

Turnbull, James

August 25th July 1860

F1783
1

To Capt. Howard N. E.

On Wednesday afternoon I arrived at Niangua Cliff with the
 Supt. Major (accompanied by Mr. Mr. Frank and Gray) and found
 the cliff a very rough examination for a few hours. The Supt. Major
 proposed that the Cliff should be crossed by means of a Ramp (See sketch
 1 B. E.) his proposition was to blast away the narrow top of Cliff to the
 depth of 30 feet, then blast down the face of the cliff from B to E
 (Sketch 1 - a point on the side) - Mr. Gray spoke of a Ramp (Sketch 1)
 which he considered not much higher than the top of the cliff, and which
 he thought would make the best route. - After considering the matter,
 we came to the conclusion that before proceeding further it would be best
 to examine this route as far as Water Bar, and return the following
 day (Thursday), by the same route to Niangua side, then to examine the
 route proposed by the Supt. Major, and the length of Tunnel, and
 endeavour if possible to discover a route round the cliff. - According
 to these instructions I started off accompanied by Mr. Mr. Frank & Gray -
 the Supt. Major left for Wash. - When I arrived on the summit
 of Mr. Gray's Pass, I computed our height above the sea at 2000 feet
 and considering that the distance between the Pass, and where the Trail
 would have to ascend from, was not to be more than 2 1/2 miles. I came to
 the conclusion it was no use proceeding further, as it would be impossible
 to construct a good Trail in that direction - I computed on the hill for
 the night, and next morning I returned by myself to Niangua to further
 explore the cliff. - On the S. side of the cliff (within 50 yards
 of the face) the slope is pretty gradual say 1-3. On the W. side, for
 50 yards to the N. & 100 to the E. of Point B & D, the side has a
 smooth solid perpendicular rock 100 feet in height - towards the end of
 cliff and for about 50 yards round the S. side, the fall is a succession
 of narrow benches - I measured down the face of the cliff at Point B
 (Sketch 1)

as from the height to be 172 feet. I then walked back to point A and
of 160 feet and found the horizontal distance to be 97 yards.
(the length of Tunnel) - I next got down to the floor for the
purpose of examining the Supt. Major's Route, and also to find out where
the trail would pass on the opposite side. - The cliff on the opposite
side is very high and precipitous down to point E, (Sketch 1) there the
lay a good deal of blasting the trail can be brought over. but this
point is at least 100 feet below the tunnel, and about 160 feet below
the level of the Supt. Major's Ramp, and as the distances are
not over from the Tunnel & Ramp separately, and not more than 200
& 400 feet, it will be a matter of great difficulty to carry the trail
from either point, to do so at anything like a reasonable grade, it will
have to be done by tacking, and as the whole width of slide is not
over 100 yards, this will form a very difficult task. -

By deepening the Tunnel (and of course lengthening it) this difficulty
might be got over. - In respect to the Ramp, it looks much
more difficult when viewed from the slide, than from top of cliff,
30 feet below of the top would still leave a long grade,
then this still remains the difficulty of reaching the opposite bank.

I am therefore of opinion that owing to the difficulties arising from
going from point E (Sketch 1) and the great amount of blasting, along the
face of a solid perpendicular rock, that it would be best to
carry out the original intention of tunnelling. -

With regard to passing the Bluff, I have explored it in all
directions, and I have determined that the trail can be brought round
by 3 different ways. - First by starting the end of Bluff on the S side,
about 30 feet from the Summit, and then grading gently along the
face of W. side. (having advantages of all (logans feasible) until
arriving at point D (Sketch 1) This route I believe can be carried
out at a much less expense than tunnelling. - The second route
is by passing round the bottom of cliff (about 100 feet above N.W. side)
and crossing the bottom of slide to point C. By this route the
cliff cuts the ground, and the opposite bank crosses with a level
more than 30 yards of parallel blasting. -

The difficulty in connection with this route is owing to the great height
of N side I (Sketch 1) to gain N, it would be necessary to work
to a very great extent, which would be a very different undertaking
owing to the firmness of the mass. - and to carry out the first
route I. I. N. would require a great amount of blasting, and I
believe would be equally as costly as tunnelling, though decidedly a more
certain route. - 3rd Route. is by starting up the cliff 100 feet
higher (at the S side) and grading gradually up the cliff, until arriving
at point J (Sketch 1) then lay a few tracks joining point K. -

This latter route will require a good deal of blasting, but
will not be anything near so costly as tunnelling, - it will
also have the advantage of joining the opposite bank at point C, by
a short distance and easy gradient. - The trail by this route will
also be constructed in a much shorter time, as in tunnelling only 8 men
can be employed at the one time whilst in open blasting, any number
of men can be employed. - For information respecting the route
from K (Sketch 1) to N (Sketch 2) see Sketches. - With regard to
the route between H (Sketch 2) and Chapman's Bar, it is more difficult
than is generally imagined. - I pursued the advice of the Indian Chief, who
accompanied Mr. Mobley on this point, and he pointed me out the
direction to the Cliff top, but it is entirely impossible to follow it out, in
a small time it is pretty good, but when tried out in detail
I find it ^{impossible} ~~impracticable~~. - With regard to Mr. Mobley's high route,
I examine it also, and I find it was made from the ^{point} of H. side
but it is so very high above the river that it would be impossible
to carry out a good grade, and get to the level of Chapman's Bar. -
I have several routes from H to B (Sketch 3) and from the
small camp, I adopted the point A, as the starting point to
get over the difficult point A B. - the distance between these two
points is 15 chains, and for about 10 chains there will be a
great deal of blasting. - I have traced the route with
reference to the grade of line N, but if the contractor was
allowed to deviate from this grade there would not be so much
blasting. - From (B. Sketch 2) there is no blasting
whatsoever.

Nothing but peeling and Cauldus 8th 7th. - I have delayed this part
of the route also. - From A (Stake 3) to the half way point
11. I have not delayed according to the last grade, it will
therefore require some one to start from point A (Stake 3) & and
blaze back to Stake 2) and from D (Stake 2) to A (Stake 2) -
I should have delayed these points myself but having neither
provision or tent I was compelled to leave. -

To survey the whole route in detail and particularly
the route round the cliff will require considerable time and
a careful examination. -

James Turnbull
Supper. R. E.

1860
23
Report on the line of route
from Chapman's Bar to
Boston Bar. -
Supper. Turnbull R.E.
23 July 1860

To Capt. Foster
R. E.

Chapmans Bar
24th April 1861.

Sir

I herewith forward for your information a rough sketch of the route between Spuyzenum Creek and Chapmans Bar, and also the following remarks relative to the new line of Wagon Road, which I've just laid out between those two points —

With regard to the bridging of Spuyzenum Creek, I'm inclined to believe that the task will be more difficult, and costly, than is generally supposed — Several good stout bridges, have already been swept away, by the force of the current, & floating logs, — I have examined the creek carefully, and am satisfied that the present crossing is the most answerable; a bridge firmly built according to the dimensions specified in sketch 1. will be quite secure.

It will be absolutely necessary to have the Cr Span 55" in width, in order to escape floating logs, & rapid currents, cribs could also be more easily constructed.

A few ft above (or below) the present site will make little difference. —

The rocky spurs 150 ft above the present site (see sketch 2) would be the most secure crossing, but the cost of bridging would be very great, and the task a difficult one — the span is about 100 ft (in the clear) 11^{ft} from base of stream to; owing to the rock on both sides being almost perpendicular, combined with the rapid current & deep water, cribs could not be constructed, and to give sufficient supports for such a span, would be both difficult & costly, I have therefore adopted the former crossing as the best & cheapest. —

With regard to the new line of wagon road, between
Springer Creek and the Ferry - I have decided considerably
from the present line of Mule Trail, in order to avoid several
very heavy grades - the distance will be about the same. -
with the exception of the part from h to e (which is
rather a heavy grade) the route is an excellent one. -

This heavy grading down the bank to u.w.w. can be
avoided by carrying the road round the small rocky hill
marked c (see sketch) but a good deal of heavy blasting
would be required, I have therefore adopted the upper
route in preference. - From the bridge I have found
the summit of steep bank's with an easy grade of
1 in 12 from h the route lays through a level flat, until
arriving at point d, when it again ascends a steep bank
at a grade of 1 in 12. it then follows the direction of
the present Mule trail almost on a level. (until arriving)
at point f. from this point I have planned a temporary
Mule trail via g. to (see sketch) in order to escape partial
blasting and bridging across the ravine J. (a bridge
40 feet in width would be required at this point) -

From h to u.w.w. the grade (with moderate cutting)
will be about 1 in 10. but (cut by heavy cutting) the
grade could be reduced to 1 in 12. -

On the whole the route is an excellent one, and can
be constructed (with trifling) cost. -

The route on opposite side of River to Chapman's
Bar. is excellent, an easy rolling grade is carried
out throughout. in no case exceeding 1 in 12. -

There will be no occasion for the Contractor to deviate
from the line of wagon road, with the exception
of a few yards at point B (see sketch) to keep up a
good grade at this point. (for a wagon road) would require
fully heavy blasting, for a Mule trail, the blasting

Can be avoided by grading over the rock, with a grade of about 1 in 8 — the most difficult part of the route to construct is from Joint a to c. (See sketch) a good number of very heavy solid boulders will have to be removed, and for a rough and heavy side hill cutting. —

with the exception of the latter part, and for about 10 chains at Joint B. the whole route will be very easily constructed, and with little cost. —

For further information respecting the grades see remarks on Diagram of sketch 2. —

The whole distance between Ferguson Creek B and the Chapman's Bar is about $4\frac{3}{4}$ miles. —

The route is well clayed, very clayed I have started with the road (Wagon road) and in many places along the line I have nailed a small piece of white cloth, to the large trees. —

J. W. Turnbull
Sept 27. 62

To the Chief Commissioner
of Forests & Woods
New Westminster

Boston Va
25th June 1861

Sir

I beg to inform you, that the Fortification Camp at Fort in my charge, is almost entirely finished, and causes but considerable delay. It is impossible to take on any other work, with anything like reasonable accuracy, as it finally varies from 5 to 10.

I have received instructions from Gen. Bull, to return to Lytton as soon as I have completed the survey of wagon road, and on my way off to make a rough survey of the route from Lytton to Fort, as to the feasibility of a wagon road (see map), in order that his Excellency the Governor, may compare the two routes. - In the event of my being sent on any further explorations, I beg to be supplied with some description of paper for sketches &c. &c. -

On my way off to Lytton I shall survey all points from which & returned.

J. Turnbull
Supt. Ft.

Col. Hall has been instructed to send the original Report of my survey through one of his Camp Officers - furnishing copy to the Proprietor of the District for any such purposes as he may desire.

Col. Hall also to communicate some his report to the public as this Public work is my Dept.

LIGHT ORIGINAL

5th 'Works' 1861.

Reporting the uselessness of his
prismatic Compass - compl.
- ^{Right} survey of Long Point
between North East Point &
Upper No. Turnbull Cr.
Boston Bar, 25 June 1861

FILE 1783

TURNBULL, JAMES

COLONIAL
CORRESPONDENCE

PABC

Lipton
17 July 1861

Rec^d 24 July 1861

HPL

Sir

I beg to inform you that I have made considerable alterations in the line of Wagon road between Lipton and the "Five Mile Point" in the first plan, I have started it in continuation of the main street instead of starting off at right angles as I first done, - it now follows nearly the same path as the present Mule track and consequently at a much lower altitude than before - the grade is also much improved and without making any additional expenditure.

When I first started the survey of Wagon road, I selected the latter route as the best and most natural, Mr Ball however appeared to think that it would be difficult to form a road along the face of the bank, situated at the end of town in consequence of the looseness of the soil &c. I therefore started the road as described on 5th plan.

When I returned to Lipton, after the completion of the survey of Five Mile Point, I took the opportunity of examining carefully this route, as well as the route in continuation of it, the result of my examination was, that I saw not the slightest difficulty, but on the opposite that it was immeasurably the best route, I therefore at once intimated such to Mr Ball, requesting his permission to make the alterations, which he at once granted.

J Turnbull
Supt

The Chief Com^r
of Lipton & Co

Reporting alterations in
line of Wagon Route between
Lyttelton & 5 mile point. —
James Geo Turnbull
Lyttelton, 14 July 1861.

Walter Hill
13th Oct
I am directed by his Excellency
(through Mr Hill) at Lyttelton, to forward to you
the plan of survey of road between Lyttelton & 5 mile point
completed, in order that you may be enabled to
see what alterations may be required.

Porter Bar & Lytton route
15th Nov 1861

Sir I am directed by his Excellency the Governor (through Mr Wall at Lytton) to forward for your information the plans of survey of such portions of the route as I have completed, in order that the contracts for these parts may be at once tendered for. - I therefore inclosed with this order forward all the sketches which I have completed, and beg to lay before you the following report relative to the grades, nature of country &c. &c. -

Report on the line of proposed road
between Lytton & Porter Bar

The road starts from the Small Flat between B. 16 & 17, and ascends with an easy grade the Small Stone Slope situated immediately behind the town, it then runs along the summit of Small Stone flat, at a perfect level, winds down the steep slope at B, and forms the opposite bank at C, with a grade of 1 in 12. - From C to D the road winds through a splendid rolling country, covered with excellent pastures, and beautifully ornamented with Small Pine flowers, wild shrubs, &c. &c. the top soil consists of Light Loam, the bottom Small Gravel & gravel. in many places the soil is very rich, and quite capable of producing the most choice vegetable: this part of the route will be very easily constructed, and with little expense, the hill side cuttings are in no case heavy, with the exception of one or two of the rooms, whose banks are rather steep. - By stepping (as I have done) well above the present Mule trail, I have been enabled to cross the numerous rooms, with greater ease and safety, & to keep a better grade, and secured firmer and more lasting foundations. Down down the banks of the ravines are very precipitous, and composed of loose sliding gravel, a road along such places would be continually requiring repair, and in rainy seasons would be very apt to give way altogether. - For information respecting bridging &c. &c. see marginal remarks on sketches. -

From D to E the grade is about 1 in 12 the route lies along a steep hill side, amongst ^{hill} boulders &c. &c. No great difficulty whatever.

To the Chief Com^r of Land & Surv^y.

From B to C is the most difficult part of the route so far, it crosses a very steep slide at a grade of about 1 in 10. The grade can be considerably lightened (by keeping) further along the slide but owing to the steepness of the slide and the difficulty in constructing a road over it, I think the best plan is to get off it with as much despatch as possible. - Lower down towards the river, the bluff breaks off into a series of plover slides, which keep continually sliding down, - a road constructed over these chaps & bluffs would be constructed with great difficulty & expense, and would be continually requiring repairs afterwards. - From C the route gradually descends to the creek at G, the construction of trails will be much simpler. This should work. For information respecting grades, & bridge, see margin of sketch. - From D, the route gradually ascends the face of a very steep bank (with peaching) the summit at E, the soil on this bank (in several places) is very loose and gravelly, it will therefore be necessary for the contractor to be very careful in forming a solid foundation. -

By crossing the creek higher up, say at point H, the descending grade from C, and ascending grade to E, would be avoided, as well as the troublesome bank last described, but the distance would be increased at least 1/2 mile, and owing to the rotten precipitous nature of the hill sides on west side of creek, the difficulty & expense would be very great. - To cross the creek from west to east (which would partly cross the grade on both sides) it would be necessary to form a suspension bridge about 150 feet in length, that would also be very expensive, - therefore taking all these matters into consideration I am satisfied that the stage route will prove the most practicable. - From I the road runs straight through a splendid flat, a road can be constructed over it, for a mile or two. - From J the route winds along the face of pretty sloping pasture hills, (without meeting) with the slightest obstacle until arriving at K, when it ascends the face of a small hill at a grade of 1 in 10, by making heavy cuttings the grade can be lightened - to gain this point with an easier grade, it would be necessary to start grading up hill from M, but in doing so steep deep cuttings on both sides, & broken roads, would be the consequence, as well as considerable blasting, and owing to the broken and sliding nature of the bank marble &c. it would not be advisable to bring the road in that direction. -

From P to the bottom of creek at E' the route winds along splendid rolling pasture lands, the soil in many places is rich and well irrigated, generally speaking however it is rather dry and sandy. - there is no difficulty of any consequence to be met with on this part of the route, the whole is a fine simple road & should work. - From E' to F' must be very carefully constructed, as the bank is somewhat plain & very loose & steep. - From F' to G' will be the most expensive part of the whole route, between (K' and E') there will be about 100 yds of blasting together with about 100 ft of bridging. -

The road appears very much shallow & rolling in many places it can be finished to give with very little blasting, for a detailed account of the amount of blasting &c. see marginal remarks on sketch. -

I did not adopt the route across Sockeye Mountain, without first exploring from the river east & up to the summit of Bluff (point D) and perfectly satisfying myself that it was the most practicable - to bring the road above and maintain anything like a passable grade would be wholly impossible, the soil below, the broken and continually crumbling precipitous slides, forms on themselves a sufficient barrier, without mentioning the narrow perpendicular jagged bluffs which intervene. - ~~to bring~~ a road in the latter direction would be connected with very great expense, and would continually be requiring repair - I am therefore perfectly satisfied, taking every thing into consideration, that the route which I have played out, is the only practicable route round the bluff - as far as I am able to judge, I should estimate the cost of construction from creek to creek, including both bridges &c. at about £2000. -

From A to D the route lays along the face of a very steep (and small stone) slide hill. The grade will be a gradual fall of about 1 in 11 - it is totally impossible to lessen this grade, without going right through the heavy bluff above A. E. (and that would be exceedingly expensive) or else making a small zig zag, at about point C. (the only place where it is at all practicable)

Should you consider either of these plans preferable to the one which I have adopted, the alteration can be made without much loss of time. —

From e the road descends with an easy grade along the face of pretty sloping hill side until striking the flat at point f. This is not the least difficulty in the way. —

From the latter point the route lays over a beautiful level flat. the expense of road will be very trifling. —

From point i the route descends the bank with a grade about 1 in 12. From the point marked x to i the bank is very steep, and in several places composed of very loose gravel. great care must be taken in securing firm foundations. — From i a gradual grade of 1 in 12

leads along the face of pretty sloping bank, until reaching the summit of flat at point m. —

To do away with the grading up and down banks, it would be necessary to cross the creek about point B. the latter would however be a very expensive one, owing to the fearful precipices on both sides — and to cross from rock to rock a suspension ^{bridge} of considerable length would be required. —

From n the route ascends with an easy grade, until gaining the upper side of minus ditch (at point p) it then continues almost on a level, over small flats, or along gentle slopes, without meeting with the slightest obstacle or difficulty, until arriving at point v, where it grades down the face of bank and reaches the opposite summit with a grade of 1 in 12. —

For further information respecting grades &c. for the last described part. See sketch. —

With regard to the route from B to k, it can be constructed for trifling expense a great part of it is over beautiful flats, where there is scarcely any need for any improvement. —

From ^h to ⁱ (the portion which I constructed by order of the Govr.) would be a very difficult part, owing to the nature & loose nature of the bluff, with care however a good solid road can be constructed free of all danger. it will be necessary to follow the minus ditch for about 10 Ch. as the route taken by it, is the best path round the bluff. the ditch will consequently be destroyed, but it can be easily made good by filling at lower side of road. —

I explored up the creek for a considerable distance, in hopes of finding some crossing which would do away with the pounding of bluff, but failed in finding anything like reasonable prospect. —

I have played & surveyed for about 1 1/2 miles below the last described creek & found no great difficulties, in fact the whole of the ~~rest~~ remaining distance (about 7 miles) as far as I can remember with the usual simple gear & should work. — The whole of the distance between Lupton & Boston Bar is about 35 miles and as far as I am able to judge. I should estimate the whole cost of road at about \$45,000. or thereabouts. —

I beg to mention that as soon as the road across Jack's Mountain is commenced the lower route trail will be totally impassable. it will therefore be necessary to improve the upper trail. Mounted Brigade, or State, for about \$100 this trail can be made so as animals may pass over with perfect safety. —

James Turnbull
Capt. R. E.

To the Chief Comr. }
Lands & Works }
}

14th March
W. L. G.
W. L. G.
W. L. G.

1861
Report on line of route
from Charleston to
St. Louis
by
James P. Turnbull
10 June 1861

LIGHT ORIGINAL

FILE 1783

TURNBULL, JAMES

COLONIAL
CORRESPONDENCE

PABC

Boston Bar
26th June 1861

Sir

Having completed the Survey (& blazing out) of
New Line of Waggon Road between Lytton & Boston Bar. I
beg to lay before you the enclosed Sketch and following
report of the last nine Miles. — Viz; —

From A the road ascends with a gradual grade of about 1 in 16
along the face of steep hill side until arriving at point a,
in several places the construction of Road will be very expensive,
owing to the steepness of the slopes, and leadings of the Soil,
about 1/4 Chain from A, a narrow ditch is crossed, ~~and~~ which
will be nearly destroyed for a considerable distance on both
sides of the crossing). — From a to f the route lies along
a narrow flat, there will be a good deal of heavy work in rolling
and (blasting) boulders, as well as several heavy cuttings to the
road. — From f to g. will be very expensive, as the road
will pass round a very steep & slate bluff there will be very
heavy quarrying & partial blasting required, as well as
bridging and walling over several steep slides. —

From the g mile creek up to the point the construction of road
will be very expensive, particularly the portion round the slate
bluff. Great care must be taken to secure firm foundation over
the slides &c. — From g to k the cost of road will be
(very trifling) as there is nothing to be done but simple
rolling with feet & shovel, cutting brush, rolling logs &c. &c.,
the Soil is excellent and well adapted for raising Potatoes or
grain, the timber is very light & scattered. the whole flat
is thickly covered with wild straw berries. —

From k the road descends with a very easy grade, along slope
of bank, until reaching point l. the side cuttings will be
somewhat deep, but not at all expensive. —

To the Chief Comr.
Lytton & Boston Bar

From l the route lies through a splendid level flat, without
meeting with the most trifling difficulty, until arriving at
point m, when it descends with a very easy grade along the
face of steep bank, until reaching the small stony flat (at pt. o)
this part will be both troublesome & expensive, as the cutting
are heavy and the bank somewhat loose. —

From o to q common side hill work, with the exception of
a small plain at point p, where the bank has slipped down,
for information respecting bridge see sketch. —

From q to r the road runs at base of hill without
meeting with any difficulty whatever. it then comes along the
face of bank (almost on a level), until arriving at point a. b
when it ascends gradually until reaching the summit of flat
at point c. From r up to this point the expense of
road will be somewhat heavy as there are several deep gulches,
bad & dangerous slides. Steep hill cliffs. P.S. interesting,
for a detailed account of the amt. of bridging, walling
&c. &c. see remarks annexed to sketch. —

From c into Pastou Bar the road runs along a splendid
level flat. the construction of road will cost but a trifle
trifle, as there is nothing to be done (but cutting) brush to
down & then rolling aside logs, balling with earth &
sketch &c. —

James Turnbull
Supt. P.R.

To the Chief Comr.
of Lands & Co. Co.

Remarks with reference to grade 8^o 9^o -

For description of bridge over 9 mile creek see sketch D. -
From the bridge the road ascends with a gradual grade of about
1 in 10 until gaining the summit of bank at 8 (sketch E) for the first
5 chains the collection of iron scales and boulders at the cutting very deep -
owing to the face of hill being steep and sliding, at each side of
bridge a little clearing required. From 8 to C a small flat
No difficulty. From C to D heavy boulders cutting along the face
of steep hill side, soil light gravel. Grade 1 in 15.
From D to E amongst boulders thick brush. Eastern rock 8^o -
almost level. From E to F along the summit of bank, in places
the cutting calls for somewhat heavy. Heavy boulders and also in the way. +
grade almost level. From F to G along the face of about
perpendicular steep bluff. a good deal of very heavy boulders
blasting, 10 ft. - grade about 1 in 15. -
From G to H about level. No difficulty. -
No great difficulty in crossing the ravine between pt. H & I the bank and
tolerably steep, 1/2 mile from G, a bridge about 15 feet in length is req.
grade on level bank about 1 in 15. -
From I the road lies straight through a beautiful level flat until reaching
K, the flat is slightly tinted the soil content. -
From K, along the face of steep bank with a descending grade of 1 in 15
until reaching the level flat at L. the side cutting quite in somewhat
heavy. From L to M the road lies through a level flat
thickly tinted with fine hard wood 1/2. the soil is first class,
for about 15 chains a great number of heavy boulders to remove
grade about 1 in 15. - From M to N along the face of very steep
bank. heavy cutting req. grade 1 in 14. -
N to O for a short distance the road strikes along a small flat
the remaining distance is along the face of very steep hill side,
grade about 1 in 14. -
From O to P a gradual fall of 1 in 12. until striking bridge at Q,
a great number of boulders to remove, and in one place very boulders
ground slide. the bridge over creek (1/2) will be very easily
constructed, plenty of good timber at hand. -
From the bridge the road continues to pass at bottom of bank until
reaching R grade about 1 in 30. - From R to S along the face of
steep bank almost at a level. - at S & T very difficult ground
fallen, which will require bridging, the gully at S is very deep.
and will require a bridge of about 60 ft in length. - the other is
much smaller and will only require a small bridge. -
From U to V along a small narrow creek. no difficulty. grade
almost level. - From V to Y amongst deserted fold claims,
found very much broken up, will require filling up in several places. -
From Y to Z found a very steep bank. bluff. very boulders bank -
from Z to C. Common side hill cutting, much very thick soil light brown
or wall requires about 50 ft in length. - at the passage a 1/2 a low bridge
from O into Eastern Bay from at S & T level flat
there is not the slightest obstacle, the tinting in places is
somewhat heavy. but generally speaking it is light & scattered. -

J. Turnbull
Superintendent

Camp New Westminster

May 1862

Sir

according to instructions I have to lay before you the following report relative to the practicability of a line of Wagon road, through the defiles of Coquihall Valley towards Kamloops. —

From Hope to Point B. (see sketch) by keeping close along the edge of the Coquihalla, a Wagon road may be constructed at very moderate cost, as the entire route, (with very trifling exceptions) consist of level flats and benches, heavily clothed with good timber — void of all swamps &c. &c. —

The portions marked B. C. & D. are the only portions where any difficulty exists, and these portions are merely narrow spurs of high benches, which can be rounded with a little heavy side hill cutting, quarrying & partial blasting. —

The present route trail would have been constructed at considerable exp. cost, had it been brought round these points in the first instance, (immediately above H. N. M.) instead of the zig zag, tortuous route, which has been adopted. —

The streams shown in sketch are all small, and can be crossed with very trifling bridges; streams at points C & D are the largest, they will require bridges, about 45 ft. in length. —

Mr Saunders
will you be kind enough
to find the sketch referred to
in the report for information of
Mr. Am. Foster
A.R.M.

From Hope to Point B (a distance of about 21 miles) a wagon road 15 ft. wide, could be constructed at an average for about \$1000 a mile. —

At Point B the Valley suddenly narrows, the mountains stand on both sides at an angle of about 45 degrees, and are well dotted with broken Bluffs, and precipices; notwithstanding however the general rugged character of the valley, a wagon road could be constructed with tolerable ease (up to p. 10) as there are many small flats, which could be taken advantage of, the hill sides also, though steep and broken, are clothed with splendid timber, which would prove of great service in the construction of a road, as well as serve to add to its grandeur afterwards. —

From Point C to p. the Valley becomes still narrower, partaking exclusively of the Cañon character; rough walls of vertical Bluffs rise on both sides of the stream to a considerable height, and so varied in altitude, as to render it impossible to make them, (by keeping a reasonable grade,) the only alternative therefore is to blast right through them, which would be a series of the most expensive blasting. —

From pt. p the Valley narrows more abruptly, the Bluffs

Bluffs

Bluffs become more formidable, and the preceding mountains more vertical and broken, and continue in character the same up to Point S (see sketch 2). —

Owing to the excessive steepness of the mountain sides on either side of the Valley (or rather gorge) the snow is not allowed to undergo a gradual thaw, and melt away in streams through the various noons & gorges, which are so numerous along the face of the most rugged mountain sides, but on the least thaw, it slides down the precipitous slopes, with tremendous force, carrying with it, boulders, trees, and glaciers, all of which are lodged in one huge confused pile at the bottom of the gorge. —

Owing to the formidable obstacles existing in the way of road building through the latter pass, together with the continuous avalanches, it is my opinion that the route is decidedly impracticable, and stands no comparison with any of the other routes through the Cascades. —

In addition to the above enumerated difficulties, the grade about Point S, would be very heavy, as the valley falls with an abrupt and rapid descent for about 400 yards. —

From Point S the Valley is more open, but not entirely free from the snow slides, until about a
a mile

a Mile N., when it becomes much wider and bounded by more sloping lands, the bottom of the Valley is covered with a heavy growth of timber, consisting of Cedar, White Pine, Hemlock & Balsam, the hill sides are also clothed with a similar growth, the character of the Valley continues the same up to point E, it then narrows for about 1/4 of a mile, and is filled up with piles of snow, spruce & shattered trees, which have been deposited there by the avalanches which are continually falling.

After leaving the latter Cañon, the Valley again opens, and assumes the same character as described between points s & t, until arriving at point u, when it again becomes a partial Cañon, presenting the usual formidable difficulties, beyond this Cañon all difficulties cease the Valley gradually opens as it approaches the summit when it terminates in the form of a beautiful amphitheatre, ornamented with groups of fine timber, and surrounded by low sloping hills, also covered with a fine growth of timber.

The following remarks are relative to the Valley shown in sketch sketching towards the east from point C. — For the first 5 1/2 miles the Valley is highly favorable for a line of

line of Wagon road, its bottom is wide and heavily timbered, with an excellent growth of Cedar & Fir, and along the edge of the stream (which winds through pebbly beds) Cotton wood, Elm, Maple and many bushes grow in great profusion. — At point z the character of the Valley suddenly changes, presenting formidable obstacles on all sides; — it becomes narrow & bounded on either side by steep towering mountains, from the summits of which tremendous slides are continually falling.

At point z it turns sharply to the south, and terminates abruptly as described on sketch.

From the summit of the Mountain G. H + I (See sketch 1) — which is amongst the highest of the Cascade range, I obtained an extensive view of the surrounding country, and could plainly trace the course of the Valley as shown in the accompanying sketch. and as these valleys all terminate abruptly, I am perfectly confident that there cannot be any pass, suitable for a line of wagon road, between the head of the Coquihalla (shown in sketch) and the Nicawau river.

J. Turnbull
Sept. 12. 6

Col. Moody R. L. }
C. C. }
East of N. 6 }

44 Returns No. 2

Copy from James Bull's Report
of a line for a Baggage
Road from Hope, this
the details of the Company
towards Newbergo.

May 1862

Rec^d 22 Dec

F1783

H. C. Camp New Westminster
9 Dec 1862

Memorandum

Copy, with sketch,
furnished Mr.
23 Dec 62 with covering
letter
H.
H. C. Camp

Sir -

In obedience to your orders dated
17th Sept 62, relative to the Steam
Navigation of the Thompson River, I
have to state, that in consequence of being
unable to obtain the assistance of either
of Indians or Canoe, I could not carry
out (in full) the orders I had received.

I traversed the left bank of the river
however, as carefully as possible, noting
the nature of either bank, and examining
with regard to sharp bends, rapids, shallows,
and such other impediments to navigation.

With regard to the practicability of
the river for Steam Navigation, I am
strongly of opinion that owing to the
Numerous Sharp Curves, Narrow Channels,
Sand-bars and rapid currents are
an

To the Chief Com^r }
Lands & Works }
New Westminster

LIGHT ORIGINAL

an attempt to Steam below "Dead Horse Pass"
(See Sketch) would be attended with great
difficulty and danger. -

I doubt not however, that Steamboats
of very light draught might ^{be} warped
up the numerous rapids, and by careful
management be brought round the sudden
bends, but the labour would be as
heavy as boating up the great Canon
of Fourteen river, and quite as slow.

To descend the river would be
still more difficult & dangerous, and
I feel confident the attempt (especially at
high stage of water) would result in loss
of life and property. -

I am consequently of opinion
that (as the banks of the river are in
every way favourable for road making)
land transport will be immeasurably
cheaper and more expeditious. -

To the Chief Comr }
Lands & Works }

I have marked on the accompanying
Sketch points by which Wagon roads
or Mule Trails can be constructed
to Lake Kamloops, and I have also
marked all eligible sites for Towns -

With regard to suitable Town sites,
I beg to state that the position shown
in sketch at the S. Western extremity of
Lake Kamloops, is the most eligible, as
it affords every facility for Wharfage &
safe Steamboat landing, it is also the most
extensive; but before this point should
be considered the head of navigation it
would be well to examine the portion of
river between Fort Kamloops and the Eastern
extremity of Lake Kamloops, in order
to be certain that no impediments exist
in the way of navigation. - I have
been informed, that, at very low stages
of the water, the channel in one place
is both narrow & shallow. -

Shallon -

To Chief Comr
Lands & Timber }
3

With regard to the bridging
of the Thompson, I selected the
narrowest point of the river (See sketch)
and found the width to be about
450 feet, the remainder of the river
is so uniform both in width and
facilities for bridging, that it is
immaterial where it is crossed. —

Timber for bridging purposes
is very scarce in all parts of the
river. —

J. Turnbull
Lieut. Col. R. E. }
1862

To the Chief Commr
Lands & Works }
1862

15. Report. 1862.
Report on the expediency
of navigation of the
Thompson River.
J. Turnbull
9. Dec. 1862

R. E. Camp
11th April 1863
" "

Sir

In obedience to your instructions I inspected
yesterday the Forest cleared (Chase by Mr. Hall)
(branching) from the Pitt river road, and beg to lay
before you the following statements —

viz; —

Mr. Hall has entirely neglected the taking
out of small roots & stumps, and in many cases
large stumps have been left standing. —

The main clearance accords throughout the
specific width, and is strictly according to specifications
with reference to Curves &c. &c. but all along the line
large branches & small trees and overhangs
the clearance sufficiently low to interfere with
traffic along the line. — The clearance of
stones has not been carried out properly according
to specifications. —

Several large trees have
fallen lately across the line and will require
removal. —

J. Turnbull
Lieut. Col. R. &c.

To Capt. Parsons }
R. E. }

Note

— Coopt Turnbull verbally reports on a subsequent inspection of latter portion of works the improvements required to be done on first portion (2 miles) were still unattended to by Mr. Hall

M.
18 April '63

9. Account 1863.
Road up Cognitlum River
—
Capt. Turnbull's Report
on above (J. Hall Contractor)
—
New W. 11 April 1863
—

FILE 1783

TURNBULL, JAMES

COLONIAL
CORRESPONDENCE

PABC

Turnbull
1783

^{Al. for. P.}
And West Minister P. C. F1783
2

Prepared to 24 Feb 16th July 1864

To His Excellency

His Excellency James Douglas M.C.B.

to be signed
I beg to request your Excellency & the undersigned
having had much experience in the profession of Surveying
by employment for five years and a half on the
Ordnance Survey of the United Kingdom and for
five years under the Lands & Works directors in this
Colony, and having instruments sufficient for either
accurate survey or exploration, May I beg your
Excellency will kindly give me employment in the
above if possible. - I take the liberty of forwarding
to your Excellency, Plans of Williams Creek & my
own Draft together with certificates under the hands
of Col. Murray and Capt. Parsons and trust
trust.

To His Excellency
His Excellency James Douglas M.C.B.

trust the same may meet your approval, and
that your Excellency may be pleased to take
his Application into your Consideration

I have the honor to be
Sir

Your most Obedient Servant

J. Turnbull.

J. A. S. Excellency.

Sir James Douglas N. C. O.

Turnbull

application for
employment as
Surveyor

replied to

FILE 1783

TURNBULL, JAMES

COLONIAL
CORRESPONDENCE

PABC

Turnbull
3
"Copy"

I Certify that Mr. James Turnbull,
late of the Royal Engineers has been for
some years employed on the Ordnance Survey
of the United Kingdom, and for
five years under the Lands & Works
Department of British Columbia. —

He is a good Field Surveyor, accustomed
to observe for the purposes of triangulation,
and also a good Hill Sketcher and
Draftsman. —

J. W. Parsons.
Capt. R. Eng. G.
14th Nov. 1863

Turnbull
13/1/1863

New Westminster B.C.
6th November 1863.

This is to certify that Mr. James
Turnbull late Corporal of the Regiment served
under my command for nearly 5 years,
and throughout that time proved his
entire qualifications as a Surveyor and
Draftsman as well as a good Soldier. —

I always selected him
for isolated and difficult enterprises
demanding hardy endurance, skill and
judgment. —

J. C. Murray
Col. R. E. }
} } }

Articles of Agreement made this *Twentieth day of*
February A. D. one thousand eight hundred and
Sixty four BETWEEN *Charles Brew in charge*
of the Surveyor General's Department, B.C.
acting on behalf of the Government of British Columbia, of
the first part AND

James Turnbull, Surveyor,
of *New Westminster in B.C.*
of the other part. The said party of the second part do *es* hereby for *his*
heirs, executors, and administrators, covenant, promise and agree with and to the
said party of the first part *his* heirs and assigns that *he* the said party
of the second part *his* heirs, executors, and administrators, shall and
will in consideration of the agreement hereinafter contained, make and complete
the Survey of the Lots numbered
19 - 20 - 21 and 22, Group II,
Country Lands, New Westminster
District (Hudson's Bay Company's
Claims at Langley)
in all respects according to the terms and conditions of the Specification, hereunto
annexed.

That the said work shall be completed on or before the *Twentieth day of*
March now next ensuing. -

The Government of British Columbia shall pay the sum of *Twenty Dollars*
per mile through the "wooded" District
and *Ten Dollars per mile* through the
"prairie" District of above claim -
Said payment to be made on satis-
factory completion of said work and
acceptance of the same by the Govern-
ment of British Columbia PROVIDED

~~PROVIDED that the party of the first part or his successor in office may retain~~
~~out of the said sum of~~

~~sufficient to pay all monies which in the uncontrolled discretion of the said party~~
~~of the first part, his successor in office, or his, or either of their agents, for that~~
~~purpose may be required for making repairs in the said work which may arise~~
~~from inferior work or materials having been used in the execution of the said work.~~

PROVIDED also that it shall be lawful for the party of the first part, his suc-
cessor in office, or his, or either of their agents, if in his, or either of their opinions,
satisfactory progress is not made in the said work, to enter upon and retain the
work done, and complete the whole of the said work, and from the date of such
entry to discontinue any further payments.

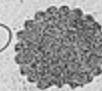
As witness the hands and seals of the said parties, on the day and year first
above written.

Signed, sealed and delivered
in the presence of

MR Howde

J. Brown

J. Turnbull



Specification for cutting and tracing the lines of the Hudson's Bay Company's claims at Langley, B.C.

The boundary lines of Lots 19, 20, 21, and 22, Group II, Country Lands, New Westminster District, are to be traced perfectly straight and true, the openings in the wood to be not less than four feet in the clear. - All trees to be chopped down at a height not exceeding three feet from the ground - the brush and trees to be kept clear of the true line. - Where the line runs through the prairie, pickets not less than six inches in diameter and five feet in length above the ground are to be fixed firmly at distances not exceeding five chains apart.

The Magnetic bearings of each line to be accurately given and the position of the corner posts to be fixed by bearings and distances to conspicuous trees in their vicinity. -

A Detailed Report, and Plan, to be furnished by Contractor.

The whole of the work to be done in a thorough workmanlike manner, and to be completed on or before the 20th March next. -

The

The work to be under the supervision of the Officer in charge of the Surveyor General's Department, B. C., or his agent, whose orders and instructions the Contractor will obey, and should there be any doubt as to the meaning or intention of any part of this Specification, the interpretation put upon it by the said party in charge, or his agent, to be final and without appeal. -

Any matters or works which may hereafter ^{be} found necessary for the proper execution of the work, and may have been omitted to be mentioned in this Specification, shall be supplied and executed by the Contractor, the said Officer in charge of the Surveyor General's Dept. being the sole and uncontrolled arbiter of what matters and works so omitted are necessary.

Witness to the signature
of C. Brewster
in charge of Supt. Genl. Dept. C. Brewster
A. R. Howle

Witness to signature of
James Turnbull A. Turnbull
A. R. Howle
New Westminster, 20th Feb. 1864. }

3. 1864

Agreement for
conveying to Mr. B. G. at
Dunlop.

Mr. Jas. Turnbull
20th May 1864

193.

James Turnbull

James Turnbull

James Turnbull

LIGHT ORIGINAL

FILE 1783

TURNBULL, JAMES

COLONIAL
CORRESPONDENCE

PABC

Turnbull J.
1.

Explorations.

F 1703
3

Fort Ross
21st July 1865

To the Hon^{ble}
The Colonial Secretary

Sir

I beg to inform you that
I have this afternoon returned, having
completed the exploration of Rapids, proposed
by Mr. McKay, (known by the Indians
as Whit-w-gaath River) and that
I found the Rapids totally impracticable
for either Raft, Sled, or Wagon Road.

10 Miles from its junction with
the Tip-top-shit river (the main tributary
of the Kus-gaa-halla which I formerly
explored) the valley narrows, and
becomes a perfect Cañon hemmed in on
both sides by almost perpendicular and
crumbling masses of rock about 250 ft
in height; this Cañon continues for about
1/4 of a mile. The space between the
huge walls is not more than 20 ft
through which the stream tumbles over
a succession of high terraces, one above the
other with huge stairs.

Yours
J. Turnbull

To the Hon^{ble}
The Colonial Secretary

"This canon alone is sufficient to condemn
the entire route."

After leaving the Canon
the bottom of the valley is wide, but
the mountains on both sides, are steep
& rugged, often precipitous & rocky.

The bottom is piled up with the
debris of the mountains, deposited
there by the terrible avalanches
which by all appearances must
be of yearly occurrence.

The snow throughout the valley
is very deep, and will remain so,
for some time, as it is entirely free
from the influence of the sun, owing
to the height of the mountains,
& the narrowness of the pass.

The bearing of the route
for the first 3 miles is magnetic
east; it then bends to the N. E.
and W. (about 4 miles from
the head) abruptly in a series of
precipitous gulches, formed in
the Southern slope of the
Cascades range, thus ending all
idea of a practicable route.

To the Hon^{ble}
The Colonial Secretary

Mr. De Kay must have derived his
information of this pass from Indian
authority, therefore is not at all
surprised at his being led astray
as all such information invariably leads
to similar results, when depended on
with reference to the formation of a
country, or the practicability of a wagon
road. — In my opinion all the old trails
throughout the country tend to confirm
this supposition —

This pass concludes
the total exploration of the Cascade
range, between the old Boston Bar
Trail, & the present Crispin
Vie; — Capt. Franks trail, therefore
if a more available pass do exist it
must be to the S. E. of said pass.
I will therefore at once start and
explore this portion of the range, in
order to determine at once whether there
can be a more available route adopted
or not. — Should I not succeed, I
will then be perfectly satisfied that
no other route can be found, (from
Hope) — to compare with the present
Crispin. — trusting that my exertions
may part with the views of His Excellency.
I have the honor to be

Sir

To the Honble
the Colonial Secretary

Wm. M. S. S. S.
C. J. Turnbull

Copy

Fort Hope

21st Feb^{ry} 1865

To the Hon^{ble}
The Colonial Secretary

Sir,

I beg to inform you that I have this afternoon returned having completed the exploration of Pass, proposed by Mr. Mc Kay (Known by the Indians as Whit-a-quath River) and that I found the Pass totally impracticable for either Mule Trail, or Waggon Road.

10 Chains from its junction with the Tip-tips-phet river (the main tributary of the Ina-quahalla which I formerly explored) the valley narrows and becomes a perfect Canon hemmed in on both sides by almost precipitous and overhanging masses of rock about 250 feet in height, this canon continues for about $\frac{3}{4}$ of a mile; the space between the huge walls is not more than 50 ft through which the stream tumbles over a succession of high terraces, one above the other like huge stairs. This Canon alone is sufficient to condemn the entire route.

After leaving the Canon the bottom of the Valley is wider, but the mountains on both sides, are steep and rugged often precipitous and Rocky, the bottom is piled up with the debris of the mountains deposited there by the resistless avalanches which by all appearances must be of yearly occurrence.

The snow throughout the valley is very deep, and will remain so for some time, as it

18

is entirely hid from the influence of the Sun, —
owing to the height of the mountains, and the
narrowness of the pass.

The bearing of the Creek for the first 3 miles
is Magnetic east, it then bends to the N. E. and
terminates (about 4 miles from the bend) abruptly
in a series of precipitous gulches formed by the
Southern slope of the Cascade range, thus ending
all idea of a practicable route.

Mr. McKay must have received his in-
formation of this Pass from Indian authority
therefore I am not at all surprised at his
being led astray as all such information in-
variably leads to similar results, when depended
on with reference to the formation of a country,
or the practicability of a Waggow road. In my
opinion all the old trails throughout the country
tends to confirm this supposition.

This pass concludes the total exploration
of the Cascade range between the old Boston Bar
Trail, and the present crossing, viz Grants Trail,
therefore if a more available pass do exist it must
be to the S. E. of said pass, I will therefore at once
start and explore this portion of the range, in
order to determine at once whether there can be
a more available route adopted or not. Should
I not succeed, I will then be perfectly satisfied
that no other route can be found, (from Hope)
to compare with the present crossing.

Trusting that my intentions may meet
with the views of his Excellency

The Hon^{ble}
The Col^l: Secretary

I have the honor &c
(Sig[?]) J Turnbull

Mr. Turnbull writes very well & only
wishes that his explorations had led
to a more satisfactory
Result

(by) J. S.

4 March 1865

Col. See ?

Disapproval of his
travelling the southern
Mountains

Reg'd
Aut by

A.M. 13

5
1865

Report on the White quartz
River pass from Hope to
Victoria

21st Feb 1865

James Turnbull

Turnbull
2
Bel 20th Mich

Explorations.

1783
4

J. B. B. B.
18th March 1865
Of the Hon^{ble}
The Colonial Secretary 65

Sir.

In continuation of my report
dated Fort Hope 21st July 1865 I
have the honor to submit (for the information
of his Excellency the Governor the Hon^{ble}
further details: descriptions of my
explorations through the Cascade range.

I regret to state that owing to
the unusual severity of the season, to-
gether with the height & depth of
the snow I have not been able to
extend my observations to the extent
I should have otherwise done, but
trust notwithstanding that I have been
able to carry out the object of my
mission, sufficiently to secure a
sufficient data & knowledge of the
range to enable his Excellency at
once to determine, as to which is the
best course to pursue. —

The following is a detailed
account of the reconnaissance

viz: —

On the 24th July 1865.

I started from Hope accompanied
by three Indians carrying 15 days
provisions &c and arrived at
the junction of the two trails

— trails —

(Started in the Saget valley) on the evening of the 27th; at this point I had to delay for one day, owing to a heavy fall of snow. Strong Wind & on the following morning, I again prepared to proceed, the storm having considerably abated, but the Indians becoming alarmed at the unusual depth & softness of the snow, together with the stormy weather, refused to accompany me, after considerable argument, I ultimately succeeded in reconciling this difficulty. By paying the principal off, and increasing the pay of the other two a dollar per diem (having cached 2 days provisions at this point), I again started on my way to the summit of the Punch Bowl, as it was my intention to proceed by this route to the summit of Captain Grant's trail, in order to see both points, so as to judge of their respective eligibility, depth of snow &c. &c.

From the junction of the trails to the summit, a distance of about 7 1/2 miles, I found the snow to average about 1 foot on the summit 12". On arriving at the summit the Indians was completely exhausted, and could not proceed further, having had to wade through the snow up to their thighs, therefore camped for the night.

On the following morning, the Indians insisted on my leaving their packs, stating that though willing to accompany me, they could not possibly do so with their present loads. Being that such was actually the case, I at
D.C.

agreed to them leaving nearly one half of our stock of provisions, after which I proceeded without further complaint from them, and on the same evening, reached the summit of Capt. Grant's trail, at which point I found the snow to average about 7".

On the following morning I proceeded to explore the valley below (in which Hunger Point is situated) with the hope of being able to pass through the range, & strike the S. side of the Simi Canon, from thence to Princeton, a few hours march up the valley however, convinced me, that such could not be carried out, as the valley (in a few miles) rose to a much higher altitude, than the summit I had left, and in addition, was closely hemmed in by high mountains, well dotted with bluffs, slides, &c. &c. — Compromising for the night, I next concluded to ascend the summit of the divide (to the S. side) and travel along it for about 12 miles, that distance being sufficient in my opinion — to bring me as far S. as a parallel line, as the top of the Saget valley, where the trails separate. — On the following morning, I started since the summit, & continued on it, until the evening of the next day. —

day, having completed in my own mind -
the 12 Miles I intended.

During the whole party I found the
Summit one high undulating Plateau,
without anything approximately a valley
passing through it; therefore knowing
it was useless proceeding further south
without first ascertaining whether a pass
existed through the high range that
bounded the Eastern bank of the Staget.
South of the present crossing, I left
the Asside & returned to the Junction.

Having arrived there I next proceeded
down the valley of the Staget. to a point
about 12 Miles below the Junction.
From which point I could plainly
mark the whole range, stretching
(in my opinion) South of the 49th
Parallel & could see nothing but
one continuous range of high
precipitous mountains, remarkable for
the sharpness of their ridges, & their
broken & craggy declivities. joining
one above the other like sharp
angular spines. - Concluding
that I had seen sufficient of
the range to warrant me going
up the expedition, I made the
best of my way back to

the point
to the old Secretary.

149 p.

I hope, perfectly satisfied that
no other party could see from
"From Hope" but the Punch Bowl
or Captain Frank's Pass.

For my own part - I am of
opinion that the latter is immeasurably
the most gentle route & for various
reasons, which I cannot here
to say before you, viz:-

From the Junction of the
trails to the Punch Bowl Summit,
a distance of about 7 Miles, the
route ascends with a stiff grade
along the bottom of a wide narrow
pretty pass, filled up with the
wreck & debris of the precipitous
mountains, which border it. Such
angular masses of granite rock, is
nowhere to be seen, deposited there
by the yearly avalanches, which
are continually occurring.

In fact that a month's
avalanche will commence, &
I am satisfied that the snow
will be found by that time in
many places double the depth it
is at present.

The ascent to the Summit
of Captain Frank's Trail, is quite
different, instead of 7 Miles,
Miles

Wishes to join the Summit, the dist^{ce}
is about 25 (of the altitude a much
less one) - the route passes along the
bottom of a wide open valley
bordered on either side by sloping
Mountains & frequently high flat,
the whole dotted alternately, with
a thick growth of deciduous trees,
firs, cedars, firs, etc. - the bottom
of the valley, which is intersected
by a wide meandering stream;
Show that the Coast Range (from
do the Mountain side - of the
yearly forced avalanches, which
are continually falling place in
all the other passes through
the range - The Summit, &
the immediate approach to it, is
exposed at all seasons to the influence
of the Sun. therefore it is natural
to suppose it will be much
earlier free from the snow.
Now on the Summit you immediately
come to a fine open valley "this
low Creek" falls its side on the
opposite slope, & bears straight
to the Spring House. The Summit
of the Punch Bowl pass, is
very

To the Honble
The Colonial Secretary

I fully
agree -

is very different from this wedge
the formation of continued & wide
undulating plateau for some miles,
& then falls rather abruptly, until
joining with the other trail, at
Whip Saw Creek. -

With regard to Capt. Proby
said, I beg to mention that the
route throughout can be greatly
improved particularly at the
entrance of the valley & the
approach to the Summit.

When it was constructed
it was late in the fall, & had
to be hurried through almost
at random, in order to get it
through before the approaching
winter, the consequence was
sufficient time could not be
granted to the proper laying
out of the line.

The approach to the
Summit by Mr. Allison can
only be called improving the
grade being far & deep for
ordinary mule traffic.

I have the honor to be
Sir
Your most obedt humble servt.
J. Turnbull

To the Honble
The Colonial Secretary

21 March 1855

Find my receipt Mr. Williams
the best way of improving
the land.

J. D.

21 March 1855

Mr. Williams

Mr. Williams

I am not sure
if you have
been over the
land's trail
but you
will find
in many
places

Return of the route
Return for your
Return -

Mr. Williams
21 March 1855

Copy

F 1783
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New Westminster
18th March 1865

To the Hon^{ble}
The Col^l Secretary

Sir

In continuation of my report dated
Fort Hope 21st Feb^r 1865 I have the honor to sub-
mit for the information of his Excellency the
Governor the following further details descriptive
of my exploration through the Cascade Range.

I regret to state that owing to the unusual
severity of the season, together with the lightness
and depth of the snow, I have not been able to
extend my observations to the extent I should
have otherwise done, but I trust notwithstanding
that I have been able to carry out the
object of my Mission sufficiently to secure a
sufficient data and knowledge of the Range
to enable his Excellency at once to determine, as
to which is the best course to pursue.

The following is a detailed account
of the reconnaissance.

On the 24th Feb^r 1865 I started
from Hope accompanied by three Indians
carrying 15 days provisions &c and arrived
at the junction of the two trails (situated in
the Skeaget Valley) on the evening of the 27th;
at this point I had to delay for one day,
owing to a heavy fall of snow, strong wind &c

On the following morning I again
prepared to proceed, the storm having con-
siderably abated, but the Indians becoming
alarmed

①

alarmed at the unusual depth and softness of the snow, together with the stormy weather, refused to accompany me, after considerable argument I ultimately succeeded in reconciling this difficulty by paying the ringleader off, and increasing the pay of the other two a dollar per diem, having cached 2 days provisions at this point, I again started on my way to the Summit of the Punch Bowl, as it was my intention to proceed by this route to the Summit of Capt Grant's trail, in order to see both routes, so as to judge of their respective eligibility, depth of snow &c &c.

From the junction of the trails to the Summit, a distance of about $7\frac{1}{2}$ miles I found the snow to average about 7 feet, on the Summit 12 ft on arriving at the Summit, the Indians were completely exhausted, and could not proceed further, having had to wade through the snow up to the thighs, I therefore camped for the night.

On the following morning, the Indians insisted on my lighting their packs, stating that though willing to accompany me, they could not positively do so with their present loads. Seeing that such was actually the case I at once agreed to their leaving nearly one half of our stock of provisions, after which I proceeded without further complaint from them, and so the same evening, reached the Summit of Capt Grant's trail, at which point I found the snow to average about 7 ft.

On the following morning I proceeded to explore the valley below (in which hungry point

is situated) with the hope of being able to pass through the range, and the Sth Park of the Similkameen, from thence to Princeton, a few hours travel up the valley however convinced me that such could not be carried out as the Valley (in a few miles) rose to a much higher altitude, than the Summit I had left, and in addition was closely hemmed in by rough mountains, well dotted with Bluffs, slides &c &c. Camping for the night I next concluded to ascend the Summit of the Divide (to the Sth) and travel along it for about 12 miles that distance being sufficient in my opinion to bring me as far South in a parallel line, as the crossing of the Skaget Valley, where the trails separate. On the following morning I started to gain the Summit and continued on it, until the evening of the next day, having completed in my own mind the 12 miles I intended.

During the whole route I found the Summit one high undulating Plateau, without anything approximating a valley passing through it: therefore knowing it was useless proceeding further Sth without first ascertaining whether a pass existed through the high range that borders the eastern banks of the Skaget, South of the present crossing, I left the divide and returned to the junction having arrived there I next proceeded down the valley of the Skaget to a point about $4\frac{1}{2}$ miles below the junction, from which point I could plainly mark the whole range, stretching (in my opinion) South of the 49th Parallel and could see nothing but one continuous range of high

high precipitous mountains, remarkable for the sharpness of their ridges, and their broken and serrated outlines, rising one above the other like sharp angular pinnacles. Concluding that I had seen sufficient of the range to warrant me giving up the expedition, I made the best of my way back to Hope perfectly satisfied that no other route could be found from Hope but the Punch Bowl or Capot Grants Pass.

For my own part I am of opinion that the latter is immeasurably the most eligible route and for various reasons, which I herewith beg to lay before you viz -

From the junction of the trails to the Punch Bowl Summit a distance of about $7\frac{1}{2}$ miles, the route ascends with a stiff grade along the bottom of a wild narrow rocky pass, filled up with the wreck and debris of the precipitous mountains which border it, huge angular masses of granite rock, is everywhere to be seen, deposited there by the yearly avalanches, which are continually occurring.

In less than a month these avalanches will commence, and I am satisfied that the snow will be found by that time in many places double the depth it is at present.

The ascent to the Summit of Capot Grants trail, is quite different, instead of 7 miles to gain the Summit, the distance is about 23 (and the altitude a much less one) the route passes along the bottom of a wide open valley bordered on either side by sloping mountains and frequently by high flats.

the whole clothed alternately with a thick growth of deciduous trees, tall cedars firs &c. the bottom of the valley which is intersected by a wide meandering stream, show not the least sign (nor do the mountain sides - of the yearly fierce avalanches, which are continually taking place, in all the other passes through the range. The Summit, and the immediate approach to it, is exposed at all seasons to the influence of the sun, therefore it is natural to suppose, it will be much earlier free from the snow, once on the Summit you immediately leave it - a fine open valley (Whip Saw Creek) takes its rise on the opposite slope, and bears straight to the Similkameen the Summit of the Punch Bowl pass is very different from this wedge like formation, it continues a wide undulating Plateau for some miles and then falls rather abruptly until joining with the other trail, at Whip Saw Creek -

I fully agree - { With regard to Capot Grants trail, I beg to mention that the route throughout can be greatly improved particularly at the entrance of the valley and the approach to the Summit -

When it was constructed it was late in the fall, and had to be hurried through almost at random, in order to get it through before the approaching winter the consequence was sufficient time could not be granted to the proper blazing out of the line -

The approach to the Summit by Mr. Allison can only be called temporary the grade being far too steep for ordinary mule

mule traffic-

I have the honor &c

(Sig^o) J Turnbull

To the Hon^{ble}

The Col^l Sec^y

Rec? 21 March 1865

Find out through Mr. Moberly
the best way of improving
the trail

(sig) J. S.

21 March 1865

Col. Sec?

Mr. Moberly

I am not sure if
you have been over Capt
Spants' trail but you
will find a careful
plan of the route drawn
up by Mr. Saunders
in my last
report for your
reference

A. N. B.

21.3.65

1865

6

Report on a pass through
Cascade Range from Hope
to Kootenay
18th March 1865
James Turnbull

J. S. Langley
7th May 1865

Mr. Probert
Sir

I am sorry to inform you
that I have met with a greater difficulty
in the route between the end of the Frenchman
road and Langley than I had any idea of.
I have blazed (in detail) between C + D
and found at G the Swamp, & here on sketch
as it is impossible to run the road over this
Swamp at G, a different route must be
adopted. Yesterday I explored in every direction
between G & the river & found it utterly
impossible to cross the swamp on high
ground. point D the route (by chance)
sketch by Mr. Conway & myself, is in every
respect the only one that is if the Swamp
must be crossed, and since I got no
success in finding a gap round the Swamp
via F + E, the crossing at D must be
adopted. I do not wish to run the
road at random through this Swamp if
it is possible to find a gap round it.

To day I intend reexploring the route
F + E should it prove a failure I will then
adopt C, F, D, E and will at once
commence blazing from F as it would

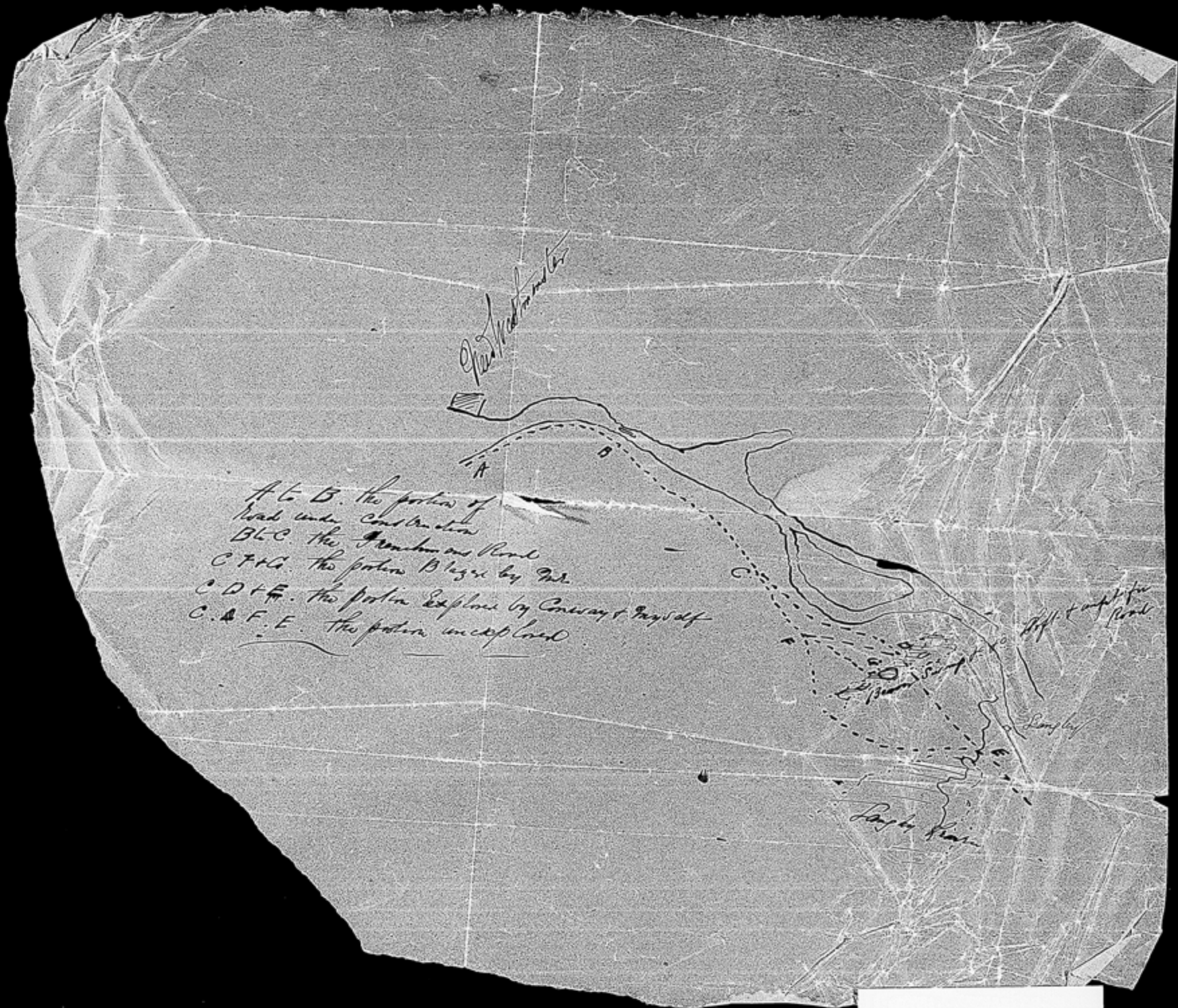
would

Mr. Probert

Would be a great point to adopt
my former blazed route F. G.
I am sorry to state
that owing to the almost impenetrable
underbrush, the difficulty of the route round
the Swamp, & the continual incursions
wet weather, together with the difficulty
of getting provisions through the wood,
I am not able to set on one half
as quick as I expected. However
your Army rely on me doing all
that is possible, and with as much
despatch as possible. So soon as
I decide on the route, and have
started to change the blazed, I will
send you word. —

I have the honor to be
Sir,
Your most obedt Servt.
J. Turnbull

The Hon^{ble}
Mr. Secretary,



LIGHT ORIGINAL

19th June 1865.

Thos. McManister

Sr

According to your instructions I have the
honour to lay before you the following details
taken from my diary Journal during the
time that I was engaged on the Survey of
the Line of Wagon Road between
the Matigui Prairie & Fort Yates.

4th May. Razed between the ends of Sunup
and Anderson returned to Sunup
Camp.

8th Left Sunup Camp examining the paper
between the Sunup & the Matigui prairie
Made up my mind as to the route
& Camped on the Matigui.

9th Razed Beech from the Matigui
to Anderson & Camped with
the Telegraph Co party.

10th Made Camp to Mr Vadder's engaged
part of the day selecting the
line of road between the ends of
the latter & the "wards" near Vadder's

11th Razed from the head of the
Sunup Lath to a point about
2 miles beyond Vadder's.

12th ^{making very hard} removed Camp from Vadder's to
"Murtis" & examined the remainder of
the line returning about 2 miles
making very hard all day.

LIGHT ORIGINAL

3rd *Placed about 1st mile. Very heavy rain.*
 4th *Having very heavy rain along the
 old trail with regard to crossing the
 numerous bluffs about that point.*
 5th *Blazed about 3 miles. Very heavy rain.*
 6th *Blaze to Tom Hill's was informed
 by him that a party of men were
 employed making the road below
 Hope.*
 7th *Blaze about 4 miles & walked
 to Hope to see about the road
 party. Hill's spoke about & found
 it to be the telegraph party.
 both parties of the kind of the
 old trail. & accepted the new line.
 Left Hope too with the telegraph
 party in order to get ahead of them.*
 8th *Left Hope for Steam for Gale
 & camped at the bridge about 1/2 mile
 below the town. My reason for going
 to Gale was I considered it better to
 blaze down stream as I had only
 the Indians to bear in my canoe.*
 9th *Examined the line between Gale &
 Emory's Bar & found with very few
 exceptions that it would answer the
 purpose of a straight line.*
 10th *Camped on Emory's Bar*

10th *Examined the country between Emory's Bar
 & Jones Bar. & accepted the party &
 blazed out the line.*
 11th *Examined & blazed to a point about
 1 mile above the Sisters.*
 12th *Found that Mr. Moberly had determined
 to cross the river at Emory's Bar,
 therefore did not continue the blazing
 up to the Sisters but started on
 the opposite side & blazed down stream
 to a point about 3 miles above the
 Coguhalla.*
 13th *Examined the best accessible point
 accepted the route. Blazed it out
 ascending and blazed it down & continued
 the blazing to the bluff immediately
 above the Coguhalla.*
 14th *Examined the bluff above the Coguhalla
 accepted the route & blazed it out.
 Selected the crossing of the Coguhalla.
 & blazed to the crossing. then
 came to Fort Hope.*
 15th *Examined the country between Hope &
 the crossing of the Coguhalla. had
 to trace out the road lines laid
 out on the Town Plan. Found the
 old trail & blazed out the line.
 walked over the route immediately below
 Hope and accepted the route behind
 the Saw Mill Bluffs.*

15th
16th

Blayne found Hope down stream.
Finished the Blayne of the line, added
the parts found Murdoch's Bar, and started
down river for Langley as I had
heard that the lower party had got
out as far as Langley. Came in at
Cous Camp, about 4.30 pm. received
a letter from Mr. Moberly, directing
me to report myself at Red Hill
started from Cous Camp, got to
Langley about 2.0.0 in the morning.
waited at Langley until Mr. Akard
made his appearance then came
straight to Mr. Moberly.

I have the honor to be
Sir,
Yours most obedt servant
J. Turnbull

Mr. Moberly

Abstract Shipping Turnbull's Expenses

Robinson	about	\$ 80.00
Benny		" 50.
Clifford		" 40
Anderson (Ind)		" 76
Hensons		" 150
		<hr/>
		396.00

LIGHT ORIGINAL



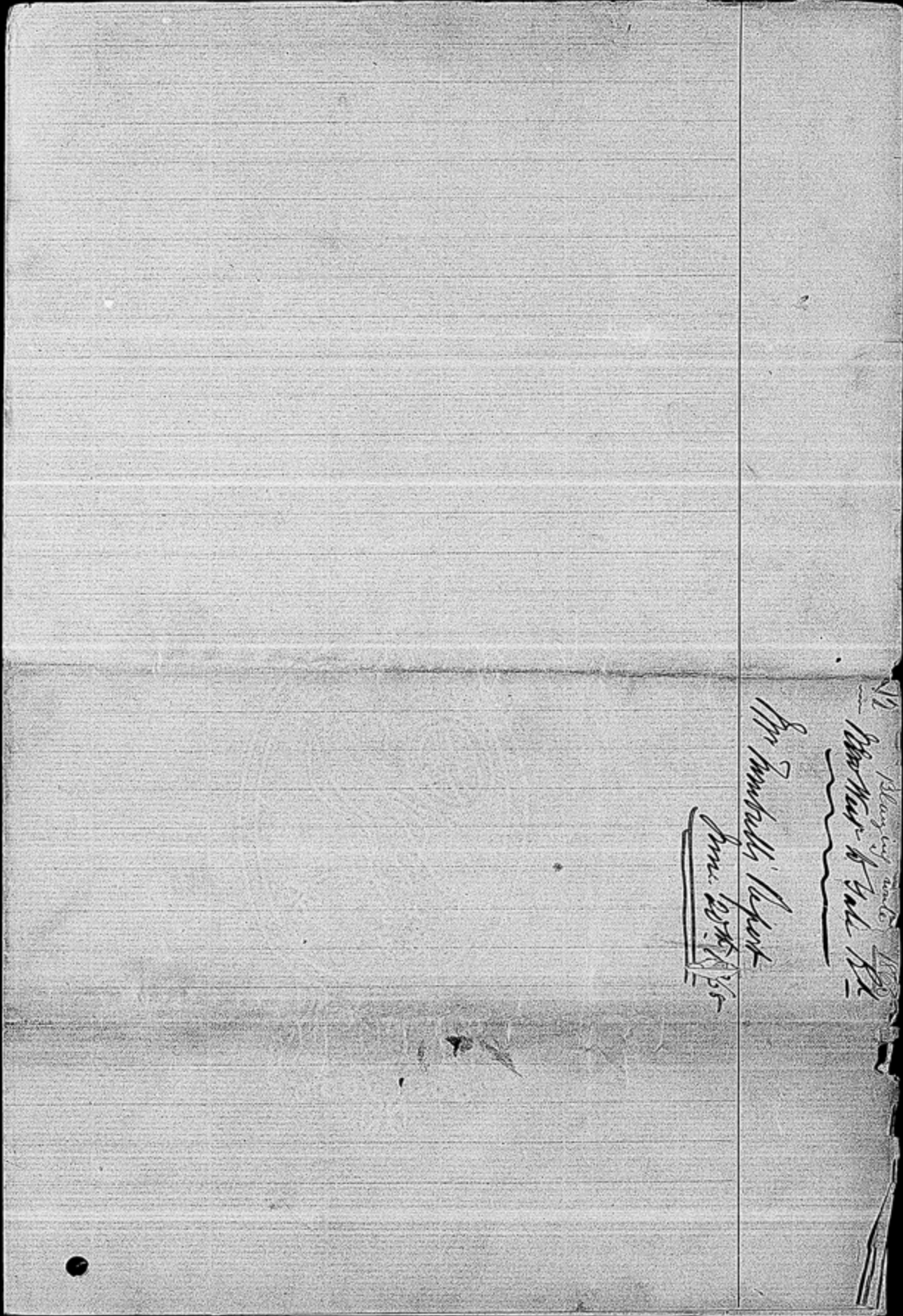
LIGHT ORIGINAL

FILE 1783

TURBULL, JAMES

COLONIAL
CORRESPONDENCE

PABC



FILE 1783

TURNBULL, JAMES

COLONIAL
CORRESPONDENCE

PABC

The Probable cost of a Winter Sleigh Road
 12" wide all side hills graded 10" wide
 and all the necessary spans bridged
 between New Westminster and Vale.

From A (via the route A.E.D.) to G \$ 2075.

From G to I. Via Rogers Trail &c. 1750

From I to K. with Corduroying if necessary 1500

From K to Q. exclusive of the bridging of the? ^(Chilakooyuk?) 2800

From Q to S including bridging 4000

From S to Hope ----- 6000

Hope to A' including the repair of Bridge 1600

From A' to Yale ----- 1500

Total \$ 21230

The above estimate is of course
 very approximate, as I had not
 sufficient time to make a detailed
 examination of portions of the route.
 The snow also prevented me from
 forming a very correct estimate in
 many places.

J. Turnbull

Westminster
17th Jan 1866

J. C. G. H. M.

The C. G. of L. S. & S. I.

Sir

In compliance with the wishes of Mr. Haynes (Proprietor of the Baynes district) I have laid out three ^{small} reserves situated on the N. & Southern extremity of the Okanagan Lake, and I herewith beg to lay before you the enclosed plan which will show their positions &c. &c. together with the few following remarks respecting them. —

On account of not being provided with chain or suitable instruments I was unable to make surveys sufficiently accurate to answer the official purpose. I have in consequence merely roughly surveyed as pointed out to me by Mr. Haynes —

whilst surveying Mr. Haynes & his Indian (who is a chief of the district) accompanied me, the Indian blazing & pointing as an instructed hand, therefore at any future time either Mr. Haynes, or the Indian, can point out the boundaries the boundaries however are well defined, being all natural boundaries. as shown on sketches.

J. C. G. H. M.

(Sketch) The first Reserve which is situated on the Sth end of the Onanapan Lake, and known by the Indians as *Mediaston* is eminently adapted for either stock raising or agricultural purposes, the altitude above the Sea being only 700, abundance of the best food, good soil, & climate, and surrounded by one of the best cattle ranges in the Country.

The Reserve is bounded on the Sth by the Lake au Chien, on the Est by the Onanapan River, on the West by the Base of the low rolling hills, and terminated about 2 1/4 Miles North at the first point, where the Hillside & river meet. -

The portion unreserved to the East of the river, is the most valuable land, being well irrigated by the various streams, (which see shown on sketch) it is more heavily timbered than the portion to the West, and for that reason (in my opinion) was not selected by the Indians, all the creeks are fringed with a dense growth of tangled bush, such as Birch, Cotton Wood, Hazel, thorn &c. -

The Great Reserve is situated on the West bank of the Lake commencing about 2 3/4 Miles from the head, and running South about 3 1/2 Miles

Miles

To the C.C. of L. & W. & S. G.

it is bounded on the South by the Creek, (shown on sketch) to the Est by the Lake, to the West by the ~~Mountain~~ ^{hill} side, and on the North by the Creek running into the Lake about 3 Miles from the head.

The reserve is a level bushy grass flat with widely scattered trees. The margins of the Creek (as is always the case) cover with a thick growth of Birch, Hazel, Pine &c. &c., the whole of the flat may be considered eligible for agricultural purposes, as it can be all irrigated with very little trouble - the food throughout is of first class quality, the hill sides to the Westward also abound in good food, and are low & rolling, & well suited for cattle range. -

The last reserve, which is situated immediately at the head of the Lake is a splendid tract of low bottom land, with dark loamy soil, excellent food, & surrounded on all sides by low rolling hills bushy grass hills, & benches. Its boundaries are as follows, to the South by the Lake, to the West by the Creek, up to the point where the trail crosses it, then by a line running ^{by compass} N 60° E for one mile, terminating immediately above the small Lake (shown on sketch), West by a line bearing ^{S 10° E} N 70° W for 30 chains to the foot

To the C.C. of L. & W. & S. G.

foot of low rolling hill) ^{from latter} point by line bearing ^{S. 41° E. 1/2 mile} 125° until striking the creek about 1 mile from the Lake. the latter creek then forms its eastern boundary. —

Mr. Cox Several years ago reserved ^{quasi} all the agricultural land situated about the head of the Lake, as well as that on the south side, (now reserved under the head of Pindilton) the result of this reservation was, many men have been prevented from settling on what may be considered the only real agricultural & grazing land in the country. Last winter a Frenchman, brought some 1 or 200 head of Cattle to Pindilton for the purpose of wintering them, the Indians who claimed the land (under the authority of Mr. Cox) ordered them off, or else pay a certain amount per head. the result was the Frenchman left with the whole of his Cattle, and wintered at the Missins, where owing to the severity of the hard season &c. he lost nearly the whole of his stock. Had he been allowed to stop at Pindilton his stock might have survived the winter, as the place is low, well sheltered, and in fact may be considered the best Cattle "winter" range in the country. —

Country

To the C.C. of L. W. & S. G.

Country.

~~Mr. Cox~~ Mr. Hargreaves Pindilton at Pindilton is a great improvement — the last he has left sufficient reserved for wintering purposes; — at the head of the Lake (the best favorable resting place he has reserved in such a manner as to prevent Settlers from wintering their Cattle without running the risk of having to pay the Indians a certain amount per head for the Cattle they graze. — As this particular portion of the Country is in such close proximity to the Spined Deer being reserved in the Big Bush Country, and considering it may be called "winning" one of the few "Safe" wintering" ranges, I imagine it would have been better, had this Reserve been done away with, or if reserved at all, reserved under the head of Government Res. in which case both White Man & Indian would have an equal right.

My reason for expressing these opinions is knowing the difficulties there is in the portion of the Country, in safely wintering animals.

The Reserve at Pindilton comprises 842^{ac}. The one on West of Lake about 1500^{ac} in my opinion; now there would be amount necessary to serve the purposes of the Indians Settlers on the Okanagan —

I have the honor to be

Sir

Your Obedt Servt.
C. J. Turnbull

of the Head
of the C.C. of L. W. & S. G.

1866
Report on laying out
of Indian Reserves at
Ottawa
January 1866
James Turnbull

Recd 24 Nov 56

John Westhamster
of the 2nd Nov 1866

66

Sir,

I had the honor to inform you that I had partially explored the Valley referred to by Mr Allison, and failed to discover a route of lower altitude than what is termed "Grants Summit", and am therefore rather doubtful of the existence of one, under any circumstances it would be a very circuitous line of Traib. More so than what appears on plan, as I feel rather doubtful of the position of Pine town being properly fixed.

At the time I explored in this direction, the whole country was covered with snow, and as I travelled along the Summit of the range from the punch bowl pass to this same mentioned pass. I measured the depth of snow on all parts and found that on "Grants Summit" the snow was the least.

On my way to Hope 10 days ago I met with Mr Allison and questioned him on this matter, he told me that he had been there about 8 times and always failed to discover this mysterious pass.

For my own part from what I have seen of the range, I am inclined to think that Mr Allison

has

1866
Mr Allison
in the direction
from Hope
reducing down
Report
1866

To the C. C. of L. S. & S. G.

has been in some way mistaken.

As regards the present trail, I consider it in excellent condition with the exception of the corduroying, they are mere horse traps, and in almost every case are not required, for about \$100 the route may be cleared of all fallen timber, and when cleared, and slightly improved in the corduroying, I consider the trail good enough for any pack train traffic.

In the event of the route requiring any further repairs or alterations, I would suggest, that proper steps be taken to the estimation &c &c of costs and requirements before given over to contractors in that direction.

I have the honor to be
Sir,
Your most obedt Servt.
J. W. Turnbull

To
The Hon^{ble}
J. W. Guitche,
C. O. of L. & C. &c }
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