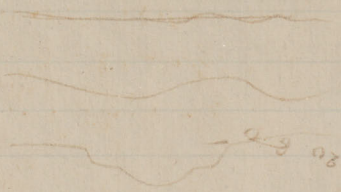
Character of Bond Valleys



Second growth
Valley
Boulder clay
White Pine
Coal question
Cedar
Red Pine
Irrigation

Ap 24.	Cab	0.50
	Ticket to Marysville Cal	
	Pullman to Chicago	135.25
25	G.T.R. 1 meal	0.50
	G.T.R. "	.50
	" "	.50
26	Mech. lunch "	.75
	Pullman to Omaha	3.00
	Porter	.50
	Baggage checked at Chicago	.15
	C.B. & Q. Ry 2 meals	1.50
	Hack	.50
27	C.B. & Q. Ry 1 meal	.75
	Porter	.25
	U.P. Ry. 2 meals	2.00
	Pullman to Ogden	8.00
Ap 28.	U.P. Ry 3 meals	3.00
	Paper	.10
29	3 meals U.P. Ry	3.00
	Sleeper	6.00
	Paper	.10

ap 30 C P Ry	3 meals	3.00
	Papers	.20
May 1.	1 meal Colfax	.75
	Supper	.50
	Roseberg Junction 1 meal	.50
	Marysville 1 meal	.50
	Telegram to Redding	.75
	Ticket Marysville to Redding	7.75
	Papers	.30
2.	Ticket to Roseberg with extra baggage	56.25
	bed & meal	1.00
	Board 2 meals	1.00
3	Board 3 meals	1.50
4	Board 2 "	1.00
5	Supper Bed & Breakfast Lowe Co.	1.00
	Dinner	.50
	Shave	.25
6	1½ riding to and Roseburg	2.50
7	Carriage on baggage	.50

	Ticket to Portland	12.25
	2 meals Oreg. & Cal Ry	1.00
8	2 meals & bed Portland	1.50
	Fare on Str. to Kalama	1.00
	1 meal Kalama	.50
	Ticket Kalama to Seattle	7.00
	1 meal Tacoma	.50
10	~~Board~~ Hotel Seattle	1.75
	Fare to Victoria	6.00
	2 meals str N. Pacific	1.00
	Carbage	
	Bath	.75
	Tooth brush	.25
	Tie	.50
12	Hat	5.00
14	Book. A.	.75
	Envelopes. A.	.25
	Toilet. B.	.50
	Pocketstone. B.	.25

pick B.		·75
Cartage B		·25
Acid bottle B	B	·50
Paper	a	·10
Compass B		1·25
15 Charges on bot of photo plates B		2·00
Watch repairs on a		2·00
Cab a		·75
17 Knife a.		·75
Dynamite ½ B		4·00
Books a.		3·50
Handkerchiefs a		·75
Padlock B		·25
Cloak Straps B		1·00
Camphor a		·10
18. Hotel Victoria B.		10·00
Carpenter, Murphy B		19·25
Ammunition Shot		57·50

For Victoria.

~~Camera [illegible]~~

~~Get Bee for [illegible]~~

~~Scenic [illegible] for [illegible] Plates~~

~~Plant [illegible]~~ Clerk & Shop.

~~Volume [illegible]~~

~~Bank acct = Centennial~~

~~Spec. aerolite, [illegible] & Spar~~

Write Home ~~Last~~ Sebum 82.

~~Abstract [illegible] of [illegible]~~ U.S.

~~Miners pick, drill~~ dynamite 82.

~~Petroleum & Mineral Specimens~~

See Mr. People dont Anthracite

~~Arctic Almanacs~~

~~Many~~ [illegible] for Summer

~~Dr remainder of~~ Victoria [illegible]

~~Chance offers.~~

~~[illegible]~~

Get lipe, Nap. lower Fraser R.

~~Mail pamphlet to Cheda~~

~~Write Bowman~~

Write Gain Hamilton

~~Tents.~~

- ~~Roll of lipe~~
- ~~Get Spencer~~
- ~~Tent!~~

~~Letter paper!~~

~~Ink bottle~~

~~Stitching plate~~

~~Pay for canoe~~

~~Get Napl. pot Tack~~

~~Razor blades~~

~~Ink bottles~~

~~Potatoes?~~

~~Buffalo Robe~~

~~Whetstone~~.

~~Keep for Jimmy~~

~~watch~~,

pack!

~~Return plate in stage~~

~~Collect atlas & bills~~.

~~Slat Handles, rawhide, brass shell~~

~~Compass~~

~~Padlock~~

~~additional plant paper~~

~~Handkerchiefs~~

~~Compass Reminders~~.

Order Nautical Almanack

~~Red Mittens. Pl.~~

18.	Exchange on gen a.	25.00
–	Plant paper Hetten B	2.50
–	Marine. Fwt 82	31.25 –
	Cartage	1.00
	Passage to NW.	5.00
	One meal. Sh Enterprise	.75 –
	" " NW.	1.00
	Passage NW to Yale	1.00
	2 beds 4 meals on Str	5.50
	3 meals & bed Yale	3.50
	1 meal Boston Bar	1.00
	1 " Lytton	1.00
22	meal & Bed Spence's Bridge	1.50
	1 meal Cache Creek	1.00
	1 " Sassafras	1.00
	Messenger	.25 –
25	Fee	50
27	Hat	1.00

2281
40 low

the evening. Packing stuff &
making arrangement.
Aug 27 Sunday Packing. Adjusting
Seebant &c at dark the
horses from Sutherland &
North Platte arrived completing
the outfit. Reading.

May 25. Jackson Quarter at the Mill for some hours. Arrived at Kamloops about 11.30. Saw Ross & in the evening rode up to C.P.R. Camp to look at the Animals. Found the 7 remaining mules crippled & useless & so decide to get pack horses in addition to the riding animals Ross had already purchased. Got wet drenched in a storm on the way up to Camp.

May 26. Went on to Indian Reserve to see about buying horses. Saw several. Found the Chief Louis in a sweat house with a friend & held a conversation with him through the blankets. He promised to bring some horses over in the mountains over in

when evidence of increased
rainfall the timber becomes
thicker & when Clearwater
is reached becomes quite dense.
The P. ponderosa continues &
occurs abundantly on all suitable
places about 2/3 way up. The
Cedar then begins to spread &
before Clearwater is quite abundant.
There are a good many farmers
— perhaps altogether about 15 —
on the lower part of the river. Irrigation
is here necessary but further
up, toward the Clearwater would
probably not be required.

they seldom appear on the river & then do not show their natural colours being weathered. Saw no columnar basalt or horizontally bedded traps like those of some regions. Nor any sign of sandstones or bituminous clays. Inclined to believe that the character of the rocks somewhat varied, though may be all be volcanic up to Assiniboine Bluff as Mr Selwyn seems to suppose. The lower part of the valley is thickly timbered like the Kamloops country & with much open hillside & flat. This runs up for perhaps 20 miles

here & there large angular
stones. This however not
very far from a steep rocky bluff
which might have supplied
them.
The Coal said to occur near
the Indian Reserve is probably
the same as that about which
told by old miner at Victoria.
The Indians keep the place
secret, but it is probably
in the valley of the brook
entering about 3 miles above
the Indian Houses on the
same — east — side. Cannot
tell much about the salt as

is composed in great part of volcanic materials, many pebbles being of a pale vesicular rock. There are also many of mica schist — grey & silvery, & of grey granite. Also of compact greenish grey rock perhaps of same series as the vesicular. In one place near Meridian bend, a bank shows a face of what appears to be true boulder clay. It is overlaid by stratified sands & gravels. Higher up on the river some banks show white material not unlike that quite "white silts" & in one place holding

to be backed up either by relative change in altitude of its mouth & source, by damming up or some other cause. The valley resembles that occupied by the various long lakes of the country but the blocking up has not been complete as in other cases.

Terraces appear in many places but usually more or less completely weathered away. The highest distinctly seen probably not over 1000 feet above the river.

The gravel drift in the bottoms near Clearwater mouth

The river is bordered generally on both sides, but always on one by flats, extending out from the base of the steep side hill or higher benches. The river now appears like most streams to be gradually cutting down to lower levels & forming wide swampy sand flats which are first covered with cottonwood. It is not to very decorative its rocky channel which must — from analogy — lie far below somewhat thus. Like the Fraser below

Hope the N. Thompson as far as Clearwater appears

from 1500 to 2000 feet above the
river in its lower portion,
becoming somewhat higher
northward, & near Clearwater
were showing some summits
which still held snow. A
mountain range in the park
of the rivers is in great part
snow-clad. The country to
the West I am told averages
from 3500 to 4000 feet &
forms in the main a
rolling partly open plateau
over this the House Sd. line
to Clearwater was run &
it probably represents the
general character of plateau.

turned nor indicated in any way that he noticed the steamer at all!

Found quite a number of ripe strawberries on the sunny side of a bank near the C.P.R. depot at Clearwater.

The valley of the North Thompson runs nearly due north. Its sides are formed by hills which appear to follow in their direction the length of the valley, but are probably to be regarded as the escarpments forming the edges of the plateau above, which has been cut into by the river valley. The height of the hills may average

of water no trouble in any
gets bad places. Stopped once
for wood & twice to take on
grain & ~~xxx~~ tied up at the
Saw mill after dusk in a
heavy shower of rain.
At the Fish Traps 'rapids' saw
an old indian sitting at his fire
cooking something in a pot, with
two or three half dried fish
on a pole near him & a dog.
He sat in a crouched attitude
with his back to the river, intently
stirring his pot, & though we
passed almost within a
stones thro - ghim never

May 24 Early this morning the timbers below the boiler furnace were found to be on fire, & owing to the difficulty of reaching the place, some time was employed in getting it fairly out. Made a rather late start in consequence but reached the Depot at Junction Thompson & Clearwater by about 10 Am. All hands at work soon unloaded the stuff, & the party after having dinner on board began to arrange packs for moving 5 miles to Camp before night. Started in steamer at 1 P.M. & raced down the river, finding, owing to the stage

to Ross letting him what I will need & requesting him to do what possible in the matter before my return. Got bunk on board & turned in.

May 23. Steaming up the N. Thompson all day against the strong current. The stage of the water at present however good, being neither too high nor too low. Made a remarkably good days work, tying up at dark at Mosquito Flat about 15 miles from the Clearwater.

waiting at the ferry, & after
getting supper started
for Kamloops. A beautiful
moonlight sail on the lake
which almost perfectly
calm. Engine power, small
& some difficulty in
~~again~~ getting up the river
near Kamloops but at
last arrived at 1 Am.
Cauchie had suffered a
trip on the steamer up the
N. Thompson, which proving
very uncomfortable & that
delay in getting out of back
train likely to arise —
decided to make. Wrote

bridge, arriving there about 9.30 Pm. A very pleasant drive, but extremely sleepy at last. Turned in at once.

May 22 Found Cambie here on getting up & talked over plans with him. Stage arrived about 8 Am. Went on to Cache Creek arriving about 1.30 Off again at 3 Pm. for Savona's ferry in an extra arranged for to take Wallace to his party at Kamloops. Found the little steamer

Sand which included
Lagers yellowish red &
blue. The implement at
a height of about 25
feet above present high
flood level, but evidently
beds formed by flood
water of river when it
was higher or before it
cut its bed down so low.
This near threshold total
house about a mile
above gale.

May 21 Start about 7 a.m.
& drive out to Boston Bar
Then go on with Steve Tingley
in a buggy to Spence's

to stop at many landings.
Tied up after dark a
short way above Hope.
Aug 20. Sunday Arrived
at Yale 5 A.M. Part of
Survey parties go off at once
but some wait for the
regular stage on Monday
morning. Reading & walking
about Yale & on the waggon
road. Rain most of
day yesterday & during night
Showers all day today &
mountains clouded up.
Found an indian chipped
tool under about 5 feet
of fine bedded yellow

Strong tide against us
all day preventing our
getting in till after 6 P.M.
Saw Drew about clearing
the specimen of Anthracite in
Montreal. Returned
platinum & Indian bread
to museum. Wrote Fowe,
Selwyn, Bernard, Bossidy
May 19. Slept on board
the Str. Royal City which
started at 7 A.M. west.
a heavy freight & many
passengers. Rival Steamer
Glenora off at same time
& racing some on all day
our boat fastest but having

& promising to keep the place open for him till noon tomorrow.

May 16. Did not hear from Bowman or find anyone else suitable for the place. Morning packing, afternoon called at Creases, evening dined at Deponts returning late

May 17. Paying bills, arranging for money at bank, comparing barometers, packing &c.

May 18 Started at 7.30 A.M. for New Westminster ~~[illegible]~~ in Steamer Enterprise with a very heavy freight & great number of passengers

May 12 Making various arrangements. Afternoon visit-booting up the arm with the Creases, returning after dark.

May 13 Sunday Reading, writing & in the afternoon for a walk.

May 14. Making purchases & arrangements about outfit &c. Eng. called at Robsons. Jennys & other engineers arrive from the East.

May 15 Wrote to Bowman offering him $60 a month with the option of staying one 3 months if he pleases

last week. Gansby is at
Burrard Inlet, & Bill
Perry, & Mr McMillan leave
tomorrow morning.
Day overcast & cloudy, prevents
view of mountains in
crossing from the Sound.
Unpacking & getting settled here.

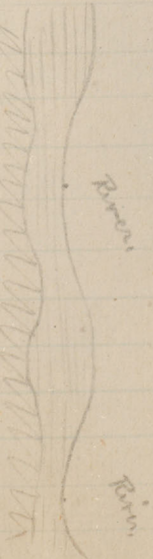
May 11. Unpacking,
making various arrangements &
called at Lieut Governors
in Rev. & received
several visits. Wrote Stat.
note home. Day remarkably
fine.

1. Draft plateau on emergence
2. Warm wet river valleys.
3. River valleys filled by the sea on resubmergence, & sea cliffs formed along water line.

Aug 10 up at 4 A.M. Starting for Victoria in Str North Pacific at 5 A.M. Called at Ports Gamble Ludlow, Townsend & one other place & got to Victoria about 3.30 P.M. Put up at Driard House, where fixed some gette surveyors. Cawtee went up Gravely

have at present no means of ascertaining.
Diagrams illustrating the formation of the Sound as below.

1



2

3

sinking were filled by the sea, constituting a system of fiords in a flat country. As in other places on the coast, there are signs of the permanence of the present level in the wide & extensive marshy flats opposite the present rivers at the heads of the Inlets & in the clay cliffs cut out along the shores.

To support the accordance of rivers it should be found in most cases that the arms of the sound are continued inland by low valleys for some distance, unless hard resistant rock is encountered or other similar cause prevents erosion. Whether this obtains I

by glacier or glaciers.
A deep hollow may have been eroded where the Sound now is in later tertiary times. When elevated after the drift subsiding it must however have been nearly levelled up with drift deposits with probably some ill defined longitudinal hollows caused by currents, which would afterwards determine to some extent the course of the rivers. During an elevation at least 300 or 400 feet greater than at present rivers excavated wide & deep valleys, which on subsiequent

the low character of the country S. of the sound & the breaking down to the south (about the Columbia &c.) of the Olympic mountains, it would appear that the Strait of Georgia glacier probably reached some way down the sound at its furthest, depositing drift-like the Victoria, which afterwards supplemented by water borne debris &c as found there. The features of the country hardly admit the supposition of a glacier pushing N down the sound & a glance at the outlines of the channels will convince that ~~they were~~ it was never excavated

those of the Porphyrite series.
These are mingled with softer pebbles of local Tertiary sandstones & claystones. The largest boulders appear nearly always to be Cascade Crystalline.

V At Tacoma a great thickness of firm poorly bedded clays & sandy layers are seen forming the substratum of the plateau. Here time did not permit me to examine.

These deposits of the Sound are evidently the southward continuation of those of Victoria & the islands of the Strait of Georgia. From

Some of the clayey & stony beds resemble in all respects true boulder clay being thickly packed with large & small stones which lie in all positions. These beds however appear to form a part of the general series & not to mark any particular horizon. No glaciated stones were observed, they from the shape & appearance of many it is probable a careful search would bring them to light as at Victoria. The drift stones are principally of Cascade granite & chlorite & rocks like those of Victoria, with porphyritic & other igneous rocks, which for the most part most closely resemble

of drift here. At Seattle the drift seem to consist of sands, gravels, & bouldery clays without any apparent regular sequence, & with occasional large & many small boulders scattered through them. The sands sometimes rather clayey, finely bedded & compact from pressure, sometimes nearly pure with false bedding & in one place noted very finely bedded sandy deposit contorted somewhat as below (by ice?)

this to have arisen in most cases subsequent to resubmergence & to owing to local circumstances of tide current &c. The banks are generally pretty steep to a height of 100 feet or so, & then slope more gradually back to a uniform plateau level, which where normal is about that ascertained by Bar. for the plateau above Tacoma (see obsn 185) no boldly undulating or hilly land appears near the waters of Puget Sound. Wherever cut into the banks are of drift (though quite probable that in some cases tertiary rocks also appear) & can quite corroborate Gibbs' statement as to importance

business owing to money spent at mines.

"The sound" appears to have been excavated by rivers in material chiefly of the age of the western drift, & subsequently filled by the sea on subsidence of the land. This at least is the only reasonable suggestion I can offer. It is deep, often over 100 fathoms, but not uniformly so, as shallower bars cross it in many places which would prevent its draining if excavated & turn it into a series of great lakes like that behind Seattle. I suppose

at 10 P.M. Put up at Occidental Hotel. Day lowering with occasional showers.

May 9. Had intended going out to see the coal mines which about 14 m. distant from Seaboard at Seattle, but found when too late that necessary to start early in the morning if desired to return the same day. Read a little examine sections of drift, & look about town. A small place though claiming to have 4000 inhabitants prettily situated on a sloping hill side with trees & scenery. Built scatteringly with evident intention to fill up some time a lively place, with much

102 m. Elv. 280'. banks of
rather firm false bedded sands
& gravels.
Tacoma 105 m. 8 feet above
sea level 5-30 Rm. 13 reads
+ 100

Arrive at Kalama about 10:45 &
leave again at 11:30 for Tacoma by
the N.P. Ry. arrive at about 6 Pm
after passing through a rather
dreary country. Thick forest clad
but not some prairie land, much of
which however is stony & poor.
Take steamer Alida, lying at the
wharf, for Seattle, arriving there

about 3 m further on
gravel banks with boulders
evenly mingled up to 3' &
more in diameter. Interstices
overlaid with fine yellowish sandy
country becomes mounds with
low ridges & hillocks & ponds &
slow small ponds & swamps.

Masses of gravel & heavy boulders
closely packed like deposits of
Spring Ridge & Beacon Hill
Victoria. A few miles before
reaching Yelm Prairie

Yelm Prairie 79 m. 380'
very gently rolling prairie. Same
subsoil

Lake View 330' continuation of
same gently rolling & flat country.
boulders smaller.

here, besides thick gravel beds & fine reddish sandy or earthy matter. General level about 450'

Centreville 57½ m. wide level country at 240' Surface rolled gravel & boulders up to 10" diameter.

A mile beyond Centreville left earthy Tertiary, not some hard & coaly layers dipping S.W. at ∠ about 50°

[illegible] flat [illegible] of gravel & [illegible] at 315' 65 m. from Kalamai. Some boulders over 2' diameter.

horizontally bedded sands,
the bedding often showing markedly
at intervals of about 3 feet.
Rather hard & interbedded in
places with thin & thick layers
of gravel composed of water
rolled stones from the size of
a fist downward. The sandy
dust exactly resembles that seen
in low banks near the water
level along the Willamette &
Columbia. The gravelly layers
increase in importance
~~too~~ as we go north & ascend.
40 m. from Kalama on bench
410' well marked & wide
bench 20' higher. Country flat
& bench like throughout about

Kalama Ry. 20' above river
B roads 50' 11.30 Am.
Basaltic or Recent-modern
volcanic rocks.
Kalama the terminus in this
direction of the Northern Pacific
seems to depend entirely on the
road. A very small place, but
with a few good buildings.
Olequa Stn 28 m. from
Kalama 170' or summit of hill
about mile another five - seem that
30' higher.
In following up the Coulitz R
have [illegible] seen
50' [illegible] Show - five get to work

further down. Banks of river generally wooded Douglas fir & cottonwood preponderating. Farms but land rather low looking.

Terraces 7 miles below Portland on the left bank of the Willamette nearly opposite St Johns; terraces very distinct estimated at 100', 180' & 300' above water, the highest forming the general plateau level of the country about here. In other places terraces quite distinctly shown & apparently at various heights up to about 300'. Tide affects water at Portland.

May 8, Leave Portland at 6 p.m. in Oregon Steam Navigation Co's stern wheel steamer Welcome for Lalama. Course down the Willamette R – part of the way by a 'slough' then a few miles down the Columbia, where basaltic rocks appear. The Willamette & Columbia here much like the Fraser below New Westminster & their united streams apparently not wider. The Salmon beginning now to run shipped a pile of splendid fish at one place for a Cannery

Putting up at St Charles Hotel.
The first part of the Railway is
very poorly built with uneven
road-bed & sharp curves.
Further on in reaching the flat
plain of the Willamette River.
Salem & Eugene are the largest
places passed, both little scattered
country towns almost concealed
by greenery. Scenery this afn.
& gradually increasing till at
Portland steady rain & fog.
went to the New Market
Theater & saw Le Somnambula
badly given.

about Aurora (171 mi. or
29 from Portland) & for
some distance northward
banks in cuts, & in streams
showing fine & coarse sand,
bedded & jointed with bedded
gravels & some good rounded boulders
& very little modified drift.
At Rock Island 20 m. from
Portland Ragged masses of
volcanic rock sometimes
appearing, columnar & basaltic
appear on the Willamette River
bank.

Left Roseburg 6.45 A.M. & arrived at Portland 2 P.M.

is here 650' above sea
here is a wide valley with flat
~~bottom land~~
~~Capitanell~~ similar rocks continue
for Several Miles farther

Valley 10 or 12 miles in width
at Eugene 70 m. + Beyond 460'
From Eugene to Albany (119 m.)
wide flat valley continues. Soil
usually pale coloured, in many
places. Clayey & underlaid by
beds with rounded large & small
pebbles (drift?) On leaving
Albany pass into more undulating
region & cuts through low mounds
show considerable thickness of
gravelly drift, overlaid by soil.

Roseburg May 7 '77.

5 am. B = 580' on Ry.

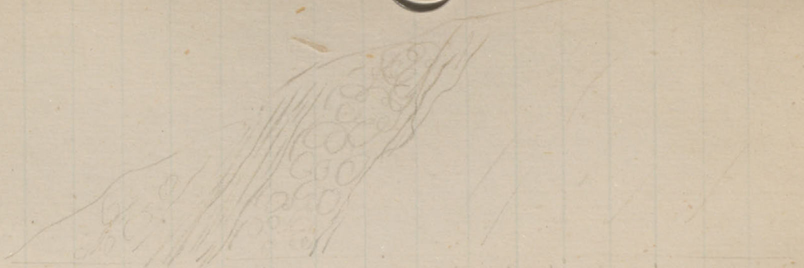
For about 10 m. along Ry. rocks apparently similar to those seen yesterday continue. Then after gap near Oakland 19 m from Roseburg sections of Sandstones (some beds several feet thick) & shales in state of alteration varying & degree of induration resembling those associated with volcanics in Roseburg cutting. Dips sometimes ∠ 20° to 30°

(65 m.)

About 2 miles S of Cresswell on the East side hills pretty evident traces of benches from 100' to 200' above road which

ing or filling in
the zeolitic mineral
in pieces.

Section in Cal. & or. Ry near
Roseberg: oregon. Dip S.W,
∠ 45°.



Brown. with partly
fossil. Some crinoid
stems

Thin bedded shales
& sandstones,

Black trap. spheroidal
weathering

Compact blackish trap v. in
texture. Much jointed. Joints with
traces of spheroidal weathering
60 paces + more

May 6. No Sunday train so delayed here. Reading writing up notes & examining notes on the Railway. Roseburg a prettily situated scattered village of white houses & gardens full of flowers though rather uncared for. Population of the usual rowdy character & an excessive number of saloons &c. A considerable farming region in the vicinity aggregating all its valleys though no very great extent of arable land in any one place. Destruction of "wild clover" as character of land pass attributed to sheep & pasturage now for some time past.

would cease to be a point of
distribution for this northern
country.

north by the Kootenay Lake
country, returning to the railway
at Eugene City Oregon. It
is not known however that
this route would offer much
easier passage there is nothing
in the country to call for a Rly
& it would be a very long detour
From the physical features of
the C.P. Rly carries to southern
terminus it will practically
to a great extent annex not
only Washington but Oregon for
commercial purposes, &
make it easier & cheaper for
them to get goods & travel
out through Canada than
by San Francisco, which

impracticable for Ry. on account of grades. The S. Umpqua valley once reached not very difficult ~~and~~ to connect with Roseburg, though some pretty expensive side hill & bluff work.

The features of the country run transverse to the proposed line of railway & are so well marked as to render it almost an impossibility. Has been proposed I am told to run up the K Cannett, or by some other river to the East side of the Cascades & then to Bo.

Shasta & Klamath after leaving Yreka get into bad country again & between the Klamath valley & Rogue R valley crss the Siskiyou not already described which I am told is the lowest pass between the Cascades & the Coast, but may be considered as a transverse spur of the Coast Range. Rogue River valley again easy but like the others soon turns from the right direction & forces the crossing of the impracticable broken country about Grave & Low Creeks. The crossing from Cow Creek to the the S. Umpqua by the Canon & Canonville is probably

Ry as highly problematical. The
west branch of the Sacramento
above reading though having steep
side hills instead of absolute
Cliffs as on the Fraser, is so
tortuous that tunnels & bridges
cut profile as great as in most parts
very many will be required B.C.
the
ascending grade steep, especially
at the head where the ascent
must be made to the plateau
stretching west from Mt Shasta
(see barometer readings) Descent
into the Shasta valley probably
not so difficult, & Shasta
Valley down to Yreka pretty
easy. About the junction of the

possibly as above suggested for terraces & very long subsequent waste. (Compare with Ramsey's views)

Railway It will probably be a very long time before any railway connects California with Oregon, except perhaps some little narrow gage mining RR like those seen in the Rocky Mts, which can run anywhere. Preliminary surveys have been made near the stage route which I am told pass the best known line. The people whom I have seen however quite see the difficulty of the matter & look on the

local colours of soils due apparently to waste of immediately underlying rocks. Very remarkable absence of lakes & ponds, or hollows holding swamps, & marked contrast in this way with B.C. Have seen no lakes in this country but west of the Cascades, nor any ponds but the most insignificant. All the water is running. Told that wet even on the hills above — as so often in B.C. — are ponds found. This probably due to absence of drift agencies, or

flooded, or that if flooded sufficient material (detritus) for formation of proper terraces has not been at hand, or lastly that the continuation of process of obliteration seen in progress in Kennebecks - Niagara County all have been worn down. Latter perhaps most probable.

No true boulder clay seen. County generally has the aspect & form that might be attributed to long waste. Hills scarred with gullies, ending below in fans, & valleys all connected & branching up into the mountains for the main streams. Also remarkable

from the gullies leaving the
hills. The summits & higher
parts of the hills usually more
barren & the valleys clayey or
loamy soil, the one gradually
into the other irregularly on the
slopes.
Remarkable absence of anything
like terraces or benches, though
on the Umpqua 13 m above
Rocking noted something like traces
of benches 200 to 300 feet above
the road which Bar. stated to be
540'. General impression having
that no terraces, which may arise
from fact that country never

Gl. & drift. Have yet been no unmistakable drift. The hills seem to have been subjected to prolonged subaërial weathering. The rocks where bared in their slopes generally rotten & decomposed surface. Soil element uniformly covering the hills from base to summit except where remarkably steep, but nowhere very deep & probably in most instances a product of waste of rock nearly in place. The valley bottoms though occasionally showing flat areas which may mark the position of former lakes, or the sea level at one time, are generally composed of coalesced fans.

softer thin-bedded sandstones & shaly beds are seen in places & are with little doubt Cretaceous. On the Umpqua 10 to 15 m above Roseburg heavy beds of conglomerate with well rounded pebbles (Jackass Mt.?) also probably cretaceous. 3 to 6 miles S of Roseburg on the road have thin bedded rocks at angles of 20 to 30 apparently interbedded in great masses of rusty & spheroidal weathering material (contemporaneous volcanic?) General impression that Victoria & Porphyrite series both represented in this strip of country with other Cretaceous detrital beds.

monday content myself perforce to remain here. The "Metropolitan Hotel" fairly comfortable.
Roseburg situated in a wide part of the valley of the river among rounded hills of the partly wooded character above described.

Rocks along whole route so seldom (comparatively) seen & so disguised by long weathering than can arrive at little knowledge of Geol. Structure in riding through in this way. After leaving the Rogue R rocks continue occasionally to see somewhat similar volcanic looking rocks though in Grove Creek the brook pebbles more like the rocks of the Porphyrite series

int. the S. Umpqua R. Forest here on the N side of divide chiefly of well grown Douglas firs, & in many respects like that of Vancouver Island. Canonville a miserably dull looking little village near the mouth of the Canon. On reaching the S. Umpqua R follow it all the way down to Roseburg, though forced from time to time by bluffs & points to climb high up its sides. River now pretty low wot clear water & the valley really beautiful. Its aspect like those before described & the general park-like effect that of a long settled country. Reach Roseburg about 4 pm get wash &c. & finding that no train leaves here till

Cow Creek a very beautiful valley though generally narrow, flat or gently sloping bottom nearly all under cultivation with fine crops coming on without irrigation. Belts & patches of fine oaks & Pinus ponderosa or Bonny tall & straight with trunks 3 to 5 feet in diameter, & scattered well grown oaks in the grain & pasture fields. The higher slopes, & rolling hills bounding the valley with groves of mingled oaks pine & maple & green pastureland.

Elevation of Supper Point 1390'

May 5. On leaving this morning continue up the valley, follow Creek a little way & then strike across another divide into 'the Canon' or valley running

beginning to look unsafe. Drive about 13 m. down the right bank of the Rogue R with pretty scenery, farms in places on the bottom & partly wooded & rocky hills at the banks. Leave the Rogue River valley & drive across a very rough & tumultuous country of hills or small mountains irregularly huddled together with narrow & tortuous valleys between them, to Grave Creek, another pretty little valley. On leaving Grave Creek, cross another rough divide to Cow Creek, after driving some miles down which reach supper station, where also as stages are still running on winter time, have to stay all night.

who assured us that she kept a "first class house" & though this not fully borne out by the result as to breakfast. Before we left, an evidently new married couple of country extraction came in (at the city!) on their wedding trip, march in to the sitting room. Hardly seem to know what to do with themselves till the landlady announces breakfast. — wonder what they do do with themselves during the long days of this village. On leaving Jacksonville strike the main valley of Rogue River within a few miles, & cross the river by the new bridge, a respectable Howe truss — which is about a mile above the old bridge, now

On descending the ~~Siskiyou~~ Siskiyou we
enter the Rogue River Valley, & about
daylight reach Jacksonville, a
secluded little town of rather
neat & pretty appearance, but
dullness personified. The valley here
wide & open with a great area of
land under crops. Some small
vineyards. Rolling partly wooded
hills as usual closing the prospect
as we rattle into the village. The
earliest of the shops are beginning
to open, & the proprietors to look
as business like as possible with
all the airs & importance of a large
city. The Hotel a low old rambling
building kept by a frenchman

round on the edge of an abyss,
arrive at 12 A.M. at Station
N Side.

May 4. Jacksonville in Rogue
River Valley 6·15 - Asn. 1410'.

Lower or Old Bridge Rogue R.
valley greenish & greyish diorite
& feldspathic rocks most
resembling those of Victoria
Str N.N.E. dipping S.E. ward at
high angles & rest. Same rocks
seen at upper bridge, 2 m. up
the stream
Elevation of R. at bridge 900'

angles of about 15°. These evidently cause the low ~~[illegible]~~ & wide bottomed S.W. valley (Cottonwood Valley) which joins the Klamath. Higher parts of N bank of valley all volcanic, often columnar. Road runs across Siskiyou Mt just at N. boundary of California. Has about 4500 feet high & actual descent made from summit to stable on N base about 3000 feet. The road narrow & shelf-like as usual. Tortuous, & very steep. Ascend slowly with many rests & then gone flying down, the 6 horses at times seeming to dance

looking rocks appear in higher
parts of hills. (Volcanic?)
Yreka a little town (City!) with
all the airs & graces of a larger place
& a population of the most mixed
& generally hard character. Seldom
I never seen a more rowdy char
Mining has been very paying at one
time but now not carried on to
very large extent.
Crossing of Klamath R
& some miles before cherty
quartzites like L.C. rather
thin bedded. Strike about NW–SE
Dip about 1 mile ~~only~~ overlaid
by grey, white soft floggy sandstone
somewhat nodular. Cretaceous
not amonites. Dip N at

divide loose the nut pine, &
notice increase of Douglas fir
& cedar. P. ponderosa continues
abundant & now most common
tree.

Yreka is by Bar. 2530' above
sea level.

Gold (Placer) mining has been carried
on extensively about Yreka, & seems
still to pay in places. The bed rocks
appear to be a dark chloritic
schist interleaved with great quantity
of quartz in thin layers, & in places
almost completely silicified.
Superficial soil in places almost
entirely quartz. More massive

looking rocky hills strewn over it. Bottoms flat, but very generally alkaline with tufty growth of Sage &c. Improves near Greka where some ~~fine~~ fair farms & fields under cultivation; much change in general aspect of country since passing over divide last night. Hill slopes dotted with trees, but much bare & grassy like Rambler's country & not covered with shrubs like the slopes seen yesterday. ~~Flowers~~ Many flowers before seen now but. Eschsholtzia & Lupin now perhaps abundant with a small & pink-like bright flower & others conspicuous. Some time before reaching the

Shasta Valley W. side 14 m.
from Yreka Cal. 9 Aug. well
marked & wide bench of detritus
est. 250' above valley bottom
which 2525' above sea
Bench then 2775'
On leaving Mt. Shasta Hall continue
gradually descending & at Butte,
where breakfast, at the head of the
wide part of the Shasta Valley, follow
this down to Yreka arriving there
at noon. Beautiful views of snow-
clad Shasta last night by moonlight,
& today in going down the valley,
upper part of valley, near Butte
wide, but with many peculiar

May 3.

Butte Station 6.45 am.

2730'

Between Strawberry Valley & Butte plateau country continues but gradually declining northward. Surface of plateau stretching to Shasta & also westwards to other ranges still bearing snow. Somewhat like boulder clay but stones much more angular than usual & no striations seen. Also little mixed in character. matrix earthy — P. Morgen —

Sacramento, which then followed for many miles. Beautifull scenery as climb along the river banks with distant views of Shasta up the valley, on leaving the river climbed up to a great elevation (over 3000') on a plateau stretching round Mt. Shasta at Strawberry Vale apparently quite close to Shasta.

Many beautiful flowers most of them new to me. Small cultivated patches with houses here & there

Strawberry Vale, foot of Mt Shasta 245-Am. (May 3)
B= 3250' a high plateau with fine heavy timber.

Driving all day at a rather slow rate along a crooked & very hilly road, not wide enough to pass except in occasional spots. Whole region mountainous, peaked & very much broken with very steep side hills covered with scattered timber & scrub. Red soil. Cross the Sacramento by rope ferry just after leaving Reading, then crossed the Pitt & lastly the west branch of the.

May 2.

B at Redding 6 A.M. 600'
Crossing of Sacrament R. ferry
about one mile beyond 5-30
Broken flat or plateau general
level of country beyond Sacramento
R. Terrace with rocky hills
protruding 760'
1250' flat bench based on
rough bouldery formation
almost glacial aspect. Boulders
gray porphyritic? resting on
thin-bedded cretaceous?! At
crossing of W. branch of
Sacramento R about 100 feet
above water level 1-45 P.M.

Called the Butte Mountains appear on the left some miles off. Singular absence of rounding due to glacial or other such agency. Caps from subaerial waste. In some spots seen often lying junction large areas thickly covered with boulder-like masses which however may very probably show as remnants of a rotten exposure of granite. The surface deposits in some places of coarse rolled fragments of granitic rocks almost exclusively.

Left Roseville Junction at 4 Pm for Redding. Ticket & baggage being checked to Marysville had there to get new ticket & baggage ~~re to~~ rechecked. Supper & telegraphed to Redding for seat on stage.

Travelling northward over undulating & sometimes wide nearly flat plains with the snow clad Sierras bounding them on the right, the more rounded summits of the coast ranges to the west. Country rather dry but many fine fields of grain. Soon after leaving Marysville rugged & picturesque groups of hills

with them. A good part of the male population of the Junction got their mind to see John!

Unlocked, & when the operation over adjourn to the bar for a general drink & which appearance are a portion of the tax collected gold. The Chinaman can of course not see this tax collecting in any other light than a swindle perpetrated on them by the whites.

Drift very trident boulder clay or morraine material hard & packed with boulders near Blue Canon Station also in other places as far down at least as Dutch Flat.

decide to wait here for the four
o'clock train. Read papers, get
some dinner. See a number of
Chinamen waiting apparently for the
same train, pounced upon by a
collector for the annual $1.00
school tax. Great tact & warty
understanding among the Chinamen
till finding at last no escape, they
reluctantly draw forth their dollars
getting receipts for the payments.
Zhoi having no receipt to
show for last year here I pay
$2.00, so that it is evidently
necessary that they should
always carry former receipts

slide down pass rapidly into Summer. The park like western slopes & foot-hills of the Sierra now beautifully green & dotted with bright flowers of many kinds remarkably different from their midsummer aspect. Good breakfast for 75c at Colfax, with fine ripe strawberries. Arrive at the Junction at 9.45 & after making adieus to travelling party shoulder traps & establish myself in the waiting room. Find no train going farther than Marysville till 4 P.m. & the one now leaving is 'mixed' slow & with poor accomodation.

about dark & then began slowly climbing up steep grades again toward the Sierra, wind & dust through no excessive heat. Fine sunset effects of trailing clouds among the still snow clad summits at the sides of the valley, but no gorgeous colouring.

May 1. Early awake, the train running through interminable snowsheds about the summit of the Sierra, & then beginning its race downward to the plains by steep grades & remarkably abrupt curves. Some snow about the summit but little or none beyond it & as we

in some cases pitted superficially.
Very fine section of almost the entire series of rocks, west of these conglomerates, in Weber Canon & about the Devil's Slide. Rocks nearly on edge & well shown. Echo City probably most central point. See Hayden's reports &c.

April 30. Running down the dreary Humboldt Valley all day though with its spring growth it now looks fresher than when seen before. Passed the Sink of the Humboldt just-

rocks when the quantity of
calcarious cement has been
insufficient. Times well bedded
layers alternating with rough
coarse conglomerates in which
fragments often several feet in
diameter imbedded, all in
a very irregular way just as
in the boulder clay. The stones
sub angular in some cases,
but mostly more or less
rounded but with general
glaciated forms. By cleaning
carefully might not improbably
detect striations. Material
apparently mostly quartzite

of the train rising from the marshy edges of the lake & disappearing in the darkness across it.

The Wasach Conglomerates in Echo Canon seem pretty evidently glacial origin, & though not necessarily implying a glacial period or probably due to the last, needing the supposition of neighbouring high snow- & glacier covered mountains with waters in which the bergs might float, to account for them. General red colour with that peculiar cavernous weathering found in arenaceous

which are still in great part covered with snow, presents a remarkably striking picture. Ogden itself a scattered but flourishing looking town, with some fine buildings. After getting supper & transferring to the C.P. Ry stand out on the platform till long after dark looking at the gradually darkening landscape, the lake & the Wintah mountains across it. After sunset a cool breeze fragrant with 'sage' & occasional saline whiffs from the lake. Ducks frightened by the rattle

westward toward Salt Lake, the stream now no more confined by its narrow walls turns from side to side, forming pools & isolated strips of water gleaming like silver in the afternoon sun. The wide valley covered with tufted sage & here & there a yellow-green cultivated field. Blue mountains in the distance. The Mormons certainly deserve credit for their industry in having converted a wilderness into an expanse of green waving fields. The flat cultivated bottom of the valley runs up to the base of the Wasach mountains near Ogden

April 29. Dinner at Evanstown (Wyoming & not Utah as on map) Then running down through the magnificent scenery of Echo Canon & the Weber Canon the vegetation constantly showing signs of greater advance till on reaching the valley of Salt Lake find crops well advanced, some wild flowers in bloom & peach & other fruit trees loaded with blossom & scenting the air. Being Sunday the mormons dressed in their best are enjoying holiday. On emerging from the canon of the Weber a ~~fine~~ beautiful view presents itself, looking

rocks in cuttings about Sherman
Marvel remarked 'She never
saw a rock before but what
she could lift.'
Evening fine moonlight & starlight.
— Sept — in approaching Cheyenne
granite fragments like those before
noted more abundant, angular
& larger. Same material seems
to have washed a considerable
way down on the west, over the
Laramie Plains. Hot at
Lodge Pole about 150 miles
from its origin. Analogy with
facts observed by Darwin on the
Pampas of Patagonia.

slush in the streets. Beyond Cheyenne met the train going east with two engines, the front one heaped up with snow. Reported considerable depth of hard drifts. Waited on a siding some time till two additional engines & a snow plough obtained. Followed the plough without difficulty up to Sherman, beyond which comparatively little snow. Lost about an hour & a half altogether. Supper late at Rock Creek.

Family on board from Michigan, the woman evidently surprised on seeing the gravel.

Grand Island.

Left near Omaha banks of hard fine drift cut into stair. Same reddish colour previously referred to. On entering platte valley loose ~~also~~ track of drift deposits, passing over recent alluvium. At Lodge Pole Creek (mom, Op 28) the drift of small half rounded fragments of reddish granite (from Sherman divide?) in great abundance.

April 28. On approaching Cheyenne snow storms gathered round & fell thickly. Cheyenne desolate looking with some inches of snow &

Ap 27. Arrive at Council Bluffs about 10 Am. in a drenching storm of rain & wind. Get into bridge transfer Cars & after some delay arrive at Omaha. Usual wait & struggle for pullman & in getting baggage rechecked. Secure berth in Car Palmyra in which most of fellow travellers also accomodated. Soon after leaving Omaha rain turns to snow & sleet. Ground more or less covered with snow & a high boisterous wind. Evening about 11 Pm. Clearing. Dinner late at Fremont. Supper at

inequality in deposit, or subsequent denudation. In western Iowa the surface much more boldly undulating but apparently conforming to drainage valleys, & may very probably be due entirely to rain & rivers. The drift-material fine & with few stones more resembling loess & occasions showing in cuttings horizontal stratification. Lower layers generally pale yellowish. Upper often show decided reddish tinge perhaps due to material from Lake Superior Red Rocks in line of drift of which this place lies. (see obsns. in Minnesota)

green & wild cherries. 22 in blossom.

Drift. In Crossing northern Illinois saw much stony & bouldery drift (Particularly near Mendota stn. seen) Stones white & probably of limestones of district, at least in great part. General colour of drift whitish & yellowish. Size of some of stones would seem to imply ice action, & the deposit may represent the boulder clay or upper partly modified drift. In W. Illinois near the Mississippi drift material finer with few stones. General surface everywhere undulated but gently. Caused either by original

April 25 Arrived at Toronto about on time left 12.15 but did not get to dinner at Stratford till about 5 P.M. Got luggage through Customs at Port Huron without difficulty, opening only one piece; & Shortly afterwards turned in for the night. Much ice running down the Detroit River

April 26 Chicago 9 A.M. & leave again on C.B.& Q. Ry at 10.15. A fine & warm day with just enough breeze to keep the heat from being oppressive. Vegetation decidedly in advance after leaving Chicago. Trees beginning to show

April 24. 1877

Leave Montreal by 10 Pm. train
for Victoria B.C.

Drew from Survey $250

Cash check upon my
for outlay on lease 41.50

Drew from Molsons Bank 40.00

331.50

Servants bill 4.50 140.25

Cab .50 191.25

Ticket 135.25

140.25

Distances

Redding or more correctly Reading to Roseburg. by Stage 275

Roseburg to Portland by Cal & Ore Ry 200

Portland to Kalama by Ore. Stm. Navigation Co —

Kalama to Tacoma by N.P. Ry } 105

Tacoma to Seattle stm. 30

34

Mr. Pattison.

11. Queen Victoria Street. City.
and Hampstead.

Robert Thom.

Mrs Allen's
Office

34

Mr. S. Bourne.

Abberley,
Wallington,
Surrey.

Mr George M. Dawson

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Sir Charles Tupper.

103 Cromwell Rd

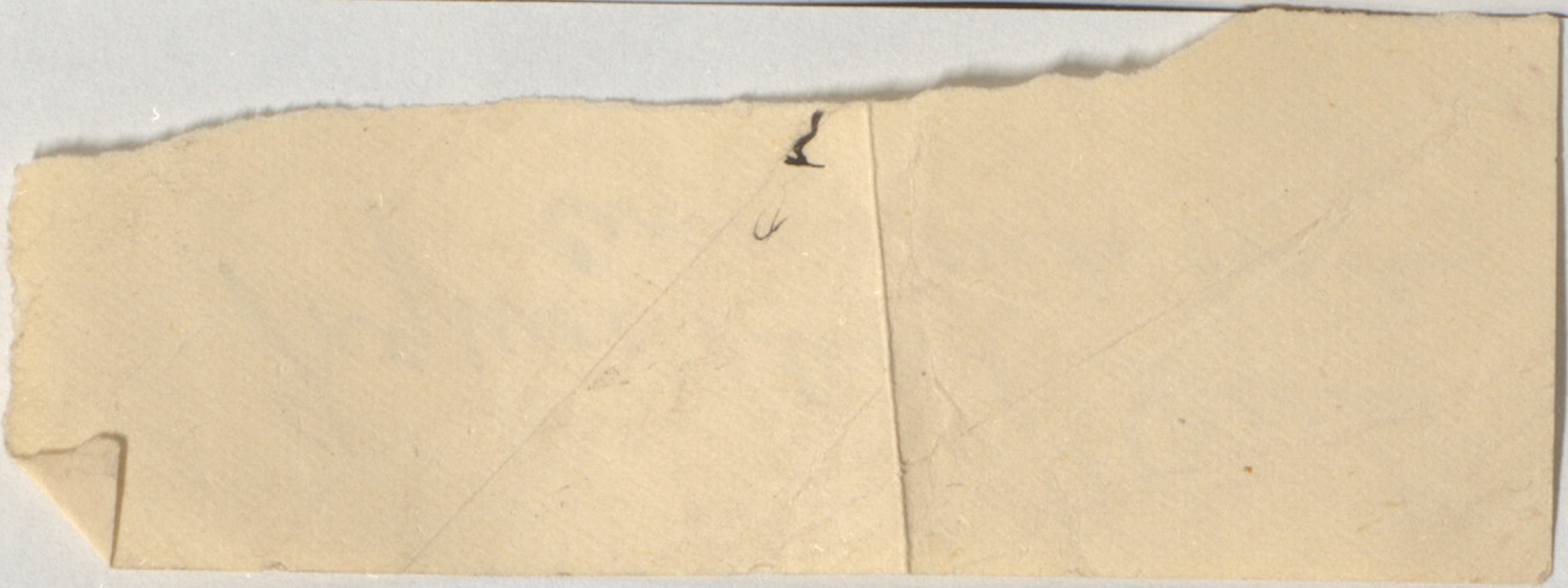
Mrs Le Sueur

13, RANDOLPH CRESCENT. EDINBURGH.

Mr George M. Dawson

Inquire about J. Devine
Cum laude Finder

785



Mr. Pattison.

11, Queen Victoria Street, City.
and Hampstead.

Chancellor Dawson.

To introduce my friend Mr Charles Mitchell (B. Sp.) of the English bar.

Principal Dawson C.M.G. &c.

Mr. John Hudson.

Cannon St. Hotel

Clyde House
Red Hill.
Surrey.

Mr D. Scott Moncrieff

24. George Square.

would Dr.
Dawson kindly
call at 3 o'clock
today, or tomorrow
previous to
Mrs. Scott Macnill
& Campbell
daughter.

D. J. M.

Mr. Robert Kidston.

Stirling -
Scotland -

Memo Addresses Dr Dawson

Nov 30 to Dec 5 —
Cooks Agency, 15 Place du Havre, Paris

Dec. 5 to Dec 12 —
~~Cooks Agency, H~~
Hotel d'Europe, Florence

Dec 12 to Dec 19 —
Cooks Agency, 1. B. Piazza de Spagna
Rome

Dec 19 to Dec 27 —
Cooks Agency, Somers Ct Gallery
Largo Vittoria, Naples

After Dec 27, —
Shepherd's Hotel Cairo

Adresse
D. D.

Lepo Bagage

3 Trunks
1 Deal Box
Valise
1 ~~Hat~~
at Zuth Hotel
Albermarle St

Mr. Ino. Richd. Byrom.

Papers in Possession
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Sold over 69.22
Int 4.22
Rec 65.00
Sold Gold 90.
Prem 45
$155.45
Dr. Weir

Mis

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PUE

In conne

C

Dr Hunt

Arthur Brent Glaeny

By Lucine Plummer

Mr. John Evans.

Nash Mills.
Hemel Hempsted.

Euston Sqr 12-30 to
Kings Langley on
Saturday May 3d

Jno Webster

10 West Newington Terrace

Mr. William Horton Ellis.

844 Sherbrooke Street

Hartwell House Exeter

rences.

Overland Travel.

The following list of overland passengers to arrive in this city to-night is specially telegraphed to the CHRONICLE: S. M. Hall, San Francisco; Chas. Fredrick, Toledo, O.; Mrs. J. J. Shepard, Gold Hill, Nev.; Mrs. Lawrence, Washington, D. C.; Mrs. Clark, New Orleans; Mrs. J. D. Bethume, do; John King, wife and two children, Michigan; J. W. Bigelow, Massachusetts; G. M. Dawson, Montreal, Canada; Marshall Brown, Pittsburg; N. W. Trail, Sydney; Wm. Reston, Wilmington, N. C.; F. C. Butler, Newark; H. A. Strong, Rochester, N.Y.; E. T. Curtis, do; J. W. Gaskill and wife, Philadelphia; Miss N. C. Booth, East Orange, N. J.; Miss E. Watson, Philadelphia; Miss J. De la Montagnie, Oakland; Mrs. M. De la Montagnie, do; Master De la Montagnie, do; Mrs. L. B. Cuttar, Wilmington, N. C.; W. B. Benedict, Missouri; Mrs. J. L. Loveland and daughter, Boston; Miss Kittie Dunphy, Auburn, Cal.; Jno. W. Wooldey, New York; A. W. Head, New Jersey; Thos. Ryan, New York; J. Becker and wife, do; D. McVicker, Canada; H. L. Springer, Chicago; E. A. Root, Monmouth, Ill.; A. Smith, Montreal; A. Springer, Chicago; S. Bernstein, do; P. N. Springer, do; Mrs. Taggart, Toronto; Mrs. Freth, do; M. J. Burke, New York; A. H. Douglass, wife and three children, Chicago; Miss Fannie Grover, Boston; Mrs. E. Gould, Michigan; Mrs. Pierce, Ogden, Utah; Miss Brisbon, St. Louis; O. N. Hall, Maryland.

Murdered for Money.

SANTA CRUZ, April 30.—Between the hours of 8 and 9 on Saturday evening Henry [illegible] aged 62 years, who has a wife

Connecting with Steamers to SITKA and PUGET SOUND and O. and C. R. R. Co., and Oregon and C. R. R. Co., through Willamette, Umpqua and Rogue River Valleys, Oregon.

TICKETS TO ALL POINTS ON THE O. and C. R. R. SOLD AT REDUCED RATES.

Sailing days in May, 4, 9, 14, 19, 24, 29, at 10 o'clock A. M. K. VAN OTERENDORP, Agent,
m1-tf 210 Battery street.

PACIFIC COAST STEAMSHIP COMPANY.

Commencing April 1, 1877,

STEAMERS OF THIS COMPANY WILL SAIL from Broadway-street wharf for LOS ANGELES, SANTA BARBARA, SANTA CRUZ, SAN DIEGO, SAN LUIS OBISPO, and other Northern and Southern Coast ports as follows:

ROUTE.

No. 1. MONTEREY.....Every Monday, at 4 P. M
No. 2. CONSTANTINE, Every Tuesday, at 9 A. M
No. 6. MONTEREY.....Every Saturday, at 9 A. M
No. 5. ORIZABA .....Friday, April 27, at 10 A. M
No. 3. LOS ANGELES, Sun., April 29, at 9 A. M
No. 5. ANCON.....Tuesday, May 1, at 10 A. M
No. 4. SENATOR.....Friday, May 4, at 10 A. M
No. 5. ORIZABA.....Monday, May 7, at 10 A. M
No. 3. LOS ANGELES, W'nesd'y, May 9, at 9 A. M
No. 5. ANCON.....Friday, May 11, at 10 A. M
No. 4. SENATOR, Wednesday, May 16, at 10 A. M
No. 5. ORIZABA, Saturday, May 19, at 10 A. M
No. 3. LOS ANGELES, Mond'y, May 21, at 9 A. M
No. 5. ANCON, Wednesday, May 23, at 10 A. M
No. 4. SENATOR, Saturday, May 26, at 10 A. M
No. 5. ORIZABA, Tuesday, May 29, at 10 A. M
No. 3. LOS ANGELOS, Th'sday, May 31, at 9 A. M
No. 5. ANCON.....Saturday, June 2, at 10 A. M

For movement of freight boats see Alta or Guide.

Ports at which above Steamers Call.

Route No. 1 embraces Point A

From
A. M., 6
From
*Alan

The
—tide p

MAY.....	SAN (Ma
1	.....
2	.....
3	6.50
4	6.50
5	6.50
6	9.00
7	6.50
8	6.50
9	6.50
10	6.50
11	7.20
12	8.50
13	9.10
14	.....
15	.....

"Offic
son & R
gomery
A. N.
m1-tf

NORT
SUME

Mr George M. Dawson

Mr George M. Dawson

Mr George M. Dawson

Mr George M. Dawson

Mrs George M. Dawson

Monday
January

Murray Bay

Heights of Terraces
Murray Bay Side

Do Cap a l'aigle Side

If any new shell
deposits exposed
in clay

Terraces on Road
to Petite Sac
How high & of
Contain shells

Outlet of Petite Sac
Did it cut through
a Moraine
or Terrace of
Drift or through
Rock
In former case is it

Cut down to the rock

How high does the boulder deposit extend on hill above Petite Lac and is there any terrace above that level.

Is the rock at Petite Lac Laurentian or does the Limestone lie behind up St Jean.

Any new fossils from limestones at Murray Bay?

Murray Bay.

Heights of Post-pliocene Terraces

Aneroid Measurements

Aug 13, 1877.

Reading	Hour	Rise or Fall per Hour	Reduced Reading	Diff:	Height.
29.85	7.00 h AM				
		0.01 R			
29.86	8.00				
		?			
29.92	8.45				
29.95	8.48	^	29.95	0	0
29.93	8.50	Rise at rate of 0.04 per hour or 0.01 per 15 min.	29.93	0.02	18 Q
29.91	8.53		29.905	0.045	41
29.88	8.56		29.875	0.075	69
29.96	9.03	v			

Levels

along farm line inland from Church.

(At Hotel)

" "

" "

At mark of H.W. Spring tides opp: Lorne House

On Road near Hotels . Terrace No. 2.

Foot of Terrace No. 3

Top of Terrace No. 4.

These two Terraces been from a single terrace of Sand & Gravel. Reddy's & all limits are on Terrace No 4.

At same point on beach H.W. S.T.

Reading	Hour A.M.	Rise or Fall per Hour	Reduced Reading	Diff	Height
30·01	9h·55	↑	30·01	0	0
30·00	9h·57		30·00	0.01	9½
29·975	10h·00		29·975	0.035	32
29·96	10·05	Fall of 0·03 per hour	29·96	0·05	45
29·84	10·25		29·855	0·155	141
29·84	10·30		29·855	0·155	141
29·61	10·45		29·63	0·38	345
29·81	11·10		29·85	0·16	145
29·94	11·20		29·98	0·03	?
29·92	11·22		29·96	0·05	?
29·963	11·25	↓	30·01	0	0
~~29·96~~ *	11·35				

Note; * The difference between the last two readings, accepting the last, would suppose a sudden inadmissible for the day in question. From 10 Hrs a decreasing rate ~~of~~ 9·30 P.m., 29·90;

— Levels of Terraces —

— Murray Bay Side —

(Along line marked "Second" on plan.)

On beach past fishery Point at mark of High Water Spring tides.

On Terrace No. 1. (Below Road)

On Terrace No. 2. On road. at Le Points.

(No. 2. is the terrace on which the Hotels & houses stand.)

On Terrace No. 3. Begins behind Hotels and continues about ½ mile beyond le Points'.

Terrace No. 4 Behind le-points'

" " " Near Lord Cecil's.

Terrace No. 5 High Sand Terrace

Terrace No. 4 At ~~Lord Cecil's~~ D. Blackburns.

(Just below Sand Terrace)

Terrace No. 3 N.W. of Lepoints' (abt. 200 ft)

Terrace No. 2 At Lepoints'.

On beach at same point H.W.S.T

(At Hotel) (Cancelled Reading)

should be 0.03 so that one must be erroneous.
rise of 0.025 in 10 minutes which is in
the full seems to have been regular and at
giving the rate of 0.006 for the afternoon


Village
Murray Bay
Fishery Point
Terrace No 2
Church
Farm House
Part of No 4
Ter. No 1
Warrens


Clay Hills
Clay
Clay
Lepoints
Terrace No 3
Terrace No 4
First line
D. Blackburn
Second line
Terrace No 5
Rocky Wooded Hill.

Aug 14, 1877.

Reading	Hour A.m.	Rise or Fall per Hour	Reduced Reading	Diff	Height
29.87	8h.00	0.00			
29.87	9h.00				
29.91	9.50		29.91	0.08	73
30.00	9.53		30.00	0	0
29.91	19.55		29.91	0.08	73
29.86	10.01		29.86	0.14	127
29.80	10.10		29.805	0.195	177
29.71	10.15	Fall 0.015	29.715	0.285	257
29.61	10.25		29.62	0.38	346
29.49	10.31		29.50	0.50	455
29.36	10.38		29.37	0.63	573
29.86	11.05		29.875	0.125	114
29.88	11.13		29.90	0.10	91
29.98	11.16		30.00	0	0
29.95	12.00	Fall 0.016			
29.87	5.15				

Cap à l'Aigle

Levels of Terraces near Col: Reves.

} (At Hotel)

(91 ft. = 0·01)

On terrace A (~~Level of Col. Reve's House.~~)

On beach at mark of High Water Spring tides

On terrace A. (Sand & gravel).

{ On terrace B (Sand & gravel) Col. Reves

{ On terrace C. (Sand & gravel)

On terrace D average level. A Clay terrace capped with Sand.

On terrace E, at foot of high sand terrace

E. much cut away standing in Conical Hills (Sandy Clay)

On terrace F (Sand & gravel.) (= No. 5)

{ Terraces at this level between this & ridge of Cap à l'Aigle Hills.

{ On conical Sandy hill

Level of Col. Reves, on road, on terr: B

On road. Terrace A. (Same point as before)

On beach same point. H.W. S.T.

} (At Hotel)

Aug 16, 77

Reading	Hour	Rise or Fall per Hour	Reduced Reading	Diff.	Height
	Aug 15				
29.86	10.P.M.	Rise			
	Aug 16	0.004			
29.89	5.Am.	Fall			
		0.006			
29.88	6.30	Rise			
		0.10			
29.93	7.00				
		Rise			
29.96	7.05	0.02	29.96		0
29.96	7.30		29.95	0.01	9
29.91	7.45		29.89	0.07	64
29.91	7.50	Rise	29.88	0.08	73
		0.045			
29.84	8.10		29.80	0.16	~~146~~
29.78	8.15		29.74	0.22	200
29.81	8.24		29.76	0.20	~~182~~
		Rise			
29.75	8.33	0.03	29.695	0.265	241
29.38	8.50		29.315	0.645	587
		Fall			
		0.036			
29.20	9.30	Fall	29.16	0.80	728
		0.032			
29.16	10.45		29.16	0.80	728
		Fall			
29.06	11.05	0.036	29.07	0.89	810
28.41	11.55		28.45	1.51	1374

Levels
from
Murray Bay to Petit Lac

$(91^{ft.} = 0.01)$

At Hotel.

On beach opposite Lorne House H.W.S.T.

At end of M.B. Bridge abt. $10^{ft.}$ above

On Clay terrace (α) abt. 1 mile from M.B. Vil

Ter. α. Clay, forming bank of River

Same terrace (α) (near Cross).

Terrace β. No shells. Fine clay.

Ter: (α?) (near Cross) (8.21 X-ed Book)

Terrace β. (Same level as former ter. β)

Terrace γ clay capped with $10^{ft.}$ sand.

A well-marked terrace, more distinct and continuous than others

Water-level, Petit Lac.

Water level Petit Lac

On top of Ridge (marked on map)

On Hill S of Petit Lac. Drift & boulders, quite to top, and apparently higher on hills to the S.W.

Reading	Hour	Rise or Fall per Hour	Reduced Reading	Diff.	Height
		Fall 0.036	(29.96)		
29.28	12.30		29.31	0.65	591
		Rise 0.03			
29.70	12.45		29.75	0.21	191
		Rise 0.045			
29.91	1.35		29.95	0.01	9
		Fall 0.05			
29.86	2.00		29.93	0.03	27.

(HW. S.T.)

Terr: γ. Capped with sand (Same O.E. antiq)

Same point on terr (α?) near Cross.

At Same point in Villiage near Bridge

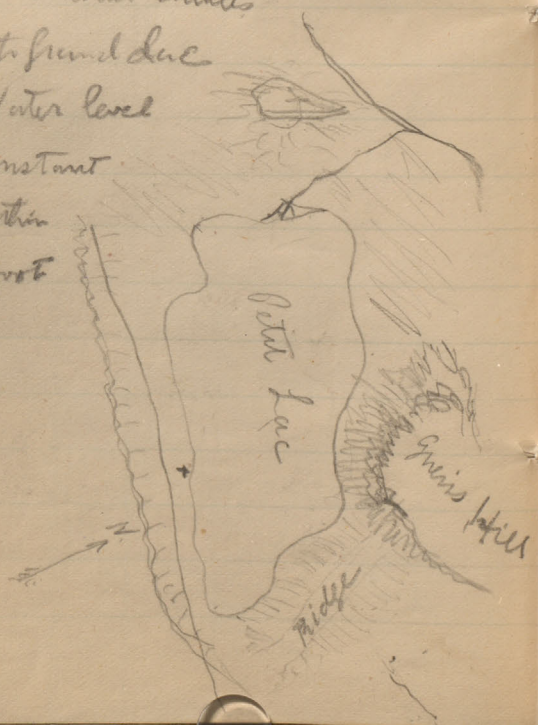
(At Hotel)

No shells observed in terraces on the way to Petit Lac.

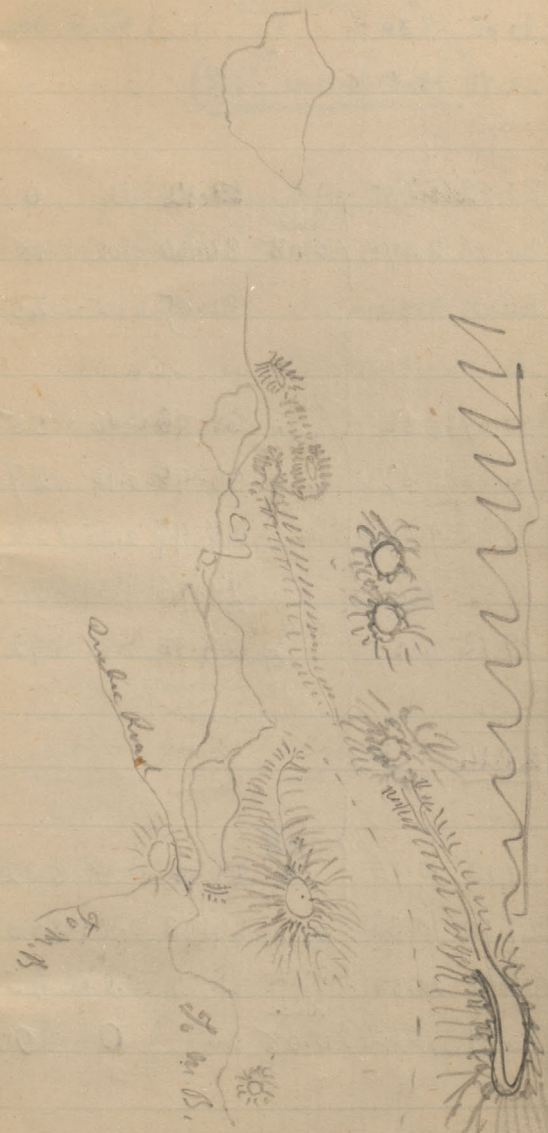
Stream leaves Petit Lac at N. End. Velocity,
15 feet in 20 seconds

Width 8 feet. Depth 6 inches
Area = 4 sq. ft. Vel = 45 ft. per min.
Discharge = 180 cu. ft. = 1125 gallons.

This stream runs 12 acres then meets the stream from Grand Lac which runs to the N.E.
It is about 2 miles to Grand Lac
Water level constant within a foot



28 arpents to the mile.



Reading	Hour	Rate of Rise or Fall per H.	Reduced Reading	Diff.	Height
30.00	h 7.30				
29.70	8.00		?		
30.12	h 8.45		30.12	0	0
30.10	8.47	Rise 0.08	30.10	0.02	18
30.08	8.50		30.07	0.05	45
30.07	8.52	Rise 0.12	30.06	0.06	55
30.00	8.57		29.98	0.14	127
30.00	9.02		29.97	0.15	136
29.78	9.11		29.73	0.39	355
29.15	9.57	Fall 0.05	29.14	0.98	892
29.14	Average				
29.13	10.05	Fall 0.05	29.14	0.98	892
29.70	10.38	Rise 0.12	29.73	0.39	355
30.06	10.50		30.07	0.05	45
30.11	10.52	Rise 0.08	30.12	0	0
30.07	11.02				

— Levels of Terraces —

Pointe-à-Pic

first part of
~~Along~~ line marked "Second" on plan
and beyond

(At Hotel)

" " (91 ft = 0·10 inch)

Mark of High Water Spring Tides; Lepoints beach

Terrace No. 1. (Below Road)

On Road at Lepoints. Terrace No. 2. but seems rather above level of Hotels.

Terrace No. 3. (Clay)

Terrace No. 4 (Clay capped with 5 ft of gravel)

" " " near Blackburns.

Terrace No. 5 { By clinometer sight, same level as terrace 4.

Terrace No. 6 (Sand) Sand at same level by clinometer on side of hill to N.W. Terrace higher than ridge on right bank of River as River Boulders + drift extend above it on hill behind.

Terr. No. 6 (Same point)

Terr. No. 5 (Same point as before)

Terr. No. 2 (" " " ")

H.W.S.T. (Same point as before)

(At Hotel)

Ramaines in
Section at Regus
Gold Shows
Nerves return
Medusae cut
No Nerves
and in
Europus indeed
a small Species
Polyple Nerves do
Nerve point tentacles

In Tissue Communication
Saturally between
Marginal Ganglia
& Marginal
Nerve cells
can be seen

Terraces observed by Mr Richardson.

Blanc. Sablon. Labrador. N. side strait of Belle Isle.
Series of terraces with following heights above the sea

64 feet. 81. 102. 120.
144. 164. 173. 183. 204
313. 337. 348. & 374 feet.

On W. Coast Newfoundland some miles inland. 7 terraces, rising in steps of 50 to 150 feet. Composed of well rounded pieces of potsdam Sandstone, which is the rock of the country.
Lowest terrace by barometer 500 feet highest 1225 feet, above sea level.

Prof Wilson
52 7N
Geo Dawson

7

10

10

10

11

10

9

9

9

9

8

11

12 | 113 | 9.4
108
5.0

33
94
132
297
310.2
3
930

10
12
12
12
11
12
10
10
10
12
111

50
11
550
2
1100

Nov 6
Remarks Bot
on Australian
Desmids

Also,
Les Tourbes
et Bois a Bulb
L. Duvillers
See Geol Mag
for Aug

Also German pap
on Steppes of
Pst Glacial
Europe
See Geol Mag

St. Octave Station

Aug 10, 1877.

At Macniders

At point where proposed Rd. joins

On Railway at present crossing.

At summit on Road.

At St. Octave station.

(Formula, 92 ft. = 1/10 inch)

From Macniders to

Reading	Hour	Rate of Rise & Fall	Red. Read.	Diff.	Height
29.84	9h AM				
29.80	10h AM		29.80		000
29.42			29.43	0.37	351
29.30			29.31	0.49	451
29.19		Fall 0.02 per hour	29.20	0.60	552
29.24	11h AM.		29.25	0.54	497
29.22	12h AM.				

18 | 60 | 4
6

2 | 242
9 | 121
6 | 13 1/3
2