is not ordinarily raining in that part of the country at that time of the year.

Mr. POWELL. You scientific men probably know what is going on in other places; for instance, the hydro-electric development on the St. Lawrence River at Cedar Rapids.

Mr. CARTER. Just slightly.

Mr. POWELL. At that place there is a dam or jetty, or whatever you may call it, running from the north or left bank of the river out in the river St. Lawrence, and not across it. That was proposed by engineers for the purpose of raising the head of water on the wheel. There is an enormous development there. The United States imports about 70,000 or 80,000 horse power at Massena, or they did when I investigated the matter a few years ago. That certainly disturbed the level of the river at that place; there is no question about that; but below that a couple of miles you would not know that there was any impediment in the flow of the stream above.

Mr. CLARK. How far does that disturbance carry upstream? Do you remember, Mr. Powell?

Mr. POWELL. Not a great way for the reason that there are a series of rapids known as the Cedar Rapids; but below it is lost altogether after the flow of a mile, and that is what I imagine would be the case here.

Mr. CARTER. Of course, their work was with the thread of the stream and not parallel to it as the work is in this case.

Mr. POWELL. However, there was one dyke that was not parallel but at right angles to the bank.

Mr. CARTER. Yes. The work under consideration here is parallel to the thread of the stream in all cases. In this case the disturbance may extend for miles and miles.

Mr. POWELL. You think it would be more apt to disturb farther down than in the case that I have mentioned?

Mr. CARTER. This case would have a more far reaching effect than that case had.

Mr. MAGRATH. In view of the possibility of dyking on the Canadian side being proceeded with on the lines of the development of the Idaho side, it will be a matter of interest to learn what effect the work is having there. I understand you have started several projects, that you have got them well under way and that you have

a certain acreage under cultivation. I refer to questions that have been addressed to the witnesses who have preceded you and particularly to the effect of dyking the stream farther down. In your actual experience, what is the situation?

Mr. CARTER. My study of the present conditions this year leads me quite firmly to the conclusion that there is an effect from the dyking of the channel but the extent of that effect I do not pretend to know. I have not figured it out, I have not spent enough time on it, and possibly I could not discover it if I spent the rest of my life on it, but I am satisfied that there is an effect. I know that water flowing in the Kootenay River reached a higher elevation in May this year than it would have had there been no dykes in the lower valley.

Mr. MAGRATH. You have your projects numbered?

Mr. CARTER. We have drainage districts No. 1 and No. 2.

Mr. MAGRATH. Are these completed?

Mr. CARTER. Yes.

Mr. MAGRATH. What effect have these dykes upon the stream lower down?

Mr. CARTER. I do not think they have very much effect except at two places lower down where the dykes are joined to each other. Dykes No. 1 and No. 2 do not overlap each other along the stream channel.

Mr. MAGRATH. How do those connected dykes affect No. 1 and No. 2 above?

Mr. CARTER. Well, it would serve to increase the stage and back the water up the river. It may have affected No. 1 to some extent but I do not think it affected No. 2 at all on account of increasing the head or grade of the stream.

Mr. MAGRATH. Had the owners of No. 1 and No. 2 to raise their dykes to meet some condition that No. 8 had created?

Mr. CARTER. That would be hypothetical because a different state of things might be necessary.

Mr. MAGRATH. You have made no provision to protect your No. 1 and No. 2 dykes from the action of No. 8 downstream?

Mr. CARTER. No.

Mr. MAGRATH. Do you think there is any necessity?

Mr. CARTER. I do not know that I am prepared to answer that question.

Mr. MAGRATH. What I am trying to get at is how these lower developments are going to affect the higher developments.

Mr. CARTER. The effect is, as I expect, that the more development there is the higher will be the flood stage for the same amount of water upstream.

Mr. MAGRATH. But at your No. 1 and your No. 8, you have made no provision for anything of that character so far?

Mr. CARTER. Not that I am aware of.

Mr. MAGRATH. You heard the statement of the engineer of the company, Mr. McCulloch, that he did not believe there was any opposition on your side to this application.

Mr. CARTER. Yes.

Mr. MAGRATH. Are you prepared to make any statement as to that?

Mr. CARTER. As far as I am aware, there is no opposition; no protest has been filed.

Mr. McCUMBER. You spoke approvingly of this report issued by the Department of Agriculture in 1917. The writer recommends or rejects different proposals and methods for the reclamation of the land. I notice that several are rejected because of the insecurity of the material that it is proposed to use for the purpose of dyking. What have you to say upon that question?

Mr. CARTER. I do not know that I fully understand your question.

Mr. McCUMBER. The report contains 8 suggestions for reclamation. The first 4, as you will remember, were proposals that would reach any height or stage. The last 4 would protect against ordinary floods, some once in 3 years, and some once in 5 years. The author disapproves of the suggestions on two grounds. One of the grounds is the high cost of making the dykes and effecting complete reclamations, and another is the insecurity of the dyking itself. It is upon the latter proposition that I desire to get your evidence.

Mr. CARTER. I can answer that by saying that we have attempted to make dykes such as come within the limits of cost feasibility. It has been to a certain extent a matter of choice with the individual district. One district would prefer to build a dyke in such a way as to protect them against any floods. Other districts would prefer to spend that money with the expectation of being flooded some years. For example, one district which expects to get flooded 1 year in 5 has recently completed its dykes at one-third of the average cost of the districts in the valley, or \$17 an acre as compared with \$50 to \$60 in other districts. It is a matter of mathematics and finance. In this case they spend only \$17 and expect to get wet.

Mr. McCUMBER. In this report the engineer, I think it is Mr. Jones, suggests that with the increased impact of the waters in flood years, the material which it was proposed to use for dyking was of such a nature that it would be destroyed.

Mr. CARTER. We think he is wrong.

Mr. McCUMBER. What I want to find out is whether your opinion agrees with his in that respect?

Mr. CARTER. No, it does not.

Mr. POWELL. Other things being equal, does not the stability of the dyke depend upon the character of the material out of which it is made?

Mr. CARTER. Certainly.

Mr. POWELL. If it is clay it will be less liable to wear than mere sandy material which might be destroyed by the action of the stream.

Mr. CARTER. It might by erosion wear away completely.

Sir WILLIAM HEARST. On the south side of the boundary where you have these drainage areas what is the length of the dykes you have facing each other where both sides of the stream are dyked?

Mr. CARTER. Approximately, between 2 and 3 miles.

Sir WILLIAM HEARST. Are both sides of the river dyked in more places than one or does that occur just in one place?

Mr. CARTER. At the present only in one place but probably by next year there will be two places.

Mr. POWELL. What is the nature of the soil in that area?

Mr. CARTER. It is an alluvial deposit laid down by the stream itself.

Mr. POWELL. That is easily carried away, is it not?

Mr. CARTER. Yes, it is a light soil.

Mr. McCUMBER. Let me call your attention to one statement made in this report on the practicability of the reclamation plan. At page 24 of the report issued by the Department of Agriculture, the engineer says:

The required height of levees varies from 7 to 12 feet, averaging about 10 feet. Because of the high banks of the Kootenai which slope off rapidly to the elevation of the marsh, it would be necessary to place levees directly upon the banks where they would be exposed to the scouring action of the swift current. Under present conditions the banks of the river cave at critical points quite rapidly, and with the flood water confined between levees it is improbable that the levees would withstand the erosive action of the swifter currents, especially at the bends of the river. Thousands of dollars have been wasted in constructing levees on the banks of alluvial streams under similar conditions. Where earth levees are used to control rivers they invariably should be set back at a sufficient distance from the river banks to render them safe from the effects of erosion and caving banks. Failures of levees are quite common even where considerable floodway area exists. In view of the conditions to which they would be subjected, the stability of high levees, such as would be required to effect complete reclamation, is to be questioned.

In conclusion he says:

Owing to the susceptibility of levees to failure, the expense of maintenance, and the high cost of construction, this plan is not considered practicable.

I have read that so that you may understand fully what the author has to say in reference to these levees and from that, taking his report throughout, his opinion is that they would not last.

Mr. CARTER. I might further justify our methods by saying that ordinarily the levee is set back 100 to 200 feet from the actual river channel. There is a fringe of timber, cottonwood trees and other growth, so that at the present time there is a protection on the aver-

age of 100 feet of heavy timber, brush and other revetment material. The actual current of the river does not impinge upon the levee itself and it will not do so until all this other material is eroded away or until the channel is cleaned out. We also watch the channel and rip-rap is put in where the channel appears to be wearing.

Mr. McCUMBER. You meet it by building the levee back from where the current would strike?

Mr. CARTER. We build it farther back, as far back as we can consistently within reasonable cost.

At 1 o'clock p. m. the hearing was adjourned until 2.30 p. m.

AFTER RECESS

The hearing was resumed at 2.30 p. m.

Mr. J. P. Vernon, Bonners Ferry, Idaho, was recalled.

Mr. DUBOIS. Mr. Vernon is an engineer who has been engaged in the State of Idaho and also on the Canadian side and is familiar with this work.

Mr. MAGRATH. Is there any statement that you could make with respect to this application that would be helpful to the Commission?

Mr. VERNON. I do not know to what extent it would be helpful to you but any facts or data we have I shall be only too glad to give you.

Mr. MAGRATH. Go ahead.

Mr. VERNON. The Senator stated, I believe, that I had made investigations on this side. I wish to say that my work has been on the United States side of the line and that I have not done any work over here. I have not been down the river from Porthill to Kootenay Lake and for that reason I could not state just what your conditions are, not having made an investigation. It would require a personal investigation to be able to state these facts. However, I would say to the Commission that, generally speaking, from such information as I have acquired or gathered in two years of reclamation work over there, I do not see how the dyking of one side of the river will materially affect us on the other side of the boundary. Now, our dykes have been built; we have what we call partial reclamation and we have also what we claim to be complete reclamation. Mr. Carter told you about the partial reclamation this morning. He is very well acquainted with the data because it is his department that has been passing upon the certification of our bond issues and it makes a very thorough investigation of the district before it issues these certifications. That, however, applies only to dyking operations in the United States.

Something was said about the character of the soil being such that the current would tend to wash it away or destroy our dykes. I

have gone through two high water periods, that of 1925 and that of 1927, and I have not found at any time that the dyking material was washed away or the work injured or destroyed. It is seepage that affects us more than anything. These are things that we hope with time and investigation to be able to overcome.

Mr. MAGRATH. Does that seepage in any way affect you in normal years?

Mr. VERNON. No sir, it does not. It is only in extreme flood periods that we have seepage that affects or injures the work.

Sir WILLIAM HEARST. You pump water there?

Mr. VERNON. Yes, we have pumps. We have 7 districts reclaimed and we are pumping in all of these districts. This year the pumping has been almost continuous since May.

Mr. CLARK. These districts are not of uniform area, are they?

Mr. VERNON. No, sir. I have prepared a map that shows the districts and the acreage reaching from 700 acres which is our smallest district to 4,400 acres which is our largest district.

Mr. CLARK. These are political districts organized under the laws?

Mr. VERNON. No, they are organized under the laws and conducted in the courts.

Mr. MAGRATH. All the districts being continuous and starting with No. 1?

Mr. VERNON. No; they get their numbers from the order in which they are put through the court. We have completed districts 1, 2, 3, 4, 5, 6, 8. Districts 9, 10 and 7 are not completed.

Mr. MAGRATH. What is the total acreage you have reclaimed?

Mr. VERNON. About 18,000 acres.

Mr. MAGRATH. How much more is there to reclaim?

Mr. VERNON. I presume 10,000 or 12,000 acres. About 30,000 acres will likely be reclaimed. Some statements have been made to the effect that there will be 35,000 acres of reclaimed land in the United States. That would be true if every little nook could be dyked but in some instances it would be too costly at this time to reclaim the land. It may be a small lake and when the demand is such as to justify the reclamation of land of that character it will be reclaimed. It is the richest kind of land. The analysis you find in the Jones and Ramser report shows it to be the richest soil of its kind in the United States. The production is anywhere from 40 to 70 bushels of wheat to the acre this year. Senator Borah was helping to thresh down on the Doctor Currie farm in district No. 8. He was pitching wheat and it was found that the yield was 48 bushels to the acre.

Mr. CLARK. Was that hard wheat?

Mr. VERNON. Yes. In district No. 1, which was reclaimed during 1922, the average yield in 1925 after three years' cultivation was 110 bushels per acre. It gives you an idea of the value of the land for

the production of certain crops. There was one farmer who last year produced 100 bushels per acre of peas.

Mr. CLARK. Edible peas?

Mr. VERNON. Stock peas.

Mr. MAGRATH. When you extended the developments down stream did it necessitate the raising of your dyking in the upper developments?

Mr. VERNON. Yes; if the entire stream were dyked the upper developments would require to be raised.

Mr. MAGRATH. What is the total distance of the developments along the river?

Mr. VERNON. About 59 miles.

Mr. MAGRATH. From No. 1 down?

Mr. VERNON. Down to the line.

Mr. MAGRATH. If you develop the entire river for a distance of 59 miles will you be called upon to increase the height of the dykes at the upper end?

Mr. VERNON. With a flood period like that of 1916 we would.

Mr. MAGRATH. Have you provided for anything like that?

Mr. VERNON. We are providing for these things. We are increasing our dyke elevations for that protection.

Mr. MAGRATH. Have you in mind any additional height that is called for in the 59 miles?

Mr. VERNON. We figure on about 5 feet above the 1916 water which I think will take care of the piling up of the water when the entire valley is dyked.

Mr. MAGRATH. That is more than you would dyke if the development were not carried so far down?

Mr. VERNON. No; it would be $2\frac{1}{2}$ to 3 feet more than we would dyke if the river should not be entirely dyked.

Mr. MAGRATH. If you merely developed No. 2 you would only dyke to a certain height?

Mr. VERNON. Yes, sir.

Mr. MAGRATH. But with additional districts down to the boundary you would consider $2\frac{1}{2}$ feet sufficient to take care of the first?

Mr. VERNON. Two and a half to 3 feet to take care of the first.

(Plan showing developments south of the international boundary filed by Mr. Vernon and marked Exhibit "B.")

Mr. MAGRATH. Have you any further evidence to offer, Mr. Garland?

Mr. GARLAND. Not at the moment. I would like to deal with the point that was raised this morning in regard to the financial proposals of the company. At that particular time I was under the impression that the matter of the title of the company was before the Commission and that notarial copies of the documents upon

which our title will rest had been filed. I find they have not been filed and I would like now to ask the Commission to allow me to file these papers in order to eliminate any idea that the public are not fully protected in this matter. I would like to put in this copy and with it the notarial certificate.

(Documents filed and marked Exhibit "C.")

Mr. GARLAND. The efforts of the Board of Trade and the citizens who are behind this proposal culminated in 1925 in a meeting with the Minister of Lands in British Columbia. It was not a company got up for the purpose of undertaking this work; it was a movement on the part of citizens in the district who, realizing the great potential value at their doors, had worked for years to bring before the government the idea that reclamation might be possible. Never at any time has it been considered from the point of view of a money making scheme.

Now, the Minister of Lands visiting Creston at that time, as I remarked previously, complimented the men who had for so long kept this matter to the front and said that he would give to us a grant of 10,000 acres, provided that we should reclaim the same. That is committed to writing and I now propose to read a letter under date of October 6, 1925, which confirmed that conversation. I would particularly draw your attention to the fact that at that time this franchise or grant, this conditional matter, was given to us on the condition that we should complete matters within one year. So far from our obtaining something that we could keep from the public, the public is always safeguarded by the fact that our franchise is extended from year to year only, and should we at any time fail to bring this to a completion the Minister of Lands of this province can at once withdraw from us this franchise and the moneys that we as citizens have taken out of our pockets to carry on for years and years this propaganda, will be lost to us and the country. The letter from the Minister of Lands of the Province of British Columbia, dated October 6, 1925, is as follows:

MINISTER OF LANDS,
PROVINCE OF BRITISH COLUMBIA,
Victoria, October 6th, 1925.

MR. GUY CONSTABLE,
Chairman, Creston Reclamation Syndicate,
Creston, B. C.

DEAR SIR: Referring to your letters of September 2nd and 28th, your syndicate will be given to the 1st of August 1926 for the selection of lands and commencement of actual work of reclamation.

On completion of the first unit Crown Grant will issue therefor after the high-water season next following completion of the construction.

Should the first unit not prove successful no further area will be granted to your syndicate.

With regard to formation of drainage districts, as far as the Indian Reserves are concerned it will be necessary for you to secure the consent of the Indian Department at Ottawa and with regard to private lands it seems to me that the private owners should be approached and the work carried out in harmony with them, rather than by force through act of the Government.

There is also the question to be considered as to what effect the dyking of these lands will have on the natural level of the waters on the other side of the boundary, as well as upon our own side. If it affects the natural level of the waters on the other side it would seem necessary to secure the approval of the International Joint Commission, while it will also be necessary to show what effect it might have upon the water rights of the West Kootenay Light & Power Company below the lake.

Very truly yours,

T. D. PATTULLO.

That was in October, 1925, and we were given until August, 1926, in which to do these many things. The time of expiration arriving and we having proceeded only so far, under date of June 18, 1926, confirming the conversation with the secretary of the company, the company having been formed in the mean time, Mr. Pattullo writes as follows:

MINISTER OF LANDS,
PROVINCE OF BRITISH COLUMBIA,
Victoria, June 18, 1926.

C. F. HAYES, Esq.,
*Acting Secretary, Creston Reclamation Co. Ltd.,
Creston, British Columbia.*

DEAR SIR: Referring to your letter of June 14th, I beg to advise you that the offer which I made last year, of a free grant of ten thousand acres on Kootenay Flats, provided that the area is properly dyked and made ready for cultivation, will hold good until September 30, 1927.

Faithfully yours,

T. D. PATTULLO.

In other words, from year to year we have our renewal; but, unfortunately, by August, 1927, we had not been able to obtain the consent and approval of all parties necessary; and, consequently, the matter being taken up again with Mr. Pattullo he writes, under date of July 25, 1927:

MINISTER OF LANDS,
PROVINCE OF BRITISH COLUMBIA,
Victoria, July 25, 1927.

C. F. HAYES, Esq.,
*President, Creston Reclamation Company, Ltd.,
Creston, B. C.*

DEAR MR. HAYES: I am in receipt of your letter of July 23rd. I believe that your organization has been doing all that it could in connection with reclamation of the flats, and under the circumstances, an extension to September 1st, 1928, as requested, will be granted.

Very faithfully yours,

T. D. PATTULLO.

In other words, from year to year is the extent of our rights.

Mr. CLARK. Until what time as the last?

Mr. GARLAND. Until September, 1928. So that far from being estopped or anything of that nature, we are entirely at the mercy of the provincial government in that they may at any time withdraw from us the rights extended from year to year. I hope that I have cleared any doubt that there might be in regard to the merits of our enterprise.

With regard to the formation of a company rather than in the manner of a syndicate in which it was previously formed, this is purely a number of men living in sparsely settled districts who from time to time have dug out of their pockets money for various reasons, mostly for advertisement and propaganda; and after we had this letter offering us something, after the areas in Idaho had been reclaimed, and we had demonstrated that this thing was possible, we were able to get a little more assistance from our neighbors and a company was formed, that being the better way in which to carry on the business. So that the company is there now.

So far as the commercial end of it is concerned, the public or any one else is entirely protected by reason of the fact that the province is in a position at any time to withdraw from us all we have done over 30 years, and all the money we have expended will be lost. So I trust there is merit in the application.

Mr. CLARK. I hope you did not misunderstand me, Mr. Garland. My idea was not to question the merit of the proposition.

Mr. GARLAND. I am quite aware of that, sir.

Mr. CLARK. It was simply to inquire as to the possibilities of your carrying it through so that disappointment could not possibly rest on your long and arduous endeavor to bring it about.

Mr. POWELL. Regarding these extensions, are they the result of power vested by statute?

Mr. GARLAND. Yes, sir. He is paramount in regard to his own department.

Mr. POWELL. He is not obliged to go through an ordinary council?

Mr. GARLAND. No, sir.

Mr. MAGRATH. You are through with your case, are you, Mr. Garland?

Mr. GARLAND. Yes, sir.

Mr. MAGRATH. Mr. Winlaw, do you wish to be heard?

Mr. WINLAW. Yes, sir.

STATEMENT OF MR. ANDREW NELSON WINLAW

Mr. WINLAW. Mr. Chairman, with reference to any objection or statements that I might make in regard to this reclamation, I might say that my father and I, a company, really, have a saw mill built

and this plan as I have understood it from Mr. McCulloch will entirely cut off our supply of water that brings our logs to our mill.

Sir WILLIAM HEARST. Is your property entirely in British Columbia?

Mr. WINLAW. Yes, sir.

Sir WILLIAM HEARST. I suppose you will have your remedy if they take water away from you?

Mr. WINLAW. That is what I was wondering. I have been listening pretty closely.

Mr. MAGRATH. If the water runs away from the mill it must get to the mill at first, must it not?

Mr. WINLAW. Yes; but it might be going by in the wrong way.

Mr. McCUMBER. Does your mill run by water power?

Mr. WINLAW. No; it is a steam mill.

Mr. CLARK. What is the idea of the water, to bring your logs to the mill?

Mr. WINLAW. The Goat River, which they propose to divert on the south side into the Kootenay, at the present time comes in its natural channel to the mill, whereas if they divert it into the Kootenay it goes down by the Kootenay and past our mill.

Mr. CLARK. What I am trying to get at is what purpose do the waters serve in connection with your business?

Mr. WINLAW. We use the water as a matter of bringing our logs up to the mill.

Sir WILLIAM HEARST. To float your logs to the mills?

Mr. WINLAW. Yes.

Mr. POWELL. Log navigation?

Mr. WINLAW. That is the idea.

Mr. CLARK. How large a stream is this Goat River?

Mr. WINLAW. Well, I do not know how to describe it. There is quite a flow of water in that river at certain seasons of the year; in fact, it is quite a large stream.

Mr. CLARK. Can you use it at all seasons of the year?

Mr. WINLAW. Yes; we can. We generally saw from April to October and we use the water.

Mr. POWELL. Is the current in the stream rapid or sluggish?

Mr. WINLAW. It is not when it gets on the bottom. Down where the reclamation is proposed it is not, but there is considerable current.

STATEMENT OF MR. J. C. MacDONALD

Mr. MAGRATH. Mr. MacDonald, do you wish to be heard?

Mr. MacDONALD. I do not think there is anything that I care to say, sir, except to possibly support the statements of the applicants to the effect that the land is granted conditionally and that the

Province of British Columbia is entirely sympathetic to their undertaking. The rights of conflicting interests, such as Mr. Winlaw and other parties who may have schemes in connection with the works on the lake, will all come up for consideration before the local tribunals and those questions will be very carefully considered by the provincial authorities.

I have not heard all the discussion to-day because I was unfortunately called away just at 12 o'clock, but I do not know that there is anything further that I can say.

Mr. MAGRATH. Thank you.

Mr. POWELL. Do you represent a department of British Columbia?

Mr. MACDONALD. Yes; I represent the Department of Lands.

Mr. POWELL. So far as your department is concerned you offer no objection?

Mr. MACDONALD. None whatever. The province is entirely sympathetic.

Mr. MAGRATH. Is there any one else present who would like to be heard this afternoon?

STATEMENT OF MR. R. C. CROWE

Mr. CROWE. Mr. Chairman and gentlemen, I represent the West Kootenay Power and Light Company. Our problem has an international aspect and therefore, while we offer no opposition or objection to this application, we think our case should be considered at the same time, because, as I have said, it is going to have an international aspect. We supply power to the southern part of British Columbia from Princeton east to Bonnington Falls.

Mr. MAGRATH. What is the extent of the district you cover?

Mr. CROWE. I should judge 250 miles. The Consolidated Mining and Smelting Company, the chief industry and the backbone of the whole interior region, is dependent upon power from Bonnington Falls supplied by the West Kootenay Power and Light Company 11 miles west of here on Kootenay River, getting its water at a lower stage than these schemes, the water passing down through Kootenay Lake and then going into the river again. Up to the present time we have developed at Bonnington Falls about 90,000 horse power. We are now putting in an installation of an additional 60,000 horse power and will, in the next few years, need at least another 60,000. These various schemes of reclamation are depriving the river of its reservoir. Every acre that is reclaimed, in the manner in which it is being reclaimed here, will deprive the river of its natural reservoirs to that extent. The 30,000 acres reclaimed in Idaho have deprived the river of its natural reservoirs with the result that at the time of freshets the water goes down the river

quickly; instead of flooding the land and staying there for several months, it passes off in a week or two. We have found in recent years from actual gauge readings that there is a difference approaching 2 feet of extra flood crest that we would have to contend with at the plant which had not been found in the flood figures of previous years. The conditions to which I have referred are responsible for this difference in the flood crest. They are likewise causing the low water period. If the water passes off quickly instead of being stored up in these reservoirs we have a low water period in winter. That is upsetting our calculations. We require 10,000 cubic feet per second above the falls to develop this power.

Sir WILLIAM HEARST. To develop your present volume?

Mr. CROWE. At No. 2 plant we must have 10,000 cubic feet per second and also at No. 1. With the extra unit and the new plant we are now building we will require 10,000 cubic feet per second. We used to get that but now we do not get it except under the more favorable conditions which we have been experiencing this winter. Therefore, we have to do something to protect ourselves by conserving the water, and our proposal, which will finally have to come before this Commission, is to build a dam at the foot of this lake so as to conserve the water during the low water period. We will have to regulate that dam naturally or control the river so that we can dispose of the flood water. It will have to be done to the satisfaction of this Commission and of the engineers concerned. But it has to be done and that is the only way we can feel sure we are going to have enough water to run these plants in winter time.

There will have to be done also certain work in the river. Our dam will be so constructed as to dispose of much more water at the flood crest than the river will let go at the present time. That is all going to be beneficial to these people for their reclamation up above and they are going to need it more and more as they reclaim land farther down. The engineer has told you that having increased their flood level in the upper districts about 2 feet, the more land they reclaim down below the more they are going to increase the flood crest. They will have to get somebody to clean out this lake so that the water can get away quicker. They have done nothing to the lake below to let the water get out. Our proposal is to clean out the mouth of the lake and build a dam to conserve low water there. We will increase the height of the water but we will dispose of the flood crest quicker. If we build a dam to conserve the water to a point, say, some 6 feet above low water mark in the lake, then we back that water up across the boundary line. We are being forced to do that because of the Idaho reclamation and the present application and therefore we are being forced into an international issue in consequence of this work we are now considering but more

particularly in consequence of the Idaho development and also in consequence of the depletion of the forests. We are not objecting to anybody reclaiming land. On the contrary, we are glad to see them get a chance to reclaim it. But they are putting us in a position where we will have to do something to conserve the water supply at the low water period and that brings us to an international issue that you will have to consider. We require a great deal more detail and engineering work to be done before we can present our application to you and that is why the matter has not been submitted to you today; but we are proceeding with that work and we will hasten it forward and place it before this international body as soon as possible. It seems to me that all these things work hand in hand and should come together. Of course, Idaho having done this work, or most of it, our only redress now would be in the United States courts. Under the treaty we have a right to go into the United States courts for any remedy in Idaho. We cannot complain of it to this Commission. We assume of course that 8,000 acres would not make any material difference but if all the works are carried out and if the 30,000 acres here are added to Idaho's 30,000 acres it will make a material difference and as we believe a very material difference. We want it to be understood that we are not objecting to this application but we also want to let you know that these things impose upon us a problem which will bring us before this body at some time or other. The situation brings us into conflict with the State of Idaho because of the backing up of the water.

Mr. POWELL. What do you want done?

Mr. CROWE. We want permission to store 6 feet of water at low water mark. We want to have in all areas exactly what they have in the United States today. Owing to the extra moisture resulting from wet weather we have storage in the lake now up to 5.7 feet and I think anybody here will tell you that they are not affected or exposed to damage in the State of Idaho by that condition; their sluice gates are above that level today and when we construct this dam and store this water they will still be above the level and have drainage. We realize that we cannot have storage to make drainage impossible. We will have to get permission for the passing of some 6 feet of water through Kootenay Lake and we will have to get it from this body because it runs right back to the boundary line and the level will be raised 2 or 3 feet.

Mr. POWELL. Assuming we grant the present application, do you think that will interfere with you in another application you may make?

Mr. CROWE. No, except that if it is a matter between the United States and this country we were wondering how far you would be bound. Of course, I do not think this application interferes

with ours but I think this is the proper occasion to let you know that we are very much interested in this matter because we are going to have an application of our own. We do not want to oppose this application.

Mr. POWELL. Do you wish us to consider the facts you have stated in considering this application?

Mr. CROWE. I would like you to remember that we will be here at a later time, and we would not like any order made that would prejudice us in getting our order.

Mr. MAGRATH. Will your storage go to a higher level than the water reaches under natural conditions at certain periods?

Mr. CROWE. No, sir. We will not begin holding water until it gets down to elevation 1646. Then we will start to hold it. To let out about what we need, 10,000 cubic feet per second, will put us over about 125 days in the winter and by spring that water will be drawn down to the low water level again. Then, on account of making a wider cross section of the river for the escape of the lake waters, we will be in a position to lower the stage of this lake so it will never reach high stages of flooding. We can cooperate with Idaho in relieving them of a considerable extent of that flood crest.

Sir WILLIAM HEARST. In other words, you say that your work will be of benefit to assist that water in getting away?

Mr. CROWE. Yes, sir. There is another point in the lake up here at Proctor that would not probably let the water get to us as fast as we can get rid of it, but we intend to do all we can toward inducing the dominion government or even the federal government of the United States to give a grant, in view of the fact that it affects Idaho, to dredge out a considerable portion of the Proctor narrows. Then we will dispose of the river faster than we did before because a part of our plan is to enlarge a cross section of the river.

Mr. McCUMBER. During what months would you want to increase the level of the lake, some 7 feet, did you say?

Mr. CROWE. Six feet is our application. It would depend on the season, of course. This year it has remained at our storage level; nature has left it there; but other years we would probably have to commence, well, whenever the water got to the 1646 level, which might be about August or September.

Mr. McCUMBER. I would like to get at the season of the year.

Mr. CAMPBELL. It would be somewhere about October, in the average year about the 16th of October.

Mr. McCUMBER. Until when?

Mr. CAMPBELL. The minimum flow of this stream generally gets down to 10,000 second feet about the end of November. We would start pulling off storage at the end of November and we would have to pull down to the low water mark by April 1st, and we would arrange so that that condition would be brought about every year.

Mr. CROWE. Are there any other questions?

Mr. McCUMBER. You say the level of the lake is now 5.7 feet above low water.

Mr. CROWE. Yes.

Mr. McCUMBER. What effect is that having now?

Mr. CROWE. We say it has no effect and it is physically demonstrated that it has no effect so far as their drainage is concerned. Their sluices are above the present level. We say it is physically demonstrated that we will not hurt them, but their anticipation might be rather at the flood time, that unless we do construct our dam or we can be made to construct our dam we will not be allowed to do it until we can do what we say we can, that is, get rid of the flood water.

Mr. McCUMBER. And your purpose is to so construct your dam that you will be able to get rid of the flood water even though you raise to 6 feet?

Mr. CROWE. When we close our dam for storage then we can hold the water, but when the dam is open we are going to allow more water to go out of the river than is at present going at flood stage. We are making provision for 200,000 cubic feet per second to pass, whereas naturally I believe there was 160,000 cubic feet per second going out in flood stage.

Mr. McCUMBER. At what two points do you contemplate removing obstructions?

Mr. CROWE. For our own purpose the West Kootenay Power & Light Company would have to clean out the river at Granite and Grohman Creek. We would throw in our weight with the reclamation people and anybody else to induce the dominion government, as we think it is a function of theirs, and also the United States government to remove yardage from Procter narrows.

Mr. MAGRATH. That is in the lake?

Mr. CROWE. That is just where the West Arm enters the lake. There is a drop of 2 feet there against waters going down past them.

Mr. CLARK. Then you would have to enlarge your outlet.

Mr. CROWE. At Granite, yes. We propose doing that in any event.

Mr. MAGRATH. Which today discharges 160,000 cubic feet per second as a maximum?

Mr. CROWE. Yes, sir.

Mr. MAGRATH. You would make it 200,000.

Mr. CROWE. We will be able to pass 200,000 cubic feet per second. By being able to do that we can commence before the water ever gets anywhere near that capacity to let it off. We will let it off just as fast as the banks will stand erosion. We are willing to agree that they shall say when they want it opened or reduced, or your Commission, after an investigation, could say how fast that

water should be let off. We can let it off as fast as their dykes will stand. Our problem, as Major MacDonald said, is before our water board to judge between us two, and the reason I wanted to mention the thing is that there is a bigger question to be determined than one unit. I did not want an order to be made today in ignorance of our position from an international standpoint. I thank you.

Mr. MAGRATH. Does any one else wish to be heard?

**STATEMENT OF MR. P. E. DONCASTER, DISTRICT ENGINEER,
PUBLIC WORKS OF CANADA**

Mr. DONCASTER. Mr. Chairman, what I have to say is not an objection in any sense of the word. It is more in the nature of a statement of our interest in these navigable waters.

As representing the Department of Public Works of Canada at this sitting of the International Joint Commission, I beg to submit the following statements on its behalf in respect to the application of the Creston Reclamation Company, Limited, to reclaim an area of the bottom lands of the Kootenay River Valley in British Columbia:

(a) This department of the federal government of Canada, being charged with the administration of the Navigable Waters Protection Act (Chapter 115 of the revised Statutes of Canada 1906 and amendments) is on record as considering the Kootenay lake and river waterway, between the international boundary and its confluence with the Columbia River at Castlegar, as "navigable waters" within the meaning of that term in the Act.

(b) The department now has before it, for consideration and action, under the Act, an application by the Creston Reclamation Company, Limited, for approval of plans detailing works designated to reclaim approximately 8,600 acres of the Kootenay flats in Canada.

While the department is vested with exclusive rights in the administration of the Act, it is respectfully advised that action is deferred until after this hearing, inasmuch as it is possible that information pertinent to the application, as it has a bearing on the navigable waters in Canada, may be brought out.

(c) In Appendix I herewith are listed the twenty seven public wharves, of a total value of \$200,000, built and maintained on Kootenay Lake by the federal Department of Public Works; also a list of seven of the more important wharves or slips which are the properties of companies or corporations.

It is also submitted for information that the department has expended considerable public monies in improving and maintaining navigable channels from the deep water of Kootenay Lake to the rail and steamer transfer slips at Kootenay Landing and to the entrance to the West Arm near Procter, B. C.

I beg leave to ask that a supplemental statement may be filed on behalf of the department at a later date.

Mr. MAGRATH. You ask permission to file a further statement?

Mr. DONCASTER. I mention a supplemental statement. It is possible that my department in Ottawa might wish to file a statement supplemental to the one that I have just read.

Mr. MAGRATH. Have you any idea how soon it would be filed in the event that they wish to file such a statement?

Mr. DONCASTER. I could not say, sir. I imagine that if it were required hurriedly the chief engineer would have to receive this copy of my statement that I have presented to you and he would probably decide immediately whether he wanted to add to it or not.

The wharves on Kootenay Lake and the West Arm thereof, built and maintained by the Department of Public Works of Canada, and also the more important privately owned structures are as follows: Willow Point wharf; McDonalds Landing wharf; Russells Landing wharf; Crescent Bay wharf; Kokanee wharf; Longbeach wharf; Harrop wharf; Sunshine Bay wharf; Frasers Landing wharf; Balfour wharf; Procter wharf; Queens Bay wharf; Ainsworth wharf; Princess Creek wharf; Mirror Lake wharf; Kaslo wharf; Shuttly Bench wharf; Argenta wharf; Johnsons Landing wharf; Riondel wharf; Kootenay Bay wharf; Crawford Bay wharf; Gray Creek wharf; Boswell wharf; Ginols wharf; Kuskanook wharf; Nelson Storesyard wharf.

Privately owned: Kootenay Landing C. P. R. wharf; Kootenay Landing C. P. R. transfer slips; Procter C. P. R. transfer slips; Cedar Creek ore bunkers; Lardo C. P. R. transfer slips; Riondel ore wharf and Nelson C. P. R. wharf and shipways.

**STATEMENT OF MR. LORNE A. CAMPBELL, GENERAL MANAGER,
WEST KOOTENAY LIGHT AND POWER COMPANY**

Mr. CAMPBELL. Mr. Chairman, and members of the International Joint Commission, I might say that in 1911 there was a reclamation scheme figured out to reclaim the lands in the vicinity of Creston. That was intended to be brought about by opening up the river at Granite 5 miles from here. Our gauge readings show that that is the point that restricts and holds back the high water. In other words, it was necessary for the lake to reach an elevation of 12 feet before the channel area is opened up sufficiently to take care of the high water that is coming in, and by that time the weather is such that it keeps piling up. That is what creates high water, in my opinion, in Kootenay Lake.

Now, as I said, we propose to open up the channel at Granite and construct a dam there which will pass 200,000 second feet. To get the water to that dam it is necessary that we dredge out at the

mouth of Grohman Creek about 2½ miles from here down the Kootenay River. Then, in order that the reclamation company in Creston would be benefited by our dam it would be necessary to dredge out the narrows at Procter. That, of course, would be worked out either between the Creston people, the dominion government and ourselves.

I might state further that we have been on this river for 30 years. We have been studying the conditions continually. The elevations that we have constructed are No. 1 Plant at Lower Bonnington, No. 2 Plant at Upper Bonnington and No. 3 Plant at South Kekanee. They are such that, with the reclamation of the land that is already reclaimed in the vicinity of Bonners Ferry, when 30,000 acres will be reclaimed in the vicinity of Creston, it then means that it is going to impose an entirely new condition on our existing work. Based on 1916 high water it means that it will raise the lake from 4 to 5 feet higher than the 1916 floods. Therefore, it is a question to be worked out, in my opinion, with the Creston people. And in working out this scheme it is going to be of enormous benefit to the land already reclaimed in the vicinity of Bonners Ferry. It is just a question of then regulating the get-away. In other words, we are going to open up the river below so we can take care of the high water as fast as it comes in. Then it is only a question of the Creston people getting together with us and working out some scheme to open up Procter narrows and increase the area there. By so doing the Idaho people may derive the benefit of our work. It will only be a question of arranging the opening of the sluice gates to increase the velocity of the water in Kootenay River up to the point that the banks will stand it, and I consider that our scheme will be a great benefit to both Idaho and the Creston Reclamation Company.

I think possibly that is all that I can put before the Commission at the present time. In a very few months now we expect to have our plans completed, and we will then apply to the dominion government, and, naturally, being an international question, on account of the water backing up, I trust that you will take this into consideration and we will probably appear before you at a later date.

Mr. DUBOIS. How long do you contemplate that it will be before you will be in a position to make that application and come before the Commission?

Mr. CAMPBELL. I should say that we will have all our engineering data together and be in a position to come before you in about 5 or 6 months. We would like to get this thing in shape so that we can start in at low-water stage next fall. We are prepared to go ahead with that, and I think by working night and day on that job we could construct the dam in 4 or 5 months. You see, we can only work in the river at low water.

Mr. MAGRATH. Are there any other interests that wish to be heard?

Mr. CLARK. The Chairman states there are no others to be heard. The Commission has received a letter from the Secretary of State for the United States and also a communication in support of the suggestion of the Secretary prepared by Mr. Barnes who is counsel for the United States Government in matters coming before this Commission. I will ask the secretary to read these communications.

The letter of the Secretary of State for the United States was read as follows:

DEPARTMENT OF STATE,
Washington, November 21, 1927.

To the Honorable the INTERNATIONAL JOINT COMMISSION,
Washington, D. C., and Ottawa, Canada.

SIRS: The Department of State received on November 3, 1927, from the Secretary of the United States Section of the Commission, a copy of the application of the Creston Reclamation Company, Limited, for permission to construct certain permanent works in and adjacent to the channel of the Kootenai River in the Province of British Columbia, at Creston, and a copy of the notice given by the Commission that statements in response to that application must be filed with the Commission on or before November 25, 1927, and that a hearing will be held on the application at Nelson, British Columbia, November 29, 1927.

Experience in connection with streams of regimen similar to the Kootenai River has demonstrated that far-reaching and sometimes unanticipated disastrous effects often result on lands above when works are constructed restricting floodway channels in the lower reaches of a stream. These effects can be predicted in advance of construction only on the basis of exhaustive study of adequate hydrographic and topographic data.

In the short time intervening between the date on which the copies of the application and notice were received by the Department of State and the dates set for the filing of statements in response and for the hearing it is not possible for this Government to obtain the technical data necessary to enable it to formulate an opinion as to the probable effect which the works proposed by the Creston Reclamation Company, Limited, will have on waters on the United States side of the boundary and on interests in the United States.

This Government considers that it should have full opportunity to inform itself in regard to such effects by the collection and study of hydrographic and topographic data, and to present its views in respect thereof to the Commission for consideration in relation to the provisions of Articles IV and VIII of the Boundary Waters Treaty of 1909 before final action is taken by the Commission on the pending application of the Creston Reclamation Company, Limited.

It is therefore requested that an extension of time be granted for the filing of statements in response as provided for in rule 10 of the Rules of Procedure of the Commission and that no order of approval be issued by the Commission on the aforesaid application until such further hearings shall be had thereon under rule 20 of the Rules of Procedure as the interests of the parties affected may be found to require.

I suggest that proceedings on the pending application of the Creston Reclamation Company, Limited, subsequent to the hearing on November 29, 1927, be

postponed for a period of one year, to afford time for the collection and study of the necessary hydrographic and topographic data.

Sincerely yours,

FRANK B. KELLOGG.

The statement of Mr. Barnes also was read as follows:

INTERNATIONAL JOINT COMMISSION

IN THE MATTER OF THE APPLICATION OF THE CRESTON RECLAMATION COMPANY, LIMITED, TO THE INTERNATIONAL JOINT COMMISSION FOR PERMISSION TO CONSTRUCT CERTAIN PERMANENT WORKS IN AND ADJACENT TO THE CHANNEL OF THE KOOTENAI RIVER IN THE PROVINCE OF BRITISH COLUMBIA AT CRESTON

MOTION ON BEHALF OF THE GOVERNMENT OF THE UNITED STATES FOR EXTENSION OF TIME FOR FILING STATEMENT IN RESPONSE AND FOR FURTHER HEARINGS

To the Honorable the INTERNATIONAL JOINT COMMISSION,

Washington, D. C., and Ottawa, Canada:

The Government of the United States respectfully submits in respect of the application of the Creston Reclamation Company, Limited, to the International Joint Commission for permission to construct certain permanent works in and adjacent to the channel of the Kootenai River in the Province of British Columbia at Creston, British Columbia, the following:

1. The Government of the United States is not informed otherwise than by the statement made by the applicant that the effect of the proposed works of British Columbia Reclamation Unit No. 1 on international waters will be merely nominal, or that the works will have no effect on low water. The applicant does not state the effect which the proposed works of British Columbia Unit No. 1 will have on flood water, and the Government of the United States is not informed in respect of the effect which those works will have on such waters.

2. The applicant states that British Columbia Unit No. 2 will be west of the Kootenai River and immediately west of Unit No. 1, but does not state the effect which Unit No. 2 will have on water at any stage and the Government of the United States is not informed as to the effect which the works of British Columbia Unit No. 2 will have on waters at any stage.

3. The applicant states that when the whole area of the Kootenai River flats on both sides of the international boundary has been reclaimed by the method proposed and the banks on both sides of the river are raised by the levees or dikes to a height of five feet above the 1916 flood as is proposed, and the flood waters are confined within the river banks, then in the occasional year that the flood would be higher than the natural river banks, and this flood is kept within the levees, the peak level of the flood in the river will be somewhat higher than in its natural state and the river surface also will assume a hydraulic gradient greater than the normal one, with an increased velocity of flow.

4. It is apparent that the works proposed by the Creston Reclamation Company, Limited, as British Columbia Unit No. 1 will, when the whole area of the Kootenai River flats on both sides of the international boundary has been reclaimed by the construction of levees or dikes, contribute to the combined effect resulting from such reclamation, on the level and velocity of the waters of the Kootenai River at the international boundary and in the United States. This is the case whether the effect of such reclamation be limited

to raising the peak level of the water and increasing its velocity in times of flood as mentioned by the applicant, or whether also the natural level of the waters at the international boundary and in the United States will be raised at other times also. It is apparent that the works of British Columbia Unit No. 2 will also contribute to the increase in the height and velocity of the water of the Kootenai River resulting from the reclamation of the whole area. The Government of the United States is not informed as to the degree to which the works of Unit No. 1 and Unit No. 2 will contribute severally or jointly to the effect of the reclamation of the whole area of the Kootenai flats on the level and velocity of the Kootenai River.

5. As the proposed works of British Columbia Unit No. 1 must, in view of the foregoing statements, particularly the statements in paragraphs 3 and 4, be regarded as tending to raise the natural level of the Kootenai River in the United States, the construction of any of such works clearly requires the approval of the International Joint Commission under Article IV of the Boundary Waters Treaty of 1909.

6. Experience in connection with streams of regimen similar to the Kootenai River has demonstrated that far-reaching and sometimes unanticipated disastrous effects are often caused on lands above when works are constructed restricting floodway channels in the lower reaches of a stream. These effects can be predicted in advance of construction only on the basis of exhaustive study of adequate hydrographic and topographic data. The Government of the United States believes that the proposed works of British Columbia Unit No. 1 and the works of British Columbia Unit No. 2 will cause injury to interests on the United States side of the boundary, or be a potential source of injury, and that therefore no order of approval of the works of either unit should be issued by the Commission which fails to take such interests into account and to require that suitable and adequate provision, approved by the Commission, be made for the protection and indemnity of all such interests pursuant to the provisions of Article VIII of the Boundary Waters Treaty.

7. The time elapsing between November 3, 1927, the date on which the Government of the United States received from the International Joint Commission a copy of the application of the Creston Reclamation Company, Limited, and November 29, 1927, the date set for the hearing at Nelson, British Columbia, is insufficient to enable the Government of the United States to make such investigations as are necessary to inform itself of the extent to which the proposed works of British Columbia Unit No. 1 will raise or tend to raise the natural level of the waters of the Kootenai River in the United States, and likewise the time is insufficient to enable the Government of the United States to ascertain what injury will be caused to interests on the United States side of the boundary by the construction and maintenance of such works, or to form an opinion as to the provision which should be made for the protection or indemnity of such interests pursuant to the provisions of Article VIII of the Boundary Waters Treaty.

8. Likewise the time is insufficient to enable the Government of the United States to inform itself concerning the effect which British Columbia Unit No. 2 will have on the level of the water in the United States and interests in the United States.

9. The Government of the United States submits that it should have time to collect adequate hydrographic and topographic data in relation to the questions set out in the foregoing paragraphs, to make a thorough study of such data, and submit its conclusions based thereon as to the effect of the works proposed by the Creston Reclamation Company, Limited, on the natural level of the waters of the Kootenai River in the United States and on all interests in the

United States that may be injured by the construction and maintenance of such works, before the Commission holds final hearings or takes final action on the petition of the applicant.

10. The Government of the United States therefore respectfully requests that no order of approval be granted by the International Joint Commission on the pending application of the Creston Reclamation Company, Limited, until the Government of the United States shall have had an opportunity through its engineers to make a careful investigation as to the extent to which the works proposed therein will raise or tend to raise the natural level of the waters of the Kootenai River in the United States and of all other aspects in which such works may affect the interests of the United States, its nationals and inhabitants, and to submit its views in respect thereof to the Commission. To this end the Government of the United States respectfully requests that the Commission grant an extension of time for the filing of statements in response to the aforesaid application to a date subsequent to November 25, 1927, and for such further hearings thereon as the interests of the parties affected may require.

11. The Government of the United States suggests that proceedings in the pending application of the Creston Reclamation Company, Limited, subsequent to the hearing on November 29, 1927, be postponed for a period of one year.

Respectfully submitted,

CHARLES M. BARNES,

Counsel for the Government of the United States.

WASHINGTON, D. C., November 23, 1927.

Mr. POWELL. What are we going to do about that?

Mr. MAGRATH. Perhaps we should hear counsel for the applicants if he wants to say anything. We have always taken the position that if either Government makes a submission to us on any question we will give it consideration.

Sir WILLIAM HEARST. There is the additional point that it may be possible to shorten up the time that the United States require for the collection of data.

Mr. GARLAND. We had hoped to expedite matters and that we should have been able to receive your decision at an early date. We are now in a position that we could go in in January and proceed with the work and we will be disappointed if the case is postponed in that particular way. All our efforts have been directed to the end that we should be able to make an early start and I imagine our friends will be extremely disappointed should delay result. No opposition has been presented and we had hoped that the decision would have been given to us and we should have been enabled to proceed. There is little I can say in view of the situation which has arisen other than to express my appreciation of the manner in which you have received the application.

Mr. McCUMBER. Let me ask you one question so as to get your position a little more clearly than I have it at the present time. If this is an international question it is just as much an international

question for the Idaho people as it is for the British Columbia people. Idaho has gone ahead. It did not wait to ask permission from this Commission but has gone ahead with its reclamation projects in a way that will not interfere, if I understand it correctly, with any project that may be undertaken now. Inasmuch as you think you will have no trouble in settling your differences with the power company, if you have any, and in view of your further belief that your projects cannot interfere with interests across the line, what is to prevent you from going ahead during this winter and doing the bigger part of your work during the winter months?

Mr. GARLAND. In respect to this particular matter, we are unfortunately unable to remove the boundary line to the south. Were this line situated 6 miles to the south we could then apparently proceed as our friends have done, and as the Senator has pointed out to us; we could then proceed to do what we had hoped to do, that is to commence our work early in January.

(The Commission went into executive session for consideration of the request made on behalf of the Government of the United States, after which the public session was resumed.)

Mr. MAGRATH. Sir William Hearst will read the decision of the Commission.

Sir William Hearst read the decision of the Commission as follows:

A letter from the Secretary of State for the United States requesting that proceedings on the application subsequent to this hearing be postponed for a period of one year to afford time for the collection and study of the necessary hydrographic and topographic data was presented to the Commission and also a written argument by Charles M. Barnes, counsel for the government of the United States, in support of such application for postponement. After full consideration of said application and the argument of counsel in support of the same it was ordered:

That this hearing do stand adjourned to be resumed at such time and place as the chairman of the Commission may fix and that in the meantime a copy of the record of today's proceedings be furnished to the Secretary of State for the United States with a view of affording opportunity for the representations or statements in view of the facts disclosed by said record, if any, that the Secretary of State may see fit to make.

Sir WILLIAM HEARST. The object of this is to permit the Secretary of State fully to advise himself of the evidence that was adduced today with the thought that he may then not ask the period that has been suggested in the application. The Commission will stand ready to meet at any convenient time as soon as an opportunity has been given to ascertain whether or not in view of the facts disclosed today the Department of State for the United States feels that it will be necessary to take the time requested to obtain the data in order to present the case of that country.

Mr. MAGRATH. In adjourning, in behalf of the Commission I want to say that we appreciate your having been here and the manner in which you have submitted your case to us. We are very much pleased indeed to observe the spirit which seems to prevail as between what might otherwise be regarded as conflicting interests but which, as we view the question, are not conflicting. The hearing now stands adjourned. •

(The hearing was adjourned at 5 p. m.)

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