LAND NOTICES

NOTICE is hereby given that 60 day after date I intend to apply to the Hon. Chief Commissioner of Lands and Works for permission to purchase the following described lands in the Lower Arrow lake district, about three miles above the Needles postoffice on the west side of the mencing at the southwest corner of F. B. Lucas' pre-emption, post No. 1 40 chains west to Post No. 2; thence 20 chains north to post No. 3; thence 40 chains east to post No. 4; thence 20 chains south to place of commencement.

Dated this 23rd day of October, 1906.

A. V. LUCAS. hereby given that 60 days after date I intend to apply to the Hon.
the Chief Commissioner of Lands and Works for permission to purchase the ollowing described lands in West Koot-enay district: Commencing at a post-narked "M.E.T.'s northwest post" and dunted on the east line of Lot No. 3872. out one mile from Kootenay river on the south side, thence 80 chains south; mence 20 chains east; thence 80 chains

north; thence 20 chains west, to point oeginning.

M. E. TAYLOG. W. J. TOYE, Agent.
Dated this 22nd day of Aponet, 1906.

NOTICE is hereby given that sixty days from date I intend to apply to the Hon. Chief Commissioner of Lands and Works for permission to purchase the following ribed lands situate in West Kootenay district: Commencing at a post planted at the southwest corner of John Logan's application to purchase, one mile outh of Fosthal lcreek, and three and a half miles west of the west shore of Arow lake ,and marked "Elizabeth Taylor's .E. corner, thence 80 chains west; thence 80 chains south; thence 80 chains east; thence 80 chains north to point of com-Dated this 29th day of October, 1906.

ELIZABETH TAYLOR.
J. E. TAYLOR, Agent. 11-3

NOTICE is hereby given that sixty days from date I intend to apply to the Hon Chief Commissioner of Lands and Works for permission to purchase the following described lands situate in West Kootenay district: Commencing at a post plant-ed on the east shore of Misquoto lake. thence 60 chains east; thence 80 chains south; thence 60 chains more or less to hore of lake; thence 80 chains north along the shore of the lake to point of com-Dated this 30th day of October, 1906.

ROBERT ANDREW. J. E. TAYLOR, Agent.

NOTICE is hereby given that 60 days afte date I intend to apply to the Hon. to Chief Commissioner of Lands and Wor for permission to purchase the following described lands in the West Kootenay dis trict: Commencing at a post marked "C. F Walmsley's N.E. corner post," situated at the S.E. corner of Lot No. 3333, thence south 40 chains; thence west 6 chains: hence north 40 chains; thence east 6 chains to point of commencement.

Dated this 15th day of October, 1906.

10-20 C. F. WALMSLEY. JOS. BLACKBURN, Agent.

NOTICE is hereby given that 60 days after date I intend to apply to the Hon, the Chief Commissioner of Lands and Works for permission to purchase the following described lands, situate in West Kootenay District: Commencing at a post marked situated about four miles west of the Uppe Arrow lake, near Fosthall creek, thence running west 40 chains; thence south 3 chains; thence east 40 chains; thence norts chains to point of commencement, and ontaining 320 acres, more or less. Dated Oct. 9, 1906.

FLORENCE RICHARDSON. J. E. TAYLOR, Agent, 10-24

NOTICE is hereby given that sixty days from date I intend to apply to the Hon Chief Commissioner of Lands and Works for permission to purchase the following described lands situate in West Kootenay district: Commencing at a post plant ed at the southwest corner of John Logan's application to purchase, one mile th of Fosthall creek and three and a half miles west of the west shore of Arrow lakes, marked "H. Taylor's N.W. thence 80 chains east; thence chains south; thence 80 chains west; thence 80 chains north to point of commencement. Dated this 29th day of October, 1906. HARRY TAYLOR.

J. E. TAYLOR, Agent. 11-3

NOTICE is hereby given that sixty days from date I intend to apply to the Hon. Chief Commissioner of Lands and Works for permission to purchase the following described lands situate in West Kooteney district: Commencing at a post plant-ed on the south line of E. Taylor's application to purchase, about four miles from the west shore of the Arrow lakes, and marked "W. F. Taylor's N.E. corner, thence 80 chains south; thence 80 chains west; thence 80 chains north; thence 80 chains east to point of commencement Dated this 29th day of October, 1906.

W. F. TAYLOR. J. E. TAYLOR, Agent.

NOTICE is hereby given that sixty day's from date I intend to apply to the Hon. Chief Commissioner of Lands and Works for permission to purchase the following iescribed lands situate in West Kootedistrict: Commencing at a post planted on the east side of Misquoto lake, and marked "Smith Toye's M.W. corner," thence 60 chains east; thence 80 chains south to north side of R. Andrew's application to purchase: thence west 60 chains, more or less to shore of lake; thence along

Dated this 30th day of October, 1906.

SMITH TOYE.
J. E. TAYLOR, Agent. 11-3

NOTICE is hereby given that 60 days after date I intend to apply to the Hon. for permission to purchase the following described lands in the West Kotenay dis-Commencing at a post marked "C. Gaylord's N.E. corner," at the north- 10-27 east corner of Frank Corte's old pre-empof Lower Arrow lake, thence west 80 chains, more or less, to the boundary line between said pre-emption and ter first lands and works for permission to purchase the following the first lands and works for permission to purchase the following the first lands and works for permission to purchase the following the first lands are the first lands and works for permission to purchase the first lands are the first lands and works for permission to purchase the first lands are the first l chains, more or less, to the boundary line between said pre-emption and lot 6817; thence south 80 chains, more or less, to the | District; Commencing at a post marked Peter McPherson's southeast corner,'

ion: thence east 80 chains, more or les o the boundary line of said lot and old pre-emption; thence north 80 chains, more or less to point of commencement, co taining 640 acres, more or less. Dated Oct. 10, 1906

C. M. GAYLORD. RALPH SLYE, Agent

NOTICE is hereby given that 60 days after date I intend to apply to the Hon. Chief Commissioner of Lands and Works for permission to purchase the following described lands in West Kootenay district Commencing at a post marked "B. Bis-sell's N.E. corner," planted about 3 1-2 miles on the west shore of Upper Arrow 10-27 lake, half a mile south of Fosthall creek hence 80 chains west; thence 40 chains south; thence 80 chains east; thence 40 chains north to point of commenceme ontaining 320 acres, more or less. Dated this 18th day of Oct., 1906.

BELLE BISSELL J. E. TAYLOR, Agent 10-2 NOTICE is hereby given that sixty days from date I intend to apply to the Hon. Chief Commissioner of Lands and Works or permission to purchase the following described lands situate in West Kootenay district: Commencing at a post plant ed at the northwest corner of Smith Toye's application to purchase on the east shore of Misquoto lake, and marked "W. Fotheringham's S.W. corner," thence east 60 chains; thence north 80 chains; thence vest 60 chains more or less to ake; thence south 80 chains along the lake shore to point of commencement.

Dated this 30th day of October, 1906.

W. FOTHEHRINGHAM. 11-3 J. E. TAYLOR, Agent.

NOTICE is hereby given that sixty days from date I intend to apply to the Hon. the Chief Commissioner of Lands and Works for permission to purchase the following described lands, situate on the ower Arrow lake: Commencing at a post planted about 10 chains east of Sand creek, marked "W.R.H.'s N.E. corner," thence 20 chains south; thence 20 chains west; hence 20 chains north; thence 20 east to point of commencement, contain 10 acres, more or less; said land adjoin ent contain Paul Auder's pre-emption on the nor W. R. HOBBS.

Located Oct. 5, 1906. NOTICE is hereby given that 60 day after date I intend to apply to the the Chief Commissioner of Lands Works for permission to purchase following described lands in West Kootenay district: Commencing at a post planted ten chains east of the southwest corner of Lot 6890, Group 1, thence south 90 chains; thence west 80 chains; thence north 20 chains; thence east 80 chains, to place of beginning.

Dated this 17th day of August, 1906. ALFRED BUNKER

NOTICE is hereby given that 60 days after date I intend to apply to the Chief Com missioner of Lands and Works for permission to purchase the following described ract of land: Commencing at a pos marked "C. Padley's Southwest corner oost," placed at the southeast corner or C. Fitzsimmons' land, thence 20 chains north; thence 40 chains east; thence 2 chains south; thence 40 chains west along the north bank of the Lardo river, to the

C. FADLEY, Locator. M. MORGAN, Agent. Poplar Creek, B.C., Sept. 20, 1906.

NOTICE is hereby given that 60 days after date I intend to apply to the Hon, the Chief Commissioner of Lands and Works ssion to purchase the following for permission to purchase the following described lands, situate in West Kootenay District: Commencing at a post marked 'John Logan's N.E. corner," and situated west of the Upper Arrow lake, near Fosthall creek, thence running west 80 chair thence south 40 chains; thence east 80 chains; thence north 40 chains, and containing 320 acres, more or less. Dated Oct. 16, 1906.

JOHN LOGAN. J. E. TAYLOR, Agent, 10-20

NOTICE is hereby given that sixty days Chief Commissioner of Lands and Works for permission to purchase the following described lands, situate in West Kootenay district, starting from a post marked "Robert McLeod's S.W. corner," thence thence 40 chains west; thence 80 chain south to point of commencement, covering Chas. E. Ehl's abandoned pre-emption on the Arrow lake, about eight miles sou of Nakusp.
Dated this 9th day of October.

ROBERT McLEOD. J. E. TAYLOR, Agent.

NOTICE is hereby given that 60 day after date I intend to apply to the Hon the Chief Commissioner of Lands and Works for permission to purchase the following described lands in West Koo enay district: Commencing at a post planted at the southwest corner of Lo 5079, Group 1, thence west 40 chains; thence north 80 chains to the Kootenay river thence east 40 chains; thence south chains, to place of beginning.

Dated this 17th day of August, 1906.

11-3 NOTICE is hereby given that 60 days after date I intend to apply to the Hon, the Chief Commissioner of Lands and Works for permission to purchase the following described lands in West Kootenay district Commencing at a post marked "T.B.'s N.E. corner," said post being south of Cedar creek, Kootenay lake, thence 40 west; thence 40 chains south; thence 4 chains east to lake shore; thence 40 chain north to place of commencement. Dated this 17th day of October, 1906.

THOMAS BROWN. er date I intend to apply to the Hon. Chie Commissioner of Lands and Works for permission to purchase the following described land, situated in the West Koote nay district: Commencing at a post plantwest 80 chains; thence south 20 chains thence east 80 chains; thence north 20 chains to point of commencement.

Dated Oct. 22, 1906. M. McLeod. Locator. NOTICE is hereby given that 60 days after

NOTICE is hereby given that 60 days af-NOTICE is hereby given that we days at the date I intend to apply to the Hon. Chief commissioner of Lands and Works at Viotoria, for permission to purchase the following described lands situate in Fire Valley, West Kootenay district, joining L. C. Morrison's ranch, starting at a pointing results for a considerable leeway to cover unfavorable leave considerable leeway to cover unfavorable leave considerable leeway to cover unfavorable contingencies, and to anyone to magnitude.

It has been pointed out previously in this report that the cost of a zinc smelting the lump adding the results for a considerable leeway to cover unfavorable contingencies, and to anyone the following described lands situate in the following described lands situate in the necessity for being content with disappointing results for a considerable neway to cover unfavorable contingencies, and to anyone the following described lands situate in the record of a zinc smelting the report that the cost of a zinc smelting the lump this report that the cost of a zinc smelting the lump this report that the cost of a zinc smelting in the Candain west I would emphasize again this report that the cost of a zinc smelting the lump term of magnitude.

It has been pointed out previously in this report that the cost of a zinc smelting in the cost of a zinc sm

S. E. OLIVER, Agent.

hree miles west from the Upper Arrow post marked "L. C. Morrison's N.W. cornake, near Fosthall creek, thence 80 chains west; thence 80 chains west; thence 80 chains south; thence 20 chains west; thence 40 chains north; thence 20 chain west; tence 40 chains north, to place of commencement, containing 240 acres more

PETER McPHERSON.
J. E. TAYLOR, Agent, 10-20 Dated Sept. 24, 1906.

Lake, near Fosthall creek, thence 80 chains

chains south; thence 80 chains east to

NOTICE is hereby given that 60 days

after date I intend to apply to the Hon the Chief Commissioner of Lands and

Dated this 17th day of August, 1906.

NOTICE is hereby given that sixty days

for permission to purchase the followin

district: Starting 400 feet west of post

oost," about ten chains from Kootenay

iver, 15 chains west to lot 5082, more or

chains east, more or less; thence 15 chains

to the Hon. the Chief Commissioner of Lands and Works, for permission to pur

chase the following described lands

West Kootenay District: Commencing a post marked "A. M. Pingle's S.E. post,

hence 40 chains north to S.E. corner o

Kootenay lake; thence 40 chains west

A. M. PINGLE, Locator.

Commissioner of Lands and Works for per-

mission to purchase the following describe lands, situate in West Kootenay district

Commencing at the southwest corner o

ot 4682, thence south 60 chains; thence

west 40 chains, more or less, to the Koote-

nay river; thence following the shore o

same river northeasterly to point of com-

mencement, comprising 160 acres, more or

NOTICE is hereby given that sixty days

after date I intend to apply to the Hon. Chief Commissioner of Lands and Works

for permission to purchase the following

described lands, situate in West Kootenay

listrict, starting from a post market

digining application to purchase of W. J

south from Nakusp, thence 80 chains east;

thence 40 chains north: thence 80 chains

Dated this 10th day of October, 1906.

NOTICE is hereby given that 60 days after

date I intend to apply to the Hon, the

Chief Commissioner of Lands and Works

for permission to purchase the following

District: Commencing at a post marked

'Minnie McPherson's northeast corner.'

per Arrow lake, near Fosthall creek, thence

vest; thence 80 chains north; thence

containing 640 acres, more or less.

MINNIE McPHERSON.

Dated this 8th day of October, 1906.

NOTICE is hereby given that 60 da

after date I intend to apply to the Chie Commissioner of Lands and Works fu-permission to purchase the following as scribed land in West Kootenay distric-

commencing at a post marked "G. A

Brown's N.E. corner," said post being a chains north of southwest corner of lot 301A, and at southeast corner of lot 6591

thence 20 chains south; thence 40 chain

west: thence 20 chains north; thence 4

Located this 15th day of August, 1906.

Sixty days after date I intend to ap-

ply to the Hon. Chief Commissioner o Lands and Works for permission to pur

hase the following described lands situate

West Kootenay district, and adjoining

7. D. Stewart's pre-emption, starting 15

hains west from N. D. Stewart's north

ast corner post, thence west 40 chains:

chains; thence south 40 chains to point of

Sixty days after date I intend to apply

the Hon. the Chief Commissioner of

Lands and Works, for permission to pur-chase the following described lands in

West Kootenay District: Commencing at

west shore of Kootenay lake, about four

0 chains east, more or less to lake; thence

o chains south along shore line, to point

cement, containing 166 acres

ERROL TRELEAVEN. Locator.

post marked "E.T.'s S.E. corner,"

N. D. STEWART.

Dated Sept. 22nd, 1906.

more or less.

Sept. 17, 1906.

ains east, to place of beginning, con

G. A. BROWN. K. K. BJERKNESS, Agent.

chains east to point of commencement, and

J. E. TAYLOR, Agent.

running 80 chains south: thence 80 chains

MARGARET McLEOD

J. E. TAYLOR, Agent.

"Margaret McLeod's southwest corner,

A. FYFE.

S. E. OLIVER, Agent.

ontaining 160 acres.

Dated Sept 25, 1906.

commencement.

ess; thence 15 chains north; thence

Dated this 13th day of Oct., 1906.

marked "R. Corlett's southeast co

cribed lands, situate in West Kootenay

W. J. MURPHY.

R. CORLETT.

point of commencement, containing

acres, more or less.

L. C. MORRISON. Dated this 8th day of October, 1906. NOTICE is hereby given that sixty days from date I intend to apply to the Hon-NOTICE is hereby given that 60 days after date I intend to apply to the Hon. Chief Commissioner of Lands and Works the Chief Commissioner of Lands and Works for permission to purchase the following described lands situate on the or permission to purchase the following described lands, situated in West Koote-nay district: Starting at N. D. Stuart's west side of lower Arrow lake: Commencing at a post planted about 30 chains north southeast corner of his purchased land, thence 30 chains north; 'thence 40 chains of Paul Auder's pre-emption on Sand cast; thence 30 chains south; thence 40 creek, marked "P.A.'s S.E. corner," thence east; thence 30 chains south; thence 40 40 chains north; thence 30 chains west; thence 40 chains south; thence 30 chains chains west to point of commencement FRANK PENNOCK Located this 8th day of October, 1906. ast to point of commencement.

PAUL AUDERS. Located Oct. 5th, 1906.

NOTICE is hereby given that sixty days Works for permission to purchase the after date I. J. H. Taylor, intend to apply to the Chief Commissioner of Lands and Works, Victoria, B.C., for permission to purchase the following described lands, situate in the West Kootenay district and more particularly described as follows:

On the west side of the Columbia river, opposite Makinson's pre-emption, starting following described lands in West Koot-enay district: Commencing at a post planted at the southwest corner of Lo 5283. Group 1 thence south 20 chains; thence east 40 chains; thence north 20 chains; thence west 40 chains to place of beginning. opposite Makinson's pre-emption, starting at a post planted near the northwest cor-ner of Gus. Adolph's pre-emption and on Gerhard Ludwig's south boundary, and after date I intend to apply to the Hon "J. H. Taylor's N.E. corner, Chief Commissioner of Lands and Works running thence west 20 chains; thence south 40 chains; thence east 20 chains to Gus Adolph's west boundary; thence north

Located this 30th day of August, 1900

TIMBER NOTICES

NOTICE is hereby given that 30 days af ter date I intend to apply to the Chie ommissioner of Lands and Works for a Sixty days after date I intend to apply speical license to cut and carry away timber from the following described lands ommencing at a post marked "Maddie Munns' S. E.corner post," and planted about 17 miles northwest of Edgewood, and about three-quarters of a mile west Inonoaklin creek, on the Lick Cabin Trail, ot 2512, near south shore of West Arm of hence west 80 chains; thence north 80 chains; thence east 80 chains to the west boundary of E. E. Munns' application thence 40 chains south; thence 40 chains east to point of commencement, the whole for a special license to cut and away timber; thence following the said west boundary of E. E. Munns' application to cut and carry away timber, south chains to point of beginning, contain ing 640 acres, more or less.

MADDIE MUNNS. after date I intend to apply to the Chief

T. MAKINSON, Agent.

Located Sept. 18, 1906. NOTICE is hereby given that 30 days after date we intend to apply to the Hor Chief Commissioner of Lands and Work or a special license to cut and carry away timber from the following described lands situate in West Kootenay district: Com mencing at a post marked "E. E. Mumms' S.W. corner post," and planted about 17 miles northwest of Edgewood and abou 3-4 of a mile west of Inonoaklin creek, or the Lick Cabin Trail; thence east 80 chains; thence north 80 chains; the vest 80 chains; thence south 80 chains to acres, more or les. E. E. MUMMS.

T. MAKINSON, Agent. Located Sept. 18, 1906.

NOTICE is hereby given that 30 days after date I intend to apply to the Chief Commissioner of Lands and Works for a special license to cut and carry away timfrom the following described lands encing at a post marked "Reube Munns' N.E. corner post," and planted about 17 miles northwest of Edgewood n Inonoaklin creek, on the Lick Cabi Munns' application for a special lice o cut and carry away timber; thence wes 80 chains; thence south 80 chains; thence east 80 chains; thence north 80 chains to point of beginning, containing 60 acres, nore or less. REUBEN MIINNS

T. MAKINSON, Agent. Located Sept. 18, 1906.

ZINC RESOURCES OF B.C. COMPILED FROM REPORT OF ZINC

DESIGNS FOR CONSTRUCTION OF A ZINC SMELTERY.

COMMISSION.

The Canadian Pacific Railway has made a freight rate of \$2.50 per ton on ore from the Slocan to Frank. The rate spelter to London will probably \$14 to \$15 per ton. Assuming an ore as saying 48 per cent zinc and yielding 800 b. spelter per ton, the charges per to of ore up to delivery of the spelter at ondon will be as follows:

Freight on 1 ton at \$2.50..... melting 1 ton ore at \$15. Freight on 0.4 ton spelter at \$15.. 6.00

Total23.50 If the ore were shipped to Europe for melting the costs would be: Freight on 1 ton to Antwerp.....\$13.00 Freight on 1 ton ore to works... 0.88
Loss and incidentals 1.25 Smelting 1 ton ore Freight on 0.4 ton spelter 0.65

Total\$25.03 It will appear therefore that smelting n Canada is feasible commercially, especially since a part of the spelter pro uced in Canada can be marketed donestically, saving something in freight and gaining in price. It is possible also niles south of Wilson creek, thence 20 for a Canadian smelter to compete suc-cessfully with the American so long as hains west; thence 60 chains north; thence the United States assess a duty of 20 per cent ad valorem on blende. It is to be remarked, however, that this conclusion is based on a plant of high efficiency, in thorough running order manned competently), and on an esimate for labor that is doubtful. Until the last point has been settled, I should

ing force is being secured.

The consumption of zinc in Canada is comparatively small, and (although on the increase) it is gaining but slowly. The imports (which may be taken as representing the consumption) were 3154 ns in the fiscal year ending June 30, 1905, against 2,975 tons in 1904, and 2490 tons in 1903. In 1895 they were 1214 be considered a small plant. A works tons. There was certainly a healthy increase from 1895 to 1905, but the course of the statistics is indicative that it will able to consume all of the zinc which
British Columbia alone is capable of
producing. I have already estimated
that Ainsworth and the Slocan are now
capable of producing (when the capable of producing (when the necessay milling facilities have been provided) about 30,000 tons of blende per annum of an average (nominal) zinc content of 50 per cent. This would correspond to a spelter production of up-ward of 12,000 tons, or approximately four times the present consumption of the dominion. The consumption, moreover, is about one-half in the form of spelter, the remainder being in the form of sheet and rolled plate. It is to be expected, therefore, that for a long time o come a large portion of the zinc ore or spelter produced in British Columbia will be exported. The spelter can-not enter the United States, because the American tariff of 1.5 cents per por is prohibitive; besides America itself is at times a considerable exporter of spelter. The plans that are on foot for zinc smelting in Australia would appear to provide for the requirements of Australian market and much more. The prospects are, consequently, that the major portion of any spelter that may iced in Canada must be marketed in Europe.

This leads to the enquiry as to the

possibility of smelting on the Pacific coast. Coal exists there. The rail transportation on ore is comparatively short. Deposits of ore exist near the shore both on the mainland and on Vancouver is-land. Water power is available. And spelter can be carried either to Europe r to the Orient by steamships or sailing vessels. If reasonably cheap coal were available it is likely that a good harbor on the Pacific coast would be the most advantageous point in British Coumbia to conduct zinc smelting on a large scale. The demand for coal along the Paci-

fic coast, however, creates a high price

for that fuel. It fetches \$2.50 to \$3 per ton at Nanaimo. Values are not stated separately for the collieries of Vancouver island in the statistics of the minis-ter of Mines for British Columbia, but making allowance for the Crow's Nest production at its known value, the average for the Vancouver Island coal appears to have been a little upward of \$3 per ton (2240 lb.) in 1904, and the same price was quoted in 1905. The coal of Vancouver Island is of good quality, but it is improbable, in view of the high cost for labor, etc., that smelting could successfully conducted on the coast with coal costing \$3 per ton. It is reported that coal seams have been discovered on Quatsino Sound, where zinc also has been discovered. It is to be assumed, however, that in spite of the competition of California petroleum. which has already had a noteworthy effect upon the coal trade of British Columbia, the demand for fuel on the Pacific coast will be such as will absorb new supplies at about the present price. The prospect for zine smelting on the coast, at least by the standard method, s too remote to merit detailed consideration at the present time. The zinc deposits of the coast are still of unknown magnitude, they are in fact nothing but prospects. No one would consider any lan for smelting ores from them until they had been extensively developed. The ore that may be taken out in the course of their development will find a ready market in Europe, whither transportetion will be comparatively cheap This is the policy which the owners of zinc deposits on the coast should pursue, viz., develop the mines and market the ores in Europe. As previously pointed out, the im-

and the Slocan. In seeking their market, these ores must necessarily pass over either the Canadian Pacific or the Great Northern railways. In either case, the railways obtain the longer haul by taking the ore eastward. The Canadian Pacific is indeed able to carry the ore, through its connecting steamship line, directly to European ports, without div-iding freight charges with any other company. It is unlikely therefore that either of those railroads would permit the ore of this portion of British Columbia to go westward. It is understood, however, that a rate of \$4 per ton to the coast has ben tentatively made by the Canadian Pacific.

The approximate rate on ore shipments in large quantity from Vancouver to Antwerp is 30 shillings per long ton. or about \$6.50 per 2000 lb., but various things have to be taken into consider ation; such as whether the ore is to be shipped in sacks or in bulk, the quantity and regularity of the shipments, the time of the year, i.e., whether the busy season or otherwise. All of these conditions affect the rate.

The possibility of the utilization of the abundant water power of the coast for electric smelting oif zinc ore will be

referred to briefly further on. The process of zinc smelting is theoretically one of the simplest of all met-allurgical processes. Practically it is one of the most difficult. This is because of the variety of steps that the ore must go through, the carefulness with which many details must be observed, and the necessity for carrying out the reduction of the ore in small retorts, made of imperfect and fragile material. No one should think of constructing a zinc smelter without employing a metallurgist skilled in the art. If its construction is an engineering prob-lem of magnitude. fine ore first through a dryer (a simple sylindrical dryer is best), which avoids

period while a sufficiently skillful work- or lead smelting plant. It has also been are required. The sampling should be in the cost of zinc smelting plants o various constructions. The cost per ton varies not only with the type struction, but also with the size of the plant, a small one costing relatively more than a large one. From one standpoint even a large zinc smeltery may of ore per annum is a large plant, whereas a lead or copper smeltery treatproduce 10,000 tons of metal , which is as much as the average copper smelter of 300,000 tons capacity produces. In points of ground area occupied and the magnitude of the brick and steel construction there is comparatively little

difference between the two plants The old type of zinc smelting works common in the United States could be built in small units and at comparative ly small cost. There are still in use, the old direct-fired Belgian furnaces. In some places, where coal is very cheap and labor not excessively may still be employed with profit, but in general it would be an exhibition of folly to erect such furnaces in a new plant, and if coal and labor were dear it would be suicidal. Economy of coal is so important that regenerative, gas-fired furnaces should alone be considered.

The subject of zinc smelting is so comprehensive that bulky treatises have been written upon it, without by any means exhausting it, and obviously it tent from the technical standpoint in the limits of this report. It will be aimed only to indicate the general lines of modern plant, and to give some advice upon the policy of construction.

If a new plant were projected in a district where zinc smelting had already been successfully practised, where ed and where an abundant supply of skilled labor could be relied upon, the wisest policy would be to plan of maximum efficiency, say 25,000 tons of ore capacity per which little or nothing is to be expected in reduction of operating costs) and pro ceed directly with the construction on that scale. If for any reason, it sh appear inadvisale to give the plant its full capacity at the outset, nevertheless be laid out on the full lines omitting a certain number of the roasting and distillation furnases, which can be added subsequently, as required.

In inaugurating zinc smelting in new country, it is the policy of prudence to begin with the minimum of outlay for plant, erecting something small tha will serve to establish the conditions and will serve to train the men. chances are that the new plant will lose money at first, and a small plant will lose less than a large one. Sulphide Corporation began at Cockle Creek, Australia, with a single furnace, although it had very large reson ore. It appears that the Canadian Metal Co., at Frank, Alberta, may have begun on somewhat too ambitious a scal However, this is a broad question of policy that is dependent largely on the plans and resources of the promoting company.

It is not at all easy to plan on mod ern lines a very small plant that will b capable of expansion; or rather it is not easy to do so and keep the origi cost per ton in reasonable proportion to the ultimate cost. This is because even in a large plant the quantity of mater ial to be handled daily is comparatively small; 25,000 tons per year is only about 72 tons per day. Now, although the roasting and smelting furnaces for that quantity of ore are naturally divisible into small units, there are other parts of the plant which are not. For example, the retort making machinery for making the retorts for 72 tons of ore per day constitutes a single unit, must be provided just the same for nine mediately available zinc resources of British Columbia are those of Ainsworth trouble in the design of the sampling and crushing mill, the power plant, and other accessory parts of the works. The only solution of the difficulty is to divide everything into units so far as possible, and leave out such parts as may be temporarily omitted at the ex-pense of increased operating cost for a while, or until the plant has demonstrated its prospect of success.

I will, therefore, briefly indicate th general specification for a plant of 25,-000 tons annual capacity, or 72,5 tons of raw ore per day (estimating 345 working days per annum). The quantity of roasted ore to be smelted daily will be about 62 tons. The yardwork must be, however, so far as possible done without counting Sundays, or say in 300 days er year, which will necessitate the handling an average of 83 1-3 tons of ore per day. Suitable arrangements must be made for unloading the ore, coal and other

material as it arrives at the works

There must be well arranged railway sidings and ample room for the cars to stand, with a convenient system of shunting. The ore, coal, and all mat erial should be weighed upon receipt at the works. Immediately after weigh ing, a sample of the ore should be for determination of moisture. As the ore is unloaded it should be sampled for determination of its composition. Proper metallurgical control of the known absolutely what is received. The relation to this of the products which go out shows the percentage of extraction, or the efficiency of the works and their management; nothing else shows it absolutely. The lump ore should be crushed and sampled directly as it is unloaded. The fine ore (concentrates) may be sampled without further crushing, although generally it will have to he crushed before it goes to the roa the plant be of any considerable size, ing furnaces. It is advisable to pass the tery per ton of capacity is relatively ore a Blake crusher and rolls should be much higher than the cost of a copper employed; for the fine ore, rolls only

done mechanically. The Vezin sampler

The sampled ore is conveyed to stor age bins, which should be sub-divided to keep the various lots and kinds separate. If the bins are overhead and self-emptying, they save labor in subsequent handling, but they are more ostly than bins on the ground. bin capacity should be liberal—at leas enough to hold a month's supply of or

From the storage bins the ore is put hrough the crushing mill for redu in size to about 1-16 inch, or so as to ass an 8-mesh screen. In the crushing mill the ore should pass first through a dryer (if it has not previously been dried) and then through rolls. It is much easier to crush and screen dry ore than it is damp ore. The crushing mill should have capacity for 10 tons per hour. Its design will depend somewhat upon the relative proportion of lump ore and concentrate that is ex-From the crushing mill the ore will

go to the roasting furnaces. These should be mechanical. The Ropp and Brown have given good results in the United States, but they are rather uneconomical of fuel. The Hegeler has given good results, especially when the high, and the labor cost of its operation s high per ton of ore unless it structed as a very large unit. The Merton furnace has been successful at Swansea and is rationally designed. This furnace has been installed at Frank. Furnaces of the McDougall type are to be recommended. They are economical of fuel and labor, are low in first cost, and are efficient in small units. Twelve furnaces, 12 feet in diameter and six hearths high, should roast 72 tons of ore per day. A well designed mechanical furnace may be reckoned as having capacity to roast 20 lb. of blende down to 1 per cent sulphur per square foot of hearth per 24 hours. The roasted ore should be collected

in storage bins contiguous to the mixing house. It is advisable to carry a stock of one between the roasting and distillation departments for two reasons: (1) To insure continuity of operation in case of an accident to a roasting furnace; and (2) to enable the proper mixture of various kinds of ore to be made. Continguous to the mixing house there should be also a crushing mill for the comminution of the ial (coal and coke) to 1-4 inch size. The charge should be weighed out into a concrete mixer (a cube or revolving barrel) and therein thoroughly incorporated. European smelters perform both the grinding of the coal and the mixing of the charge in the same opera-tion in a Vapart mill, but I consider this less advantageous than what I have utlined above. The making up of the charge and its thorough mixture is one of the keys to good work in smelting and attention should be concentrated on this department.

(To Be Continued.)

GILLETT GETS CONTRACT

RECEIVED OFFICIAL NOTIFICA-TION LAST NIGHT.

WORK WILL BE COMMENCED AT EARLY DATE.

(From Tuesday's Daily) Last night mayor W. G. Gillett received official notification from the chief sioner of lands and works at the erection and completion of Nel son's new court house, being the lowest,

had been accepted. The notification came in the shape of the following con Lands and Works Department Victoria, Nov. 1, 1906.

Re Court House, Nelson. Siz Your tender for the erection and mpletion of the above building, being the lowest, has been accept Contracts and plans will be forwarded earliest possible moment when you will I have the honor to be, sir, your obed-

ient servant, R F GREEN. Chief Commissioner of Lands & Works. Wm. G. Gillett, Esq., Contractor.

Nelson, B. C. The mayor said last night that the work included the removal of the sheriff's office from its present site to a position in the rear of the provincial lice office, and this will be the first work done. Speaking for the city authorities, who have agreed to move the present court house building to lots at the foot of and to the east of Ward street, the mayor said the moving would be promptly carried out once the papers were signed. "Then," his worship added, "we will commence the work of excavation and the construction of the new building will be begun and continued until it is completed. The mayor was in receipt of many

congratulations last night and very general satisfaction was expressed that a Nelson man and not an outsider had obtained the contract.

DEATH OF GEORGE CLODE

(Special to The Daily News)
Fernie, Nov. 5.—George Clode, manager of the hotel Fernie, and a popular and esteemed resident of the town for several years, died suddenly yesterday morning. He was preparing to undergo an operation when he suddenly expired. At the request of the mayor all business places in town were closed today between the hours of 4 and 6 o'clock while the funeral service was being held in Christ church. The body was for warded by evening C. P. R. express to clora, Ontario, where interment take place. He leaves a wife and one

BLAME THE BRIDGE TENDER Atlantic City, N. J., Nov. 7.-After a stormy scene the coroner's jury late to night agreed to place the blame for the Thoroughfare wreck of Sunday, Oct ber 28, upon Daniel Stewart, the aged

WEEK'S OR SHIPME

Output of Boundary Has Passed Millio Ton Mark

Contract Let for Deepening Le R -Centre Star Shaft Now Down Feet- Deepest in Canada

The strike situation has affected t ments to some extent, but not to gree anticipated. If matters are a as hoped there will be but a slig ference in the tonnage at the end year. The Boundary shipments, culated at the beginning of the year exceeded the million ton mark, the land figures being hardly more quarter of that amount. Locally, will lead shipments have considerably it ed, yet there is room for a great in ment. As soon as the lead mine find that they can also secure a for their zinc, their mines being puttern a more substantial and paying non a more substantial and paying upon a more substantial and paymenthey will undoubtedly ship to a extent. Locally the restarting of that can be upon the configuration of the district, who blowing in of the Heberlein roaster local smelter will permit of that tion works treating ore more econor There are several deals pending process of negotiation, which are li make a considerable difference to t

put next year The output of the various mines receipts at the several smelters past week and year to date in det BOUNDARY SHIPMENTS

Brooklyn Mother Lode Rawhide Mountain Rose Emma Oro

Other mines25,153 ROSSLAND SHIPMENTS Le Roi . entre Star

Le Roi No. 2, milled .. White Bear, milled SLOCAN-KOOTENAY SHIPM . Eugene Sullivan Ymir. milled La Plata La Plata, milled Eva, milled

Eureka Whitewater Lorna Doone Vancouver ... Reed and Jiny Lind

GRANBY RECEIPTS GRAND FORKS, B.C.

Granby 17,049 Emma Oro 9 Other mines 17.148 B. C. COPPER CO.'S RECEL GREENWOOD, B.C.

Emma Oro Other mines .. 3.165 DOMINION COPPER CO.'S BOUNDARY FALLS, B.C. Brooklyn 3,136 Sunset 678

Rawhide ... Other Mines 4,774 TRAIL SMELTER RECEIPT TRAIL SMELTER RE

St. Eugene Eureka Spokane

Total MARYSVILLE, B.C. MARYSVILLE SMELTER RECEI

HALL MINES SMELTER RECE NELSON, B.C. La Plata Lorna Doone California Reed and Jiny Lind Columbia T. C. Ottawa

Rossland, Nov. 3-The contract for ening the Le Roi shaft from the 135 level for a distance of 200 feet has let to Victor Shore, John Sepa, and thew Walters. The contract price made known. . Work on the contract commemneed just as soon as tin which are on the way, are received.