

Sir Thomas Mitchell diary, with comments on the discovery of gold, especially in the Bathurst district, 1851

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N: 51/268

Colonial Secretary's Office
Sydney 21 May 1851

Sir,

It being considered of great importance that the extent and productiveness of the Gold field reported to have been discovered in the County of Bathurst should be ascertained with as much accuracy and with as little delay as possible; I am directed by the Governor to inform you that His Excellency is desirous that you should yourself undertake this duty; and to request that you will therefore proceed at your earliest convenience to that District for the purpose.

2 The following are the points on which I am desired more particularly to request your report.

1 The longitudinal extent of what may be deemed the auriferous ridges, as they stretch from Canobolus towards the North.

2 The general form in which these auriferous ridges have been elevated, which may be explained by vertical transverse sections as far as they can be given, the object of procuring information in this particular point being to ascertain whether Gold has been washed down to any extent from both sides of the auriferous chain.

3 The greatest height of the the auriferous chain at various points, the average height of the whole line, the average height of the plain of Guyong above the level of the sea, and of the plain on the Western side of the auriferous chain.

4 The average angles of the declivity on the East and West sides of Auriferous chain and more particularly the angles of declination at which the particular Streams and Creeks run down to the Eastern and Western plains from their sources on the Mountain.

5 The number and general volume of these several Streams or Creeks with their names, and whether they are often subject to floods.

6 The richness of the matrix near their several sources, to be shown as far as possible by specimens broken off from the sides of the mountain in the vicinity of each source and with their localities carefully marked.

3 His Excellency also requests, that in addition to report on these heads, you will furnish such further information on the subject, as you may consider desirable.

I have etc.

The Surveyor General.

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Wellington Mail arrives in Bathurst every Monday & Thursday at 6 PM and leaves Bathurst every Sunday & Wednesday at 6 AM.

Carcour Mail arrives in Bathurst every Tuesday, Thursday and Saturday, leaving Bathurst every Wednesday, Friday and Sunday at 6 AM.

Bathurst Mail to Sydney on Monday, Wednesday and Friday at 4 AM, arrives on Tuesdays, Thursdays and Saturday at 5 PM.

W. Clark says 1/10th. Inch in his Aneroid gives 91 feet. The divisions can be read to count 1000th. Of an inch by reckoning each of the minor divisions .026 – and by the eye dividing these into 3 parts allowing each to be 008.

Canobolos 4451.6

The subject of the occurrence of the metals in veins and masses is most obscure; but the general fact, that they are most abundantly situated near the junction of stratified and unstratified rocks,

indicates their connection with an igneous cause; and, in common with other veins, the two principles of simple injection and chemical segregation have doubtless operated in their production.

“All affairs with reference to these mines (the Derbyshire lead mines) are regulated by a peculiar court, legally constituted, the laws of which are administered by an officer called the barmaster, whose mode of proceeding is extremely simple and summary. When a person has found, or imagines he has found, a vein of ore in any part of the “King's field”, which with few exceptions, includes the whole of the mineral districts of Derbyshire, he may claim it as his own merely by fixing down a pair of sticks, put together in a peculiar way and notifying the same to the

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appointed officer, who immediately confirms him in the possession of his newly acquired property. The officer, attended by two jurymen, proceeds to the spot, marks out a plot of ground about fourteen yards square, takes it from the former proprietor, whether it be freehold or not, and gives it to the fortunate discoverer. He then, with his attendants, their arms extended and finger ends touching, proceeds to the nearest highway, the line of route becoming a carriage way in perpetuity to the miner, whereon he may cart his minerals. Neither standing corn, nor any other description of property, with the exception of “a dwelling house, a high road, a garden or an orchard” is, or can be, exempt from this fundamental law of the miners” From Milners Gallery of Nature.

“Lydius Lapis, or Lydian Stone in mineralogy, a stone of greyish black colour, which is found in Bohemia and other parts of Germany, and also in Scotland. When polished, it is used as a test stone for determining the purity of gold and silver. It was used for this purpose among the ancients, by whom it received this name, because it was found only in the Gmolus, a river of Lydia”. From “Maunder's Scientific Treasury”.

The Lydian Stone is also alluded to in “Lyell's Elements of Geology” page 266, Vol II. In describing the geological structure of Catlonia in the following words - “The conglomerate contains pebbles on quartz, Limestone and Lydian Stone”.

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The brig Trial commanded by Capt. Hovell in the year 1817 went into Shoal Haven up 30 miles to load with cedar – (200 tons) and came out in 10 feet water – only trusted use on the bar – By Berry Og Ct. cutting a canal from Shoalhaven into Crockhaven the navigation of the Shoalhaven river has been completely destroyed.

At the town of Matzatlan – near the mouth of the Gulf of California – Bayard Taylor saw in the market place, a plump green berry, with a taste like a strawberry and gooseberry combined; they are called by the natives arellanes. P 54, ..?

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Elegy written in a Felon's burying ground -
{On the solitary burying ground of the Special Prisoners, Wellington Valley}
The graves of the forgotten friendless dead
Because forgotten ~~start~~ a pitying ~~tear~~ eye
O'er these remains where ~~On this dim spot~~ no tears were never shed
Yet let me heave an unavailing sigh!

Unblest by parent prayers or widows tear,
Unnamed, unknown the poor remains below;
No holiness of thought, the place endears;
That these were criminals is all we know.

From country, home and friends, in irons sent,

The penalty of crime thus doomed to pay:
The laws' dread sentence here they underwent -
there to await a second judgement day.

These last sad relics of degraded life
When all was lost for which life is held dear -
Mark still the spot where ceased the earthly strife
And, can it be! Draw forth a real tear!

At graves of the heart-broken, where despair
Had done his worst – at tears, why do I start?
That in this sweet vale which knows no human care
Could yield no balm to heal the ~~broken~~ homesick heart!
~~Rapid the withering of the broken~~

Deliver me from evil, Lord! I pray.
From passion, covetousness, that dire disease!
That at the great and final judgement day
Unshirved, I may not prove less pure than these! Britannicus 26th, July 1851.

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The Curly-headed Gin.

Her teeth so white
Her eyes so bright
So silken smooth her skin; Art dare not hide
Sweet Nature's pride
The curly headed Gin. Dorodo, barada, tundy kin ara. The white man with creaky shoes -
His like she never saw.

She breathes the air
Of Nature fair,
Nor chamber would go in
In nuptial hour
The leafy bower
For curly headed Gin – With her Dordo barada minye ginny wite ma la! The white man
walks on beaten roads. He cannot climb at all.

Could you but know
How soft and low
Her love-making cooing begins
Then you would swear,
The Graces were
Three curly headed Gins – Dorodo barada tundy kin ara
Dodrdo barada minye ginny wite ma la!

Remembrances sad, as each man sank in death;
Far from these scenes to distant Albion strayed:
From where he last, to where he first drew breath;
A sinless child; undo for that laws he prayed.

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The Curly headed Gin - Air - "Of a' the ..? the win' can blow"

With eyes so bright
And teeth so white
So smooth her silken skin

She swims th floods
And sings in woods
The Curly headed Gin (He [You] walks in shoes & cannot use his [your] finger toes at all)
Her voice is like the turtle doves with "tundy kin ara"
And With dorodo and barada, and minye ginny wite ma la!

She breathes the air
Of Nature fair,
Adorned like Beauty's Queen
Art dare mpt jode
Sweet Nature's pride
The Curly-headed Gin.
With dorodo and barada, and tundy kin ara
She laughs at men waks with creaking shoes – whose like she never saw.
With dorodo and barada and minye ginny wite ma la
Could you but know
How soft and low -
Her love cooing begins
Then you would swear
The Graces were
Three curly-headed gins.
With dorodo and barada and tundy kin ara
And dorodo and barada and minye ginny wite ma la!

{For Paris in Mount Ida's Grove was puzzled mightily
Till Venus took her tomahawk, and ~~went~~ climbed upon a tree}

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Remarkable Dream -

On the night between the 24th & 25th of Sepr. 1851 – I dreamt that I was amongst beautiful scenery – somewhere, I thought, in Scotland. I saw picturesque mountains – shady woods, mossy rocks – and dells – green and fertile vallies – My A companion I had talked all the while on the delights of deer-hunting – on this theme he was so enthusiastic as to become poetical, and I awoke with a perfect recollection of these lines – which I repeated to Lady M – and which still recalled the scenery to my ideas most vividly – amongst which I heard them;

The sun is in the woody dell
The beam is on the fountain
The deer feeds where he likes so well -
The breeze is on the mountain -

But if one thing would make me glad
Could make my bosom quiver -
The very thought would drive me mad
Forget it could I never!

It is kill that fallow deer
And see him bleeding dying
The very best of noble cheer
Upon the green earth lying!

Now with these complete couplets – I awoke – I never read them anywhere. I had not been thinking of deer – nor ever knew the sport of deer-stalking. Far different subjects had intensely occupied my waking thoughts, and I had fallen asleep with a brilliant idea on a subject so

ridiculously different {namely how I should compel my Deputy to write up the letter-books of my office – to cure him of writing letters to me} that I consider this a notable instance, amongst many that have occurred to me, of indications revealed by dreams of having humanly existed as another person – But how verses are spun on the instant by the mind in dreams ! Even as a little boy, I awoke with four lines – a sort of hymn.

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1851

June 3d.	½ fr 10	Weatherboard	27.025		
June 5	9 AM	Solitary Creek, Inn	26.708		
"	10	Hill ascending {..?}	25.805		
"	10½	Tree Honeysuckle Hill	25.708		
"	3½ PM	Inn Green Swamp	26.856		
" 6	5 PM	Macquarie Inn at Bathurst	27.600		
" 7	4 PM	Inn at Rocks	27.100		
" 8	10 AM	Granite Range {road}	26.838		
"	2 PM	Kyong Inn	27.016		
"	2½ PM	Junctn. Creek	27.100		
" 9	3 PM	Inn at Orange	27.037	Sth Hd.30.177]	
" 12	8 AM	" "	26.750	" "	29.873] mean 2774 feet

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19 June (Contd. From daily Journal -) although it says little for their knowledge of the natural production of their country - or that intelligence for which I have long been ready to give them credit.

I learnt amongst the diggers, that many made very little by their gold seeking, while others were very successful - One poor fellow, a shoemaker said the good fortune was generally on the side of that cliff - not so much as he thought in end of it. It was stated by a man who had worked there successfully, that the gold extracted from all these diggings would not amount to enough to pay with very moderate wages, the actual labour afforded the search of it. He was a shrewd man who said this. (His name was Sweeney an Irishman.) It is very plain why it is that men of education and intelligence succeed better than mine labourers at this search for gold. The former consider the effect of the fluvintile currents of past times - their utmost probable height and the gravity of the metal they seek. They begin their diggings more systematically at points of low land opposite the steep concave banks – opposite to which the circling waters run with slower current and deposit the heavier sediments. Taking up the larger slabs of rock beginning near the water edge – they dig to the “bed rock” at even a depth of three or four yards – denuding it upon & towards the permanent escarp back from the river. They find that the ancient deposits within about six inches of the bed rock are worth all the rest containing more auriferous matter, whether in the form of water-worn pebbles (often mixed with quartz) or small scaly particles varying from the size of cheese-mites to that of a house fly – portions at all larger are called “Nuggets”. Such prizes however are only known where a thousand blanks in the golden lottery disappoint as many hard working men. A little mine combination would evidently greatly encrease the washing power and enlarge its products. The river might be so confined to run a small current as to washing a greater accumulation of diggings – but next summer and a greater accession of diggers may lead to many contrivances of this sort.

Returning to the hut where we had passed the night, whose occupant was called “Dosey Billy” - and was very civil and obliging to us all – We then set off about 2 PM to follow the run cart track towards that part of the Mullions Range whereby we came. “Dosey Billy” rode with us to set us on the right track – and this brought us to the place desired. Thence pursuing a direction likely to take us to a station on the Nandillion Ponds belonging to Mr. Kite – we enquired at an old hut which way would be

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be best to take – The occupant a rough looking Oatlander very obligingly came with us to set us in the right path – very precisely telling Mr. Davidson to cross the watercourses, but to be careful not to cross it a second time, but to follow it down, whereby several miles travelling would be avoided. This man in being asked why he had not gone to the diggings, said he was “very fond of working with the hoe” and that he was very thankful to Messrs.

... and ... neighbouring magistrates, “that he had not been kicked out”. Such well disposed easily contented characters are by no means scarce in the Australian bush having apparently acquired a taste for that primitive untrammled sort of life, and it always has seemed to me that the man who is content with the company of dame Nature only – must in time become a good man, whatever he may have been before.

We followed carefully the little creek, got finally on a more beaten road, and although afterwards benighted, and without a road – Nandillion Ponds guided us to our camp which we reached about 9 PM.

23d. July – Mr. Ferguson told me that there were about 30 natives about Mr. Watson's establishment, near Wellington Valley. That it was observed that those who had received most education generally turned out the worst conducted of the aborigines. It appears, however that the native employed by Mr. Sutter and Dr. Kerr were educated at Wellington Valley. These were the men who found for the latter, the large mass of gold.

A horrible anecdote of the treatment of the aborigines, amongst many I have heard, I must enter here. Mr. Hayes kept at his station, a number of native girls employed in various capacities, and it happened as usual, that they went away to the bush – and were pursued and brought back by the white men of Mr. Hayes' establishment. They then seized a young native whom they supposed had induced the native women to go to the woods – tied him up and flogged him so severely – cutting his back so much, that he died in three days.

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To be appended to Journal July 12th.

Such an apparent jumble of matter obliged me to consider, were it but for the sake of observing their relative positions with attention, how these changes had been produced.

Here was a coral protruding from limestone rock and evidently the production of the sea – yet the rock was now ... feet above the present sea. That mass of limestone reposed on highly inclined edges of chloride schist which in other parts, but generally near limestone, had thrown up masses of a ferruginous conglomerate, containing large water -worn pebbles of quartz – basalt, limestone. Under these rocks – trap rocks - were to be seen – igneous beyond doubt. Even cellular lava appeared in the clay of adjacent plains. The present surface of the earth afforded no cue to these disturbances ~~that~~ indicated by these effects of igneous action.

On the contrary, so harmoniously is the present surface of the earth adjusted to the laws of hydrostatics and gravitation, that I have long entertained a hope that geodesy may someday be brought to such perfection that the present forms of hills and vallies may be explained and accounted for in connection with the natural history of water. Indeed, I have entertained long an opinion, that as the comparative anatomists can determine from a small portion of bone, the character and habits - or at least the form of the whole animal, so from the form, plan and section of a hill – that of the surrounding hills and vallies might be determined.

But under this surface presenting such harmonious undulations, I find other contents only to be accounted for by considering them due to the action of fire. Both of these elements indeed water and fire, have been more active a part on the earth's surface at some former times, than they are at present, for the present vallies could no more have been scooped out by the mere products of clouds now floating over them, than the fires of our hearths could have hardened the rocks – or melted the ancient lavas. Without the opportunity of knowing the state of geological science at home while I was on this excursion, I was nonetheless obliged to consider how these changes has been produced, and, if ignorance or isolation may thus have exposed me to the ..? of geoligists, I can only say that I shall be glad to be set right on any point where I may appear to be mistaken.

In the channels of rivers, the parallelism of their banks is a common object, and where a protuberance on a bank obstructs the river current, this is

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sure to work a corresponding concavity on the other bank. We find in mountain ranges - even as far as twenty or thirty miles apart, the same sort of parallelism, or a correspondence in the convexities and concavities, for which I know not how to account, but by the action of great currents of some fluid that must have filled the whole space between such ranges.

Some law of this kind seems to have regulated the physical forms of hills in general and the direction of water courses - and the harmony is beautifully apparent when any surface is carefully modelled or mapped. But now sooner do we look beneath that surface than we find a different order of arrangement; that particular kinds of rock run in nearly straight lines through all the modifications of surface; that other surfaces are isolated and prominent - others run in lofty ranges, (others lie in strata nearly horizontal, which has been cut through so as to form the smaller vallies and hills). These rocks belong to what has been called the primary formation and can only be accounted for by the action of fire, and upheavings of internal matter to the surface in a fluid or semifluid state.

The country between the Canobolas, Wellington Valley & the Macquarie is an instruction page in the past history of the earth, and it has led me into these considerations, in order that I may endeavour to understand it.

The prevailing rock in all that country is what I believe geologists call "Chlorite ~~slate~~ or schist". The edge of this ..? trends very generally in the direction of about 12° West of North - and the dip is in general to the eastward at an angle of about 40°. Alterations of this general direction of strike - and changes in the angle of dip are observable in very far places, apparently caused by eruptions of volcanic fluid, now hardened into basalt or trap

The undisturbed straight direction of the outcrop of schist under every superficial modification of the ground is very striking, and many minor features appear to have their forms from this general direction of the schist.

But although partial eruption appear to have disturbed the uniform direction of the layers of schist - we have to seek for a more general cause in order to understand that uniformity of general direction. Every crack or fissure observable on the eastern coast - trends nearly north and south - as does this outcrop of this schisting three hundred miles inland, at elevations varying from ... to ... feet above the sea. This direction is conformable to that of

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of the Coast Ranges, the line of coast itself and the form of the great island, Granite is the unstratified primary rock from which the dip of rocks has reference, and this dip of Chlorite Schist towards the east induced me to consider the situation of any Granite further Westward, and if possible to extend my section to it.

As for the general mechanical cause of the upheaving of the schist, I have been obliged to adopt, for convenience sake, the theory of M. Cordier, that the solid surface of the earth is but a crust or hardened shell enclosing an igneous fluid; that any extensive wave in the fluid below would be most likely to roll from east to west; and that it would cause upheavings of igneous fluid in the thinner parts of the crust, and throw up the crust of schist like the crest of a long wave in a north and south direction, and causing the cracks and fissures, apparent in rocks of less elevation less inclined and nearer the coast.

With these conclusions drawn from actual observation chiefly, I proceeded to consider the extent and productiveness, general form, heights and declivity of the auriferous ridges as they extend from the Canobolus towards the north.

That quartz is one of the most common of rocks, is the matrix of the gold seems pretty evident from the situations of gold deposits - coupled with the fact that the precious metal has been found in quartz rock in situ - and is frequently found at the diggings as a water worn pebble combined with quartz.

Chlorite Schist is described to consist of "Rock composed of Quartz and Chlorite inflexuous

laminae associated with crystalline Primary Limestone and Quartz Rock”.

This is truly the character of the rocks in the country I have been instructed to examine, and in which examination I have run various sections (longitudinal and transverse,) as they are shewn on the accompanying map.

Throughout that region Quartz Rock is more abundant than I have ever seen it in any other portion of country of similar extent. It appears in veins throughout the schist, the layer veins being parallel to the layers of schist – and cropping out in the same manner – the smaller veins traversing such layers. Small veins of quartz appear even in the harder volcanic rocks – and pebbles of quartz much water worn are very abundant in a remarkable ferruginous conglomerate which I shall have occasion to

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to notice more particularly hereafter.

The occurrence of gold but rarely in the quartz – so evidently the matrix – and yet so generally in the beds of streams running amongst quartzose rocks – is a ..? not yet well understood. I believe that the gold will still be discovered in the matrix, when the larger veins or dykes are of quartz rock properly worked into. At present, I have only to state that the auriferous productiveness of the streams, appears to be proportionate to the amount of quartz in the country drained by such streams – and the obstructions presented by the flexuous laminae of the schist to the quantities found of sedimentary particles of Gold'; the actual structure of the country to which I have been sent, required my most particular attention.

But as “the longitudinal extent of auriferous ridges” is the first head under which I am intended to report I must here premise that the extent is greater than I have been able to ascertain by my present journey. It is true that I have closed my middle section Westward from “the Diggings” to the Granite of the Currumbunya Range and eastward to the Granite of Bathurst – but the records of my tours of discovery will show that dykes of quartz and chlorite slate intercept the waters of the Lachlan so low as Kalingalungalay – a native word having reference to this fact – and another mountain consisting chiefly of quartz is mentioned as having been seen by me, when in search of Mr. Cunningham.

Taking quartz and chlorite schist as a criterion of auriferous country, I would submit a list of Australian rocks – with their localities -whereof specimens were formerly examined by Mr. Lumsdale curator of the Geological Society of London, which specimens are now deposited in Somerset House.

On the 2d. head of my Intentions, namely the general form, I have now the hours to submit a plan and sections by which the uniformity of elevation in the auriferous ridges will be sufficiently conspicuous. That there is no

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no feature like a chain or cordillera from whose sides gold could be washed down, but that the action of water and the quantity of the products may be found at their maximum at some intermediate point between the highest sources and the channel of the main river. At the confluence of various streams in some such intermediate place - all from auriferous rocks – the particles of gold may be sought with most success. Such is the character of the first Diggings – near the junction of Lewis's Ponds and Frederick's Valley creek. For although the general course of these streams is somewhat parallel to the layers of schist, the smaller quartz veins have been broken through, and the minority of the streams cross the schist in all directions. As this schistose formation continuing across the Macquarie in the same direction, the general course of the Pyramid Turon and Cudgegong rivers maybe considered highly promising as depositions of fluvial gold.

That gold has been washed down on both sides of the auriferous chain, or rather that it is lodged on both sides of the Mullions plateau, I have ascertained by actual examination of the beds of the several streams. It is proper that I should here state that instead of a chain of heights presenting a crest – we find the highest part of the ground to consist of gentle undulations divided by extensive flats of slight inclination – and being thickly covered with wood, the survey of such, as the dominant feature, takes most time and shews least in maps. The streams from this deepen rather suddenly,

especially on the eastern side, cutting deep sections in the rock, and forming steep-sided gullies, where the chlorite slate renders them impassable except on foot .

The greatest height of the auriferous country maybe considered that of Canobolus which I formerly found to be 4451 feet above the sea: but for the average height of the auriferous chain, perhaps that of the Mullions maybe taken which isfeet above the sea.

Guyong – {Kyong} is ... feet above the sea. The junction of rivers at Ophir ... feet. Of the Macquarie at the end of my Molong section ... feet giving a fall of ... feet in ... miles – at “the Diggings” and ... feet in a distance by

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the channel of ... of ... miles from Kyong.

The plains of the Western side of the ridge chain of the general elevation are watered by the river Bell and its tributaries. The sectional drawings will shew the difference in general elevation between that of the streams on the east and west.

In considering “the angles of declination at which the particular streams and creeks run down to the eastern and western plains from their sources in the mountain”, it should be borne in mind that the course of all such streams is nearly in an opposite direction to the general declivity of the basin to which they belong – and that the effect of this circumstance is a greater degree of activity on the eastern side which is opposed to the general slope than on the western which declines with it. The course of the Bell on the western side has been moreover disturbed by the partial eruptions of trap rock – so as to form plains over its ancient bed and clog its current and that of its tributaries with masses of limestone. I have found in some of these tributaries such indications of the presence of gold, and in others similarly situated falling to the Macquarie near Wellington , as to be lead to the belief, that is it not in channels of the most rapid streams that most gold will be found.

On this principle I have been enabled to form some sort of judgement (my experiments were certainly too slight to base any conclusion upon) by examining successfully the various creeks falling from the auriferous range directly to the Macquarie northward – this being where the general outcrop of schist is crossed by the general course of the main stream. These creeks consist of the Gurra-Gurra, Sections Creek, Muskerwa Creek, Eagle Bough and Barada Creeks – and whereas the first named and highest has the most rugged course; it contains less indications of gold than those lower down, while in the Muskerwa a creek of much less inclination, but falling from a very quartzose basin, better promise was afforded by a quick light washings. I directed Mr. Davidson to try this creek in particular, because it is nearly in the general line of prolongation of the auriferous wave of Chlorite schist - these continuing across the Macquarie and Cudgegong Rivers.

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In the rivers entering the Bell from the western side of the range, those lowest down, (as the map shews) cross most directly the general line of schist – while those forming the higher sources of the river, nearer the Canobolus run about parallel with it. In these very few specks were found whereas in the lower creeks and especially in that of Bodduldara gold was found, even in the ground on which my tent was pitched. My means of making such researching were however very limited. My own attention having been wholly given to the surveying of the country and the rocks composing it.

The number and general volume of these several streams and creeks is as follows:

On the Western side -

On the Eastern side -

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Of the tributaries to the Bell flowing from the westward I have not yet made any mention, because that side of its basin is partly formed of others rocks than schist where quartz rock is either wanting – or in small quantity. There is however, a rock there forming the range near Mount Arthur, consisting of a conglomerate in which rounded pebbles of quartz are so abundant as to give the rock a white appearance. The same kind of rock occurs on the banks of Lewis's Ponds near “the Diggings”, also in the fork between this stream and the Macquarie. It is to be seen frequently above the limestone of the Bell – and it is in fact the rock of the interior. White pebbles of quartz and of

the very ferruginous matrix itself form about every elevation standing higher than the blue clay of the interior plains. That these pebbles of quartz are of very ancient formation, and have been cemented together before the present channels of streams were opened seems probable. The water-worn pebbles of quartz interlaced with gold found at the Diggings sometimes contain ferruginous matter

resembling the conglomerate, and whether such pebbles or nuggets came originally out of it, or not, remains to be ascertained. If they did not, the question as to what has become of the gold of that quartz demands enquiry – and whether gold may exist ~~invariably~~ or not in these ancient pebbles – or in that ferruginous conglomerate.

On the richness of the matrix near the usual sources of streams, I am unable to say much, not having succeeded in my endeavours to detect the gold in situ , but specimens of quartz from such localities accompany this report. The general tendency of quartz rock to break into small portions, and the very apparent effects of fire on concomitant rocks may perhaps induce some to believe this to have been the cause of the distribution of gold in small particles in the beds of creeks and its absence from the small crevices so common in quartz – where it is never or seldom found. But I cannot say that I myself entertain that opinion, although I do believe that ~~quartz~~ gold will be found in the matrix by working deeply into veins or lodes of quartz.

It remains for me to notice the most prominent dykes of quartz in

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in the country I have examined. These are numerous in the steep banks of Lewis's Ponds and Frederick's Valley creeks, and even on Summer Hill creek. There is a broad dyke of quartz traceable for several miles across Shepherds creek, a branch of the Garra Garra Creek. There is an equally remarkable vein or dyke cropping out on a range about a mile to the eastward of Ophir. Such dykes are numerous about the head of the Murkerwa creek, and over the banks of the creek next lower in succession, viz Barada the ground is white with quartz in minute fragments. The section of this creek is also intersected by quartz dykes, and even the clay beside the schistose rocks contains small nuggets of gold.

But it is beyond the Macquarie that the auriferous dykes of quartz rock have been found. That from which the shepherd Macgregor has, for a number of years past, been in the habit of breaking out gold is about North from this junction of the Bell. The ridges of quartz occur there in immediate contact with trap rock and although this gold which appeared on the surface has been carefully abstracted, a good specimen of matrix copper was found when my party visited the spot. As an inducement to persons to seek for gold in the matrix, I suggest that a high reward should be held out by the Government such as £1000 to the discoverer of a vein of gold in quartz on any Crown land.

The floods in the rivers and utter want of forage or grass, limited me in my researching to the southern bank of the Macquarie – but I have ascertained that the ridge containing the quartz dykes last mentioned is very extensive.

[P. 21] May 24

Attended the Governor's Levee at Sydney - Spoke to Mr. W. Whey and others.

Mr. Bilyard drove me back to the office

Bought an horse from Grant of Pitt Street	£14	
“ Two horses		32
“ Spring carat from Hebblewhite		25
“ Repairs to Own & Baylis		6
“ Baggage cart	14	
Andrew Outrigger Lamp		5.10
“ sundries		9
Contractor Packsaddle & Hobbles 5 pair		
– Tent		14
– Tarpaulin		3
Camp bed Lindsey		3. 10

Carbine & ammunition	£ 3
Camp kettle & pint pots	
Axes hammers nails trenchards	
2 Cwt. Of Flour	7
Bags of Sugar Tea	4
6 bush'ls Maize, bag of bran	
Forage 3 extra horses in Sydney 1 week	
Pistol stolen by Millar	5
..?.....? for?	80
	<u>45</u>
	270

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28 May Wednesday

I had much difficulty in finding men who could be depended on, that they would serve men after my arrival at the diggings and not leave me in pursuit of gold. One man presented so favourable a character from a gentleman of my acquaintance that I engaged him a very high wages – that he would serve me on my tour and return with me to Sydney. He was to be my principal tent keeper and I was to depend chiefly on him for driving a cart – I was however disappointed at finding he did not appear handy about the horses – and then accidentally learnt more of my intended tent keeper by a letter which appeared in a daily paper saying that he the writer, giving his name in full, had written the letters signed “Tiberius Gracehus” - and that he was tired of attempting to reform an insane world – and was “off to the diggings, where he might nevermore return”. On further enquiring, I found he was one of the “out-and-outers” - or special convicts from Port Macquarie &c. 29th May The difficulty I experienced in shaking off “Tiberius Gracehus” was extreme, altho' I presented him with the two pounds advanced to him – that he might “go at once”. Still he hung about my party – and parted only “as with parting breath” the same thing he had so nearly go into by palming himself off on me. X

30 May

Expected to have started on my journey to Bathurst, but the cart had not been repaired and the departure was postponed until tomorrow -

Mr, Owen came to came to Carthina , to tell me the Propeller was finished – Went to Sydney to see it – Directed that it should be received to the office and paid Mr. Owen for propeller £ 22.10 –

Mem'm. He has still the 5 feet model spiral and the 6 inches ditto – also a small copper model of the double centre propeller.

Mr. Thompson shewed me at the office a Mem'm. he had received from the D S -G. requiring him to communicate with him in writing. Mr. T. addressed to me an appn. for a months leave of absence which I granted to him in an official letter sent to Mr. Halloran.

X At length I was obliged to take a man who was to serve me only until I should get to the diggings – when he was to leave – as I might there find a substitute for him.

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May 31 At ½ past 2, I mounted my horse to commence my journey to the Gold Fields. During the whole week, I had been retarded by the necessity for repairing carts, the only two to be bought in Sydney, so great was the demand for them and every other kind of vehicle.

Blacksmiths, tinsmiths, wheelwrights could only be induced to work at extravagant prices. Two quarrymen working for me at a wharf at Darling Point receiving 5/- a day, both left to proceed to “the Diggings”. Thus the unfinished facing against the sea would allow the sea to wash against an unprotected hill of loose sand – I had built a house of two stories of stone for these men – the carpenter had just finished the inside work – they had occupied it – as it happened a single day – They left all – and some large blocks of stone that had been squared without lifting them into the seawall. All the loose fencing was left lying about, and would probably be stolen and burnt before I could return. All was brought to a standstill in such works at Sydney.

I took with me my groom and my cook. My eldest son accompanied me as my proper squire. Two carts one drawn by two and one by one horse, carried our whole equipment, we formed in all a party of five persons and five horses. We carried two hundred weight of flour, 2 tin cases of biscuits, tea sugar and several bags of corn and bran and chaff – as it was doubtful, even at the Inns on the road, we could find forage. I carried with me the valuable geological map of M. Bone – Johnson's Physical Atlas – Buckland & Bridgewater Treatise, a Cabinet of Mineralogical Specimens, my own maps, a small set of blasting implements, with plug and feather wedges and hammers – geological hammers, sets of a new kind of washing apparatus for detecting gold particles, &c., &c. Tent, portable bed, table, campstools. The horses did not draw well at first but we managed nevertheless to get as far as Paramatta where we halted for the night.

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1 June We arrived without impediment at Emu Ferry about 2½ oCk. PM. Found the approach stopped up with drays and carts, the ferryboat carrying only three drays or carts at a time. The sun had set before our time arrived. Then a restive horse in the cart just before us delayed us half an hour. When at length embarked in the punt, the puntman would take a fourth – and threatened to “rush” our horses if we did not take them undone until he embarked the fourth cart. This I refused to do and he persisted in embarking it. However our horses fortunately stood quietly and we got across without further hindrance. Stopt at the New Inn at Emu – a town planned by me many years before. Wrote to Majr. Russell suggesting a bridge of Boats to be put across the Nepean – for which passengers by a bridge, a private Bill for taking toll was passed last Session of Council. A great encampment of people with dray & carts laden with stores surrounded the Inn and lined the road on both sides up the Mountain Pass.

June 2 Ascended the mountain Pass which Sir Richd. Bourke called Mitchells Pass. Many carts and drays were on their way. Our light carts passed them all. Met a man returning who said he was returning to his work, that he did not think people were earning 9d. a day.

The people going towards the mines were in general in parties of 5 or 6, with a heavily laden cart which at steep places they pushed behind. A heavy wooden or iron cradle was to be seen on all of them. Some carts carried five or six of these. We found the road along the mountains tolerably good, but water along the first part was very scarce. We bought some at public house for 6d. a bucket. They said it was brought four miles. We reached the Weatherbound Inn at dusk, the horses rather distressed, I was somewhat disappointed to find the old bridge still in use and the road unaltered when I had marked out and shewn to Capt. Bull an important improvement in the line and new site for the bridge seven

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years before, by which two hills cd. have been avoided and the road shortened and made to pass by the Inn door instead of a a distance as at present.

June 3 Went out rather late from the Weatherboard Inn that the horses might refresh the more. (In the evening Mr. Peter White - “stick to your hole” - and the strange gentleman with his 4 ..? ..? £150 outfit)

We met many groups of two or three returning from the Diggings all admitted there was plenty of gold – but that they could not stand the cold or pay the license – or as one man said could not make wages out of it. There was a manly cheerfulness under this disappointment, conspicuous in all these persons returning – highly characteristic of fine feeling. One poor fellow -limping with sore feet – thin piles and ..? only said. There is plenty of gold but he “could not bear to wait !!” The crowds going forward covered the road with their overloaded carts which some pushed behind, others drew in front, harnessed to the shafts. Sieves, kettles, tinpots and cradles always appeared on these loads – and many clumsy hands carried guns apparently for the first time. The air was redolent of tobacco. We reached Blackheath at an early hour.

4 June This morning an old sergeant with a Waterloo medal passed along the road on his way to join the Mounted Police. His whiskers were much greyer than mine. He knew me. We found the road very good down Mt. Victoria – and indeed all through – but the long pull up from the Cox River is distressing from its uniformity. The descent to it is what I suppose the Bathurst people went by

Lambies Hill – is still worse because more continuous still. The only remedy by which all these mountains may be avoided is by making a railway in the direction suggested by me to General Darling for a great road to Bathurst, mainly up the Valley of the Grose – through a tunnel of a mile under Darlings Causeway and down the Valley of the Fish River crossing it five times. We reached the Inn at Solitary Creek about sunset. (Subsequent arrivals – novel style of black -?.....) The rocks about the river Lett and Cox's River seemed likely to be auriferous.

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5 June As the carts wended their way round, I ascended the summit of Honeysuckle Hill with the Aneroid barometer which gave 25.708 at the single tree left formerly by my party on the summit. The day was beautiful and this was accomplished without retarding the cart. We arrived in good time at the Inn at the Green Swamp within 13 miles of Bathurst. We were informed that at the head of Anthony's Creek in that vicinity, gold had been found.

6 June We had a pleasant ride over the plains to Bathurst. This town planned formerly by me has greatly increased of late years. I met Colonel Morisset who recommended Mrs. Blacks Inn to me. Here I met Majr. Wentworth and Capt. Batty of the Mounted Police – a Dr. Palmer was also at dinner.

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7 June We were guided by one of the Mounted Police for some miles – kindly sent with us by Majr. Wentworth to put me on the best carriage road towards Wellington. Met Mr. W.C. Wentworth who was returning from having visited his auriferous lands on Lewis's Ponds. We passed the night at an Inn called "the Rocks" or Robin Hood and Little John, 13 miles from Bathurst.

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8 June We proceeded as far as Kyong – or as it is now spelt – Guyong – on the head of one of the sources of Lewis's Ponds – where the Gold Diggings were then – Mrs. Lister, the landlady shewed me a beautiful lump of pure gold weighing about 2 lbs. It was waterworn, shaped like a D thickest on the straight side and tapering to an edge like a wedge on the rounded side. I was shewn also by her son a quantity of the gold as found in small grains – in general about the size of a small pea, but thin and flat, being all waterworn, however small. A piece of irregular shape, weighing about 2 oz. Had in it a rounded piece of brownish quartz – projecting. We walked down the banks of the creek and saw in its bed much chlorite slate in dykes – running north. The hills on the east side were chiefly of quartz.

9 June Although the greatest vigilance was constantly insisted on in our men, there was stolen from our cart in the yard here – a carpet bag containing all my sons clothing and linen – boots &c. This was a serious loss to us, when about to live in a tent in winter on a very high and cold range of Mountains. The carelessness of our own men was chiefly the cause of this loss.

We set out at 9, and passing by Summer Hill, got as far as Orange, stopping at the Inn of Mr. Paisley.

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10 June It rained heavily this morning, and as I was willing to halt a day to rest and refresh the horses, here we remain. I found several letters at the Post Office, and answered several. The place was crowded with people going to or coming from the Diggings. I arrayed various geological sections I proposed to take over the country.

11 June Received letters from Genl. Blunt - ..? Coll. Office enclosing one for Mr. F. Stephen – Received also a letter from my sister dated 21 Decr. encl. extr. of Review of My Geography by Athenaeum of 14 Dec. 1850. Wrote to Mr. Moore publisher Sydney enclos'g the Review of Geography.

Heavy rain obliged me to continue this day at Orange to my great disgust – amid the tobacco fumes of bull'k. drivers – perpetual discharges of ball cartridges and the close inspection of our room by people on the veranda.

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12 June Although the barometer was still low, this inn was so uncomfortable from the bad firewood and bad attendance, that I resolved on moving to Molong. Men lay about smoking carried the cut wood from the door of "the parlour", and strutted with a sort of swagger, apparently because of the bowie knives in cases attached to belts at their sides – while other boobies fired ball cartridges at birds or in the air. There was a very tall man who knew me he said, and watched with rather singular interest, the articles my men put into the carts. I commenced my new operation of taking a section of the road with the horses paces and the Aneroid barometer. We had a very fine day and I completed my task to Molong. We found many dykes of slate and quartz crossing the beds of creeks and in the surface. It was on descending into the Molong Valley that we first saw Limestone. We arrived about sunset at Molong, and I was hospitably received at Mrs. Cobcroft's Inn where there was a haystack of good hay, a good fire in the parlour with peace and quietness to which we had been strangers until we got beyond the route to "the Diggings".

13 June The arrival of Mr. Davidson, Assistant Surveyor, enabled me to modify my plans so as to avoid proceeding further towards Wellington, until some arrangements could be made with the Contractor for obtaining a supply of hay at Wellington, where it was said to be very scarce. This day it rained so that nothing could be done in the field.

Mr. John Smith sent to me with a civil note – a specimen of native copper weighing 110 lbs. - which I said to him when he called I should take care of for the Great Exhibition to be held in Sydney in October next. Mr. Cobden, brother of Mr. Richard Cobden, called – or rather was pointed out to me as the brother of that celebrated man. He afterwards presented me with some fossil bones – and expressed much interest in the caves containing such remains. Mr. Lucas, one of the passengers from Countess Yarborough stopped here. In the afternoon Mr. Kinghorne from the "Mowle" on the Macquarie {see last Travels} called on me. I learnt from him that the "Mowle" had long been dry and that all the reeds about that part of the Macquarie had been burnt so that the whole country was clear of reeds – where formerly we could not

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penetrate for them.

14 June Mr. Davidson having shewn me the N.E. Corner tree of East Molong reserve I proceeded to run a line of geological section Eastward six miles to the Nandillion Ponds. The hills we crossed were all of trap and the lower ground also until we approached the valley of these ponds, where we saw slaty rocks. We attempted to wash some of the soil in the bed of the creek dug up from the top of some slaty rocks, but we found no gold. The afternoon was rainy, and we did not persevere long in our first attempt a Gold washing with our new tubs. We returned by the road from Goanna Hill.

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15 June The day was rainy. Mr. Davidson went to his encamping ground.

16 June The Weather was very unsettled and stormy. Mr. Davidson's carts came on with difficulty – they were so weak from their long journey up from Wellington, that they only got as far as the Inn at mid-day. The weather then became so extremely bad that I directed them to encamp and sent the horses some hay from the Inn. Received in the evening several letters from England and several Colonial Newspapers.

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17 June This morning the united party set off early, I set forward to take up the section line I had already marked and levelled (with barometer) to a hill 5½ miles from Molong, while Mr. Davidson and my son conducted the party and equipment by the Goanna hill route to Nandillion Ponds, there to encamp. The day was very stormy, and settled into very heavy rain about 3 PM. I continued my examination of the section line to a high summit of a range of rugged hill – 6 miles E. by compass from the marked tree on the Nandillion Ponds. I found most parts of the country quartzose – and in parts the schist and clayslate cropping out – places there were white with fragments of quartz rock. I returned by the marked line (after measuring about 6 miles) and found the camp established, and tents pitched at the place appointed by the Nandillion Ponds. It rained very heavily as we returned, and also during the night.

18 June Returned to the marked tree on the hill where I yesterday left off accompanied by Mr. Davidson, there to resume the marking and measuring of the section. Still the weather was very unfavourable, thermometer very low. Marking in from that hill, we came upon the old road to Wellington at less than two miles. The country was more quartzose than what I crossed before – quartz and schist every where. The highest part of the country was beyond Simpsons (or Wellington road) and not rugged except in the hollows, but rather broad at the upper part with long gently sloping vallies. The country beyond this (which was called the Mullions Range) broke into deep and steep ravines with isolated summits. I closed my section line at a turn in a water course which we followed down, and were led by it into a bitter sort of country and soon came upon the road to “the Diggings”. The road was deep in mud, and the numerous dray tracks were very different from the few and far between traces of its wheels in the bush. Two drays with heavy traces & many men appeared on a steep slope in the road before us. We had fallen into the stream of population flowing to the Gold, and life seemed to go with it. We stopped for the night at a hut 3 miles from the diggings where Mr. Davidson procured us shelter for the night. Our horses were hobbled and turned out at great risk and where

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there could scarcely be said to be any grass.

19 June Mr. Stutchbury called on me and accompanied me to the diggings. Just as I expected to see – veins, bosses and steep hills of trap rock appeared on both banks of the river, in which there was a fresh, which prevented me from walking across as I intended, to visit Mr. Hardy. On a stony haugh or link of the river, edged with river oaks (Casuarina) I counted about 200 men at work besides what were also in sight higher up and lower down the river. On the other side high above the river were numerous tents, as well as on the left bank of the river – and bark house with placards about booking for mail, and about all kinds of stores sold there, stood on river bank close to the diggers. At this place there was a perpetual thoroughfare resembling the people at a tryst or fair, and amongst the natives who were there rather numerous, I was very glad to meet “Tommy Camilast” who accompanied me in my Expedition to the interior in 1836. He was now grown a powerful man in prime of manhood, but from Mr. Davidson I learnt that he was still remarkable for docility and good conduct. He was very lame from a sore foot. I ascertained that the aborigines have no name for Gold, and that they had never known it, or seen it until we shewed it to them. They cunningly call it “Gold” pan &c, This fact is clearly established altho’

20 June This day we proceeded to try a set of cylinders at gold-washing at a spot in the Nandillion Ponds which presented favourable indications – but not a speck of gold could be found. I felt unwell yesterday and this day – a swimming in the head – and intense head-ache, which Mr. Davidson convinced me, arose from having cold feet: however that might be, this indisposition may be no means favourable to these operations I was engaged in at that time. My son shot a water-rat with web feet such as we had not seen, and it was skinned and preserved for Mr. Ogilby.

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21 June We broke up from our encampment on the Nandillion and moved up their banks until we arrived at Mr. Kites beautiful property of Kangaroo Bay {called by the people “Kangaroo Bay”} a rich flat well watered, and shut in by an amphitheatre of well wooded hills. Mr. Kite hospitably supplied us with hay and allowed us to take away as much as we could – this at a time when hay was selling in the district at £10 a ton was true hospitality – as there was little grass on the face of the earth, so dry the two previous seasons had been. We encamped a short way to the Eastward of Nandillion Ponds – a team of bullocks having arrived in the morning from the Diggings where I agreed to hire it at 10/- a day to draw Mr. Davidson's cart, his own horses being now so weak from the want of grass where he had lately been employed, as not to have been able to draw it on. Read in an old Colonial Magazine at Mr. Kites that the weapons of the Australian Natives the Boomerang and the throwing stick are in use among the natives of the Maldives.

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22 June Set off early and before it was dusk we had encamped beyond the tents of Mr. Stutchbury near the auriferous river of Frederick's Valley. Found in a dyke of trap rock near

where we had pitched our tents, basaltic columns, indicating that there, the trap rocks so abundant in these parts, had been erupted.

23 June Rode with Mr. Davidson, and guided by "Tommy Came First" to the Diggings by keeping near the banks of Lewis's Ponds Creek. Selected the site for the township of "Ophir", and set Mr. Davidson to work. My son and I afterwards looked at the diggers, and walked up from the junction several miles. In general the diggers said they were not successful.

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24 June Mr. Davidson having plotted his survey of the ground – I planned the streets and allotments of the Town of Ophir – and write a despatch to the Colonial Secretary to accompany this plan for the Town.

Mr. Davidson bought for me a specimen of quartz & gold found in the river for £2 – also one still more beautiful of bluish quartz for £3. He told me about another he had seen with rubies set in it by Nature for which I give him a cheque for £2 to buy it for me which he effected.

25 June Sent off the despatch and plan addressed to the Colonial Secretary by Post. Wrote also a few lines to Colonel Barry about Roderick and enclosing two applications from Robt. Whiting for Cattle runs.

This day I resumed the measurement of my Section line to Molong, which, I found, passed within a few hundred yards of my present camp, but which ran out to a point in a bend of the river, far below the diggings. I had hard work to scramble over the ground near the river – left a man with my horse a mile & a half back from it, and finally got to the river. I found in one of the heads near the river, the old conglomerate rock of the interior which Mr. Lonsdale described as "Very hard rock consisting of grains and small pebbles of quartz cemented in a hard ferruginous matrix probably felspar." This rock appears to have also engaged Mr. Stutchbury's attention for he had previously informed me that he had found it describing it exactly} in the ..? of Bellarida between Lewis's Ponds & Macquarie a few miles above their junction. He said he had reported it to Mr. Thomson as being probably rich in gold.

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26 June Mr. Davidson went to arrange about obtaining some supplies at the Diggings.

I accompanied Mr. Stutchbury and my son to the bed of Frederick's Valley Creek, and saw Mr. S. wash several pans of river deposit in all which small particles of gold were found. We also tried my cylinders with little success.

In returning, we found that the trap rock overlying the slaty rocks with ..? separation easily to be traced. The small chrystals (like gunpowder) which always accompany the gold washings, Mr. S. shewed me appear on the surface of the ground wherever gold occurs.

He called them Carburst of Iron, and said they were much lighter than gold, as to be easily washed away from the gold in the pan.

27 June I crossed the river early at the Diggings, and ascended the ranges on that side measuring and taking angles from the highest summits. I thus fixed several very important heights, counting them with the Canobolas. All the features are curiously conform to the outcrop of the slaty rocks which all range with remarkable uniformity about 20° W of North (Magnetic). Saw a big ridge of quartz – a lode or vein, no doubt – running in the same direction, I find the loftiest mass of the Mullions Range and intersected that bend of the river, where my section from Molong terminates. In descending I called on Mr. Hardy the Commissioner, who shewed me some fine specimens of Gold pebbles and sold me one I chose for £3.16 – weighing against it a quartz pebble of the same size to obtain the weight of the gold only. Mr. Davidson this day chained the river downward from Ophir in order to connect it with my section line from Molong - connecting it also with Mr. Laws E. boundary line.

I observed this morning, a fine point of view for a drawing of the Digging scene and regretted much that my time did not admit of my taking it.

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28 June This morning it was discovered that a man of Mr. Davidson's had absconded taking with him a horse belonging to Mr. Arthur (the Overseer) a saddle of Mr. Davidson's, rations of the rum &c. &c. I wrote a description of the man to Sydney for the Gazette, also to Mr. Hardy at the Diggings. We started this day with the intention of proceeding along the road to Wellington which was first used – this keeping along the Range. But we were led erroneously along a different route, which led into a valley between the Mullions and the river and along which drays were in motion on their way to Maitland ? We had to return up some difficult pulls and at length got into the right road – but not until the best part of the day had been spent. Nor was losing our road the only contre-temps to befall us that day. The road, or rather track, ran along the steep sloping side of the range – and upon one slope our tilted-cart drawn by two horses was tilted completely upside down, driver, horses and all, with my boxes and instruments undermost. Strange to say, we had the good fortune to suffer no loss or damage except the breaking of the tilt, and a few minor parts of the cart, derangement of the axle &c. We were able to put all together and move on to encamp on a bit of flat beside a fine rocky rivulet, a mile beyond the scene of the catastrophe.

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29 June The bullocks astray this morning.

Rode back with my son to where he had observed in the soil indications of gold and rubies in some red soil, but after washing some we found none in sufficient quantity to deserve particular notice. The encampment was broken up, and we proceeded into the old Wellington road, entering upon it at a sawpit near where the same road is crossed by my section line from Molong. From that point I surveyed, and observed the barometrical altitude along the road towards Wellington to a distance along it, of about eight miles, after which we encamped as the sun was setting on a flat at the head of a fine chain of Ponds, forming the head of Larras' Lake. Here I intended to draw hay from Mr. Kater, whose house was about five miles off, and to survey the slopes towards the auriferous river which may descend from the portion of the main range within reach of this locality. In the evening it began to rain.

30 June Rainy. Mr. Davidson rode to Mr. Katers, but found he was not at home.

I brought up my Journal, and put in ink my field surveys. A shepherd brought me a piece of quartz – having silver mica in its ...? - from a spot where large rocks (he said) occurred of a similar kind. Mr. Davidson, in the afternoon, plotted his survey of part of the river, intended to connect my sectional survey with those about Ophir. The windings of the river shewn by this survey shewed the necessity for a more extensive survey thereof, and I reluctantly instructed Mr. Davidson to survey the river known as Lewis's Ponds to the junction with the Macquarie.

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1 July Following a dray track eastward from the camp, I found it led across the dividing ground into gently sloping vallies belonging to the system of the Gurragurra. Dykes of Quartz traversed these and in some places were continuous for miles. I pursued a straight east course, and thus came upon a creek near a small farmhouse rented by one Peters from Mr. Finch. Found at this cottage an intelligent person named Wm. Woods who offered to guide me to summit of a high hill to the eastward, to which we accordingly rode and ascended. It commanded an extensive view of distant mounts; The Canobolas, Catanbuls &c were visible. I was shewn the beds of the Oaky Creek & Boslie's creek which unite before entering the river. Also the rise of Cooldurin creek (known here as "Lambing station creek") and, generally, was shewn how the ranges are connected, but a country so complex, and difficult of access, it now was my lot to survey. My guide conducted me to a quartz dyke which he had traced for five miles. He had been on the river Murray and seemed an expert bushman.

2 July Setting out from a conical hill runs a marked line of trees not far from our camp. I pursued a N.E. Course towards the head of the Gurra Gurra – which creek was reached at about 4 miles near a sheep station belonging to Mr. Finch. Continuing onwards to a summit which I reached at a short way further, having crossed, near the sheep station, a road leading to Wellington from Dosey Billy's. From the hill we ascended (my son also accompanied me) I saw a very remarkable hill to the northward overlooking the surrounding country. From the map I supposed it might be Boccoble. We went on for half a mile further until we cut the Gurra gurra at a

place where its bed was so rocky that further progress with horses was impossible and we returned so as to reach the tents by sunset – having taken a set of very important angles with the pocket sextant from the hill.

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3 July Set out with two men, and accompanied by my son prepared to sleep out in order to examine more at leisure the intricacies of the Gurra Gurra gullies. On my way I met Mr. Finch (one of four brother) who kindly put me on a marked line of trees that took me north in a direction I wished to go. This was towards Mount Vengoan of the maps – a height from whence I hoped to overlook the Garra Garra. We ascended easily and I obtained angles towards Canobolas, Catanbuls, Bodangora and Wood hill. From this summit we descended pursuing a straight course 30° South of East – in order to get upon a lower intermediate ridge, likely to afford a passage along it for our horses, the rocky gullies being about impassable. We did get about two miles along the ridge, then descended into the rocky hollow where we hobbled our horses, cut a few boughs, and there passed the night, which happened to be a mild one.

Mr. Davidson proceeded this day with his party back to Lewis's Ponds Creek for the purpose of surveying it to it's junction with the Macquarie.

4 July Leaving the horses in charge of one of the men, we traced the rocky bed of the water course downward several miles – trying it in several places by washing the soil but without finding any indication of gold. This was the more remarkable as the whole of the banks and adjacent country was intersected by quartz dykes, and by chlorite slate which I observed always struck about 20 by compass W of N – dipping to the East. Where the river course was parallel to the quartz dykes, it exposed on both sides, sometimes, the smooth sides of the schist or slate, coated in many parts with thin veins of quartz. But where the river section traversed the slate, the jagged half decomposed rock shot up in pinnacles as of ...? way, while quartz and red earth crumbling down, seemed to be the best place for discovering particles of gold – but neither there nor by washing in the bed of the river did we find a single speck. It seemed as though the fall was too rapid for the accumulation of old deposits. The quartzose fragments were not so round and waterworn as where the gold is found at other places, and the large rocks in the bed required too much labour to admit of an effectual trial. We reascended Mount Vengoan, and regained our tents after it was quite dark.

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5 July On placing my survey of the Gurra Gurra on paper, I found its course trended towards a different bend of the Macquarie from that the map indicated. Obligated to construct a new map trigonometrically in order to insert all the recently surveyed features.

Certainly I found the Gurra Gurra country the most intricate I had ever endeavoured to survey.

Slaty rocks all presenting a remarkable parallelism in their crests which ranged nearly north and south – the variation from magnetic north being from 20°. to 12 or 15°. West. Whatever the forms of the hills or direction of ranges this peculiarly was present, and veins and dykes of trap rock were to be seen generally traversing the schist or slate.

The hollows deepened rapidly towards the main channel of the waters the heads of such water courses were on the contrary long withdrawing vales, arising almost invisibly in the upper land which was called a range and from a distance looks like one, but when examined is found to consist of gently undulating ground, rather scrubby and broken in some parts by the outcrop of Syenitic or Porphyritic rocks or schistose slate, which in general forms the soil which is poor, and at this season had very little appearance of ever having on it much grass.

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6 July My horse was missing this morning. Heavy rain came on and prevented any search being made for him. This animal has been with me beyond the tropic of Capricorn - all his paces were known to me and he was my measuring rod in hasty surveys.

Mr. Davidson being absent with his party, little could be done in looking for the horse – especially during the rain.

1 I heard of a man who had been lost in the bush for several days and nights and from hunger and weakness had lain down to die – when a run away pony, whom nobody could catch – came up smelling to him in such a manner that the man, weak as he was contrived to put his arms round the animals neck and so get upon his back ! and he carried him home.

2 A dog with Mr. Davidson's party when on the bogan, had fallen behind from thirst and been absent two days. When he came up still weak from want of water, a little Scotch Terrier, came licking his lips and was then followed by the other – upon which he guided him to a hole of water he had just found.

7 July The horse still missing. I plotted parts of my surveys.

Mr. Davidson returned in the afternoon having succeeded in surveying Lewis's Ponds creek to their junction with the Macquarie. He brought me specimens of the conglomerate found on various hard beds of the river, also a calcareous rock occurring below it. Mr. D. also plainly saw the trap rock overlying the conglomerate. Gold was found in the bed of the river.

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8 July I proceed on foot and although the weather was raining, to trace the range of the Mullions. All the rest of the party Mr. Davidson and my son, went in quest of my horse. I found the Mullion Range easily to be traced, very tame in its structure, by so enveloped in scrub as not to be easily got over. I got as far as the extreme head of a water course called Larra's Lake, which tracing downwards, I found it guided me to the Wellington road at a spot about a mile and a third from the camp, which I reached at dusk. Some tidings were obtained of my missing charger, which had been seen in company with some mares – having the hobbles still on, at or near a sheep station some miles from the camp.

A stranger brought from Molong a packet of letters for me. He had been lost all night in the bush with them, and strange to say, delivered the letters and departed without looking for my fee or reward!

9 July Mr. Davidson and my son again went in quest of the lost stallion – but although the herd was met with, still the horse was not with them, but about with a mare and foal.

I protracted the survey of yesterday and found it to close very well with what had been previously done. Half a ton of hay came from Mr. Katers, to accompany us to Badduldura tomorrow. A large kangaroo was killed this day by the men.

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10 July We broke up our encampment near Nubrygen Creek and proceeded along the road towards Wellington. On the road we found a calcareous conglomerate on both sides of the road near the bank of the Cadduldura Creek. We finally encamped on the bank of this creek near where a village reserve was marked on the maps. While the party were setting up the tents, I walked to a summit Westward of the Camp, where I took several angles. I observed in the bed of this creek much quartz in veins intersecting other stones and much quartz that seemed to have filled entireties of veins.

11 July I set out on foot to run a line from the Bell to the Macquarie; the portion I chose for this day's work was from this camp to the river Bell. Before I had proceeded two miles I saw limestone on my left distant 100 paces, and a little further on I passed a limestone containing broken and rounded pebbles of quartz, fragments of shells ecl uni &c, as if that had been the upper part of the limestone. A length I came in sight of the little conical hill called Gorrangooree, which I included in the Section. From this point I took some important angles, and descended continuing onwards until I reached the Bell where the road crosses it under Maroota. I endeavoured to return to the camp by following up the Bodduldura creek but I found the course so tortuous and the banks so rugged that when night overtook me, I could get along but slowly. The banks consisted mainly of limestone in very remarkable shapes – and the schistose slate sometimes appeared in ridges over which the limestone rested. From parts of the weathered face of this corals and shell projected, as gradual decomposition denuded much harder portions. Within this limestone were caverns in many places,

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some of these containing fossil bones of gigantic extinct animals. Here were the records of many

past ages and written on one page. The coralline limestone shewing that ancient seas had produced it. The schistose slate tossing up the limestone masses, thus proving that the schist was newer than the limestone trap rock shewing igneous action: then long ages had elapsed for the slow decomposition of limestone producing large hollow caverns: next long periods were probably requisite for the increase and great abundance of graminivorous animals; next a sudden destruction by which these animals perished. Then vast currents filled the limestone caverns with their bones. Next fire was the agent by which these bones were chrystalised. After all these changes a certain time had to elapse for the growth of other caverns by the same slow decomposition, and lastly, here has come the civilized European to gaze on the wondrous records of such changes and - to search for gold ! The following up of Caduldura Creek made me late in reaching the camp – 8 o'clock. On arriving there I found that my horse had been brought to the camp by a shepherd – a reward of £1 having been offered – but new hobbles had been stolen off his feet.

12 July Saturday I traced the same line Eastward until I reached the great Range Northward from Vengoan. The weather was showery with hail storms, but I had the good fortune to get through all I had proposed for that day. The Section line crossed many steep tongues of hills, and we left off for that day where the marked line ran up into a deep mountainous ravine where we left it and returned to camp. My son washed some of the soil near our camp and found that it contained gold. He found fold also in the bed of the Nubrygen and Cadduldury Creeks. The rocks about the camp were more plentifully encrusted with quartz veins, than any I had seen elsewhere.

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13 July In order to complete the survey of the portion of the dividing Range still wanting on the maps, I divided the survey of it between Mr. Davidson and myself, giving him that part to the Eastward of my Section line, between it and Mt. Vengoan, and taking myself the remaining portion unsurveyed to the Westward of the Section line. Having given to Mr. Davidson the point at which he was to commence, he threw out his chain, and began to climb the hills on the right while I ascended the height on the left which yesterday I named Mt. Aquilla. I found the connecting feature westward very easy to get over, and that a succession of round grassy hills composed that part of the range. I reached at length a curious flat where the separation of the waters to the Bell and Macquarie was scarcely perceptible, and found my way thence to the camp after nightfall – guided by a shepherd at whose hut on the river two miles higher than our camp, a road I accidentally came upon, led me. Mr. Davidson and party afterwards came in having followed down the creek from the range, the survey of which he had completed to Vengoan with a part of the head of this creek. Our attention was drawn to the eclipse by our black servant, who came to tell us “There was something wrong with the moon” !

14 July Left the camp with Mr. Davidson that I might give him the head of the Muskerwa to survey downwards from where I traced the range yesterday. I also directed the party to wash the soil for gold seeing that the hills were full of quartz dykes and this part being where the great ridge from Canobolas is crossed by the section of the Macquarie. The ravines were so deep and their sides so steep that we were soon obliged to leave our horses. I found a small watercourse was joined by a running stream from the east, and when another even larger also came before us, I named it Section creek. The water was plentiful but the bed so rocky in places that we only progressed with difficulty. Numbers of Wallaby were seen, as many as 30 at once. Probably no white man had before visited that creek. It was near twilight when we got back to the horses, and 9 PM when we arrived at the camp, by a sort of miracle considering the country. Mr. Davidson had found gold very abundant in the Muskerwa.

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15 July While the party moved along the road towards Wellington, I preceded them in order to survey the ranges between that road and the Macquarie. For this purpose I left the road where it crosses the Cuga Burga creek and advanced straight towards a hill bearing 10° E of N. working thence by the heights, I crossed some strips of conglomerate, alternating with schistose slate. The hills at length enabled me to see the course of the Macquarie near Barada Creek. Having ended

my labours at the last height of the range I had thus completed from the Mullions. I turned south and soon found the road with the tracks of our drays. These we followed until we overtook the party encamped on Mr. Maxwell's land upon the river Bell. Steep hills near the Bell consist of conglomerate rock. My son washed the soil by the river side and found gold in minute particles. 16 July We moved off by the Wellington road which keeps the valley of the Bell. On passing the Limestone containing caverns and osseous bressia figured in my first Australian Travels. I looked in vain for the entrance to the caverns. The settlement formerly at Wellington Valley had been taken down and the site was only marked by some fragments of bricks. The scenery along the valley of the Bell was of the finest landscape, lofty trees, long shady glades, bold rocky hill behind. I wished I could have taken a month there with a portfolio under my arm. The township has made but little progress owing chiefly to delay in building a courthouse – the design of the architect having been considered too expensive. An opposition town thrives better on the opposite bank of the ford near the confluence of the Bell, built on the estate of Mr. Montifiore and so named. Capt. Maine Commissioner, and Mr. Jardine called on me, and offered me assistance in stabling, paddocks and firing. We encamped in a paddock in charge of Mr. Jardine.

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17 July

Accompanied by Mr. Davidson, I ascended Mt. Arthur, and took many useful angles – having also seen and intersected the summits of Warrabaugh Range. Found that this hill and range consisted of the ferruginous conglomerate. Saw the Gapabulgas – a granite range to the Westward, and a rock called “the Barren Rock” - a basaltic pile in a flat to the northeast of the Gapabulgas. Learnt from Mr. Davidson that the whole country traversed by the little river is granite. I had just before been remarking the dip of all the schistose to the eastward, and enquiring if he knew of any granite to the westward? Mr. Davidson told me the remarkable story of the loss of a white child, recovered after it had been five nights in the bush. The natives had all that time been actively employed tracing it on the dry grass – relieving each other, for even their keen eyes were quite worn out with such sharp practise. This anecdote Mr. Davidson was told by the mother of the child with tears in her eyes.

18 July Mr. Jardine kindly rode with me to the Quartz ridges where the shepherd Macgregor had found gold formerly. They are distant about seven miles NNE from the Macquarie at the junction of the Bell. We broke some lumps of quartz in which metallic indications were apparent especially copper. These dykes run about 12° W of N, parallel to the schistose slate, and certainly seem full of mineral promise. We went forward to Mitchell's creek which we reached at about a mile from the quartz ridges. This creek is full of sand which seems to hold the water like a sponge. By digging in any part water is found. We rode down the creek about two miles to where there was a stoppage by rocks (of trap or basalt) where people had been digging for gold, and had found it in very fine particles. We returned thence direct to the township crossing in our way another hill of quartz, said to be the most westerly.

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19 July Having borrowed a crowbar, we took three men towards the quartz ranges with the intention of breaking some large masses in order to try whether gold was thus lodged in the rock in any considerable quantity – but heavy rain as we proceeded and the hills around being quite obscured thereby, I could not determine my position nor find the ridges that prenoon. Serious apprehensions of a flood coming down the Macquarie forbade the further prosecution of these researches, during the present season, and I, with great reluctance, determined to retire across the river next morning.

In the low ranges I traversed this day in my search for the quartz ridges I perceived that the basis was still the slaty schist, and I saw in one place the conglomerate; in another limestone just appearing above the ground, but the rock most frequently seen near such quartz ridges is trap rock. The lofty mass of Bodangora appeared at no great distance being 71½° E of North. That, I was told, consisted of trap rock, and that in a small run of water falling from it, Mr. Hale, a jeweller from Sydney found rubies. A good story was told here of Montifiore who when Governor Gipps

came to Wellington, was also there, and the blacks had a corrobory. One of them a knowing scholar, & doubtless, of Mr. Watson's the Missionary, went to Montifiore later in the evening, asking for more grog – Montifiore told him he had had enough and should have no more. "Who killed Christ? The bloody Jews !" was the others reply.

Under the squatting system of occupation, inconveniences are beginning to be seriously felt which the too theoretical clerk in an office, who framed it, could not have foreseen simply because they had no experience. For instance although many parts have been reserved for townships and as cultivation allotments near townships – these from not being enclosed are depastured even though no one has a right to do so. By a very recently passed Act of Council occupants of lands for grazing purposes can prevent the cutting of timber or the depasturing of cattle on such lands. This is likely to be fatal to the growth of new towns or villages and ought to be abolished.

Discharged Miller the groom this day at his own request, and because he was useless from idleness and inattention to the horses.

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20 July It was my intention to have recrossed the river this morning, but a flood had come down the Macquarie in the night so that the river was impassable! I had very reluctantly come to this side of the river with the party, and now I had much cause to regret having done so. I was then assured there was a boat, but even this was found upon enquiry to have been allowed to go with the flood ! This shews how people manage their own affairs in Australia. Nobody seemed to care about this punt or the departure or expected arrival of the mail from Sydney. The river fell at least three inches during the day, and I was informed it might be passable tomorrow.

21 July The river has risen two feet this morning. Dr. Curtis, a magistrate here who has considerable influence with the aborigines, prevailed on me to take me across in a bark canoe, and another named "Georgey" to swim across with my horse though the water was very cold, after very severe frost. The stream was broad and rapid, and the horse plunged a good deal and returned to the bank. On the second attempt, I called across requesting that a spur might be bound to Georges right foot – and this time Jack was got across, landing some way down the stream, where much drift timber lay about the bank, but the horse having touched bottom before he could fall foul of the timber, was dextrously led to the clear part of the bank by the native. My saddle and sketch book were also soon brought across, and I mounted and rode to the Inn of Mr. Ferguson at the "Black Rock", Nurea.

I placed Black Jack in the stable with plenty of hay, green barley and corn before him, and set out on foot to examine the rocks in the hills to the Eastward which I found of schist slate, and varying in the strike from the usual direction hitherto observed 12° to 20° W of north to north and even north, north east. This alteration was remarkable. The river is closed upon by the ridges on the W side, so that here the Bell passes at a sort of gorge.

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22 July Early this morning, accompanied by Mr. Ferguson, who lent me a horse, I set out for the Catonabals. We crossed the river Bell at a fall where a road leads to his sheep stations. The conglomerate of which the northern part of the range consists was soon reached appearing at the very base of the hills. It took the strike and direction nearly of the schist. Higher up I found schist to the vry crest – or rather I should say an altered sandstone full of quartz veins. This dipped to the eastward first but afterwards to the westward. We did not attain "the point", as even the country people call it, which I had observed in my survey, but a hog's back called "Gentry Jowler", apparently the middle mass, however I took some angles and was content. We descended by a gully where the passage was difficult for the horses, and crossing some indications of copper, and, at one hilly extremity, trap rock vesicular like lava. Lower down serpentine or syenite appeared in the creek bed and it seemed almost as if an anticlinal axis had been traceable in that vicinity.

23 July Rec'd. a note from Mr. Davidson saying that the river was going down; and that in two or three days it would be passable. I rode to Baker's flat, where Mr. Ferguson is sinking a well. At 41 feet they found bones, which crumbled to pieces soon after they came into the air. They were amongst rounded pebbles and highly fossilized specimens, having also some encrustation of calcarious matter, especially a fragment of bone like a rib.

Baker's flat, it may be observed, consists of a blue clay on which are boulders of vesicular lava, almost as light as pumice. The lowest rock met with was basalt in irregular chrystals, and there also they found water.

I rode on intending to run a section line to the crossing place on the Bell near Maratta where the line has been levelled to the Macquarie, but I came out on the Bell far above the hill Maratta, and had much riding amongst gullies near the Bell, where limestone was the prevailing rock. At length I fell into the road from the Bell and got amongst Mr. Maxwell's paddocks, from which I could not get out until sunset, reaching the Inn only at 7 o'clock.

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24 July Mr. Ferguson lent me a horse and I accompanied him in a ride due eastward towards Bonada Creek. On our way we crossed limestone on which rounded quartz pebbles lay in abundance. Next we crossed a flat which drained into the creek joining the Macquarie at Raymonds. Then we got into what he called the "new line of road" which takes a bad turn, however, which might be easily avoided. On our right, while still on this road, rose the head of Bonada Creek, and Mr. F. shewed me Mt. Eny, a hill on a tongue of ridge to the left. When we came to a sheep station called Bonada, we consulted an old gin who told us Bonada was the true native name, also that the eastern branch of it was Eagle Beagle. We came soon after upon two men washing with a small cradle. They had got a good many small bits from washing three pans. This creek seems a very promising one for gold, judging from the quartz, and indications of this schist.

25 July I walked out today to examine a singular flat topped elevation I had seen to the right yesterday. I first ascended a hill to the left, where I observed some useful angles, especially upon points towards, and beyond the Macquarie. Returning southward to the flat elevation I found it a very curious feature, nearly flat of ...? ...?, wholly clear of trees and consisting entirely of trap rock which below the surface was columnar basalt as appeared in the roots of a tree that had fallen. I surveyed this flat summit very carefully and found on descending, that the schistose rocks around it were twisted from their usual parallel direction, but in curving convex towards the hill, and under the limestone. Also the limestone I found traces of the conglomerate and numerous loose pebbles of quartz.

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26 July The carts came across the Macquarie this morning, while I was busy putting together my report and this Journal. On their arrival at Nurea, I directed Mr. Davidson to encamp on the plain of Nurea, where I joined them in the course of the evening.

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27 July The party continued along the road towards Molong, while I, accompanied by Mr. Davidson went across the country to the ford in the river Bell at Maratta, where my sectional measurement from the Macquarie was terminated. I now intended to continue that section westward from the Bell so as to close it on the Catombal range, which consists of the old Red sandstone. I this day saw some very extensive beds of grey limestone sloped off conformably to the undulating surface bounding this plain on the west side of the Bell. There appeared layers cropping out to about the height of furrows, with much uniformity, so that had the colour been brown instead of bluish grey, the whole would have resembled ploughed ground. A small isolated hill just south of that consists of an altered sandstone. Some masses of calcareous conglomerate lay between it and the limestone.

I continued the line so as to cross the road by which the party had moved just before, and run the line across some sandstone cliffs, dipping at an angle of 45° to the west. I joined the camp about dark on the creek named Two Mile Creek.

28 July The rainy weather was unfavourable for any progress with the section line; neither could I take angles from the south point of the Catombal, which I was very desirous to have attempted today. I plotted some of my work and protracted angles.

My son and several others of the party repaired to our former camp in the Bodduldura district about Six miles, to examine the holes which he had opened there in search of gold indications. A servant

had become neglectful of his horses since the party was at that place, and I discharged him at Wellington Valley. It was now ascertained that he had stolen one of my pistols, and carried about four ounces of gold, which he said he had dug at that camp, where he was employed by my son to dig a pit by the camp, and in which, if the man, who was shortsighted, found so much gold in, he even boasted he had, or if as previously understood, none could be found there, it was equally desirable for the ends of justice that the truth should be ascertained. In the evening the prospecting party returned without find lumps although 10 or 12 portions were found where my tent had formerly stood. There were traces of a cradle

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having been worked there days in another place where my servant had been employed. This makes the matter more mysterious than ever.

29 July A beautiful clear morning, in which I hastened to the Summit of the Catombals.

I crossed a stratum of limestone cropping out at its base with trap in the vicinity. The Range was old and altered sandstone. I obtained a good number of angles, and returned to the camp early, crossing conglomerates and trap rock in a very level country.

30 July The party moved off towards Molong. I preceded them, accompanied by Mr. Davidson, intending to examine some sandstone ranges like cliffs which he told me of as being near the junction of Larra's Lake creek with the Bell, I found the sandstone highly inclined towards the West presenting a sort of cliff towards the east. Westward of it, a more connected range of the same sort, and in an intermediate ..?, limestone shewing strata similarly inclined. On the sandstone most westerly, or uppermost, I found vegetable impressions, some on the lower, which had the characteristic of sandstone altered by fire. In the bed of the creek cutting its way through it, schistose slate appeared rather contorted. I fixed the principal points of these features in the map by angles on distant fixed points, and returned to Larra's Lake, where we found the tents ready for us. This range has callistris trees growing upon it, and is said to extend all the way to Boree. It is called the "Pine Range"

West of the road, south of the river, I ascended a hill of similar structure to that near Nurea. It is flat topped and wholly of trap formation. We visited in passing, the Molong Copper mines which I descended into. They are in Copper Hill, a very remarkable feature in the valley of the Molong.

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31 July This day I proceeded to survey my Molong Section line to the Westward of the Molong Creek at Molong, commencing at a marked tree near that river. Large masses of limestone seemed nevertheless to have a stratification, their outcrop being like the schistose laminae towards WNW, the dip West at an angle of about 30°. I then crossed a hill of altered sandstone dipping west, and beyond it about a mile and a half, another ridge of sandstone dipping west. Something less than a mile further, brought me to a third range of sandstone also inclined to the west at an angle of 45°. A little beyond this, I found conglomerate and 800 yards beyond I crossed a ridge of it. The gully beyond contained large boulders of trap and lower down limestone. This fell into Mundadgery creek, the whole bed of which there was solid limestone. Taking a road there to return by, I found it brought me to a sheep station 6 miles from my camp at sunset. A shepherd, Alexr. Grieve, saddled his horse "Cocky" and guided me towards Molong. After parting, again I lost my way, but meeting a man in the dark, he proved to be Bob. Whiting, one of my old exploring men, who insisted on conducting me to my camp, which he accordingly did.

1 Aug. Dark clouds and showers prevented me from returning to continue my line beyond the Mundadgery today. I endeavoured to protract the most important of my angles, in order to fix truly the principal points at least of the work. The want of a station pointer, or tracing paper or a fit table almost determined me to postpone the operation until my return to Sydney, although I did succeed in fixing Catombals, Vengoun and some other points. The day cleared up in the afternoon, and I regretted exceedingly that I had lost it for the survey beyond the Mundadgery.

Mr. Davidson was employed this day in laying out allotments according to the plan for a township of West Molong, but it appeared that all the men of the township were about gold-digging.

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2 Aug. I hastened early to where my line had been extended: the Mundadgery which connected it with the explorations of former days, for it led to the Lachlan and my lines of route on two former occasions. My chief object now was to run my line into the Granite I had formerly seen Westward of the Mundadgery. I found the sweet Xerotis already in flower soon after crossing the creek and met with ferruginous sandstone, or conglomerate a quarter of a mile beyond. At a mile I met with granite first, and with it a different vegetation. Continuing about two miles further, I closed this long section on a hill of granite where the summit of Canobolus bore 130°. Even this granite presented dykes running North and South. The ferruginous conglomerate evidently lay just above it, and several of the lower hill between the granite where I first met with it, and the heights where my survey terminated, consisted of this ferruginous conglomerate. This long section line now extended from the granite of the Sapabalgas Range to the Ophir Township and a little beyond, a distance of miles. On returning I connected that part of the line west of the Molong with the Corner tree at which the first part of the work was commenced on the 14th of June.

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3 Aug. While the carts moved along the road towards Orange, I rode with Mr. Davidson across the creek, intending to examine the country beyond it towards the South-West. We first visited the tomb of Yuranigh, my faithful native auxiliary on my last expedition. The plan for the tomb was selected as usual in a sweet retired spot, and the cuttings on adjacent trees were deep and permanent looking. No sculptured marble ever told so plainly the regard & affection of the living for the dead, nor did ever mourner visit a tomb with more sincere feeling of regret for the departed than did I on that occasion. The bitter cold wind would barely allow me to use my pencil, but nature there had been particularly dedicated to the memory of one who had in so many other scenes assisted me to study and admire her, that one hour was passed there with a melancholy interest, until I was so benumbed that I could scarcely mount my horse, "Old Jack" who was well known to the deceased. We three had travelled together far beyond the line of Capricorn. The rocks Mr. Davidson and I visited afterwards were very remarkable. First, a place where a lump of 120 lbs of native copper had been found on the surface by Mr. Smith {the owner of the run} This was on an uncommon looking pattern not conformable to the ordinary slope of the vallies, the rock not common trap but such as appears at the Molong Copper Mines.

We next ascended a still more remarkable metaliferous locality, consisting of a fin of naked rock in a valley – not at all conformable to the aqueous slopes; a dyke of trap extends like a dam across the vale beside this isolated feature, which first drew attention from pieces of Gulena found upon it. The rock was such as only miners could understand. The hill itself may be called Mount ..? from its form, as well as probable contents. We found the tents pitched at the appointed place afterwards – beyond Guanna Hill.

Guanna Hill itself is a remarkable outburst of igneous rocks, rather flat on the top and in running a section line which I did three miles to the S West I found, first basalt, then conglomerate, then granite, then trap. At crossing Bob's Creek beyond that the schist, next limestone and in the range trap, which Mr. Davidson said was its quality to the Canobolas.

4 August While the party moved towards Orange, I preceded them and on reaching Stauntin's Inn, my horse refused to pass it and literally compelled

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me to leave him there, and go on foot to trace the connecting feature upwards to the Canobolas. This I found finely formed, broad and straight upwards from the paddock behind the Inn. I ascended a commanding point of the mountain, and although the wind blew keenly, I obtained a fine sheet of angles. In returning to the Inn I found the party had encamped about two miles back from it, and I remained there for the night.

5th. [Aug.] Tuesday Wishing to trace the range between this township and the Mullions I ran a line northward from the road where the two separate eastward some way from the Inn. I thus crossed at half a mile, the present Wellington road and met soon after with a fence which obliged me to turn eastward upwards of a mile; then south half a mile. Thus I came to cottage and a creek running from the large flat I had crossed yesterday. Falling soon after, into the road or a road to the

Diggings, I traced it until I came to Mr. Templer's mills, when very heavy rain and sleet obliged me to return. The whole of the country crossed today was schistose with much quartz.

6 August Proceeding eastward along the Bathurst road, I first made an offset towards the Canobolas where the connecting ground consisted of small knolls of trap rock on an elevated tract otherwise flat. Next I descended to the left along the left bank of Summer Hill creek, and crossing it a mile lower than the road I ascended a rather bare two headed hill which I had observed in taking angles at the Canobolas. From this I fixed various hills about, especially a very fine dome shaped mount to which I give the name of Mount Golundar. Returning to the Summer Hill road I followed it half a mile to beyond Mr. Kay's Inn; then taking an offset southward, I ascended gently rising ground, quartzose and extremely red, broad and level. I came to a spring, apparently the head of a small creek, and turned nearly eastward, coming out on the road near Hardrigan's Inn. Then I crossed the river and ascended a two headed hill beyond, completing the angles I took there by sunset. In returning along the road I came upon men with ..? busy digging red soil from among some quartz rocks on the road and carrying it to wash it in the little creek of which I had

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previously traced the top spring. They told me they found abundance and in fact, sold me a little nugget for ten shillings. This had a red coating like the earth, and a peculiar form with points somewhat resembling the excrescence of gall-nuts. I was informed that Mr. Wentworth had three men at work who had that day procured seven ounces.

7th. August I again proceeded to the new diggings in the red earth, to examine more at leisure the interesting proceedings. Several people were busy, tenants of Mr. Wentworth, with his permission, and as they picked about a dozen little pepitas about the size of dice from each panful of unabraded fragments of quartz, you might see mutual distrust and mutual cooperation, as the "root of all evil" was thus dug from the ground. The bearded Wroeite, to whom I addressed a question, deigned me no reply, and I hastened northward on foot, leaving my horse in stable at the Inn, on an exploration of the steep ranges beyond these auriferous rivers. Passing over much ground northward of Mr. Kerr's extensive enclosures, I endeavoured to reach a very high round summit which overlooks the whole country to the westward. This took much time, the summary hills apparently connecting it, having been separated from the mountain by deep gullies. I crossed much quartz and found some of these intermediate hills about wholly composed of it. A road crossed the range leading westward apparently towards the Ophir diggings. I reached the summit about 1 PM feeling rather fatigued. The hill consisted of schistose, tending WNW as usual. It was too heavily timbered to allow of my taking many angles, and I then felt a degree of fatigue that almost alarmed me, for in the utter solitude of these unpeopled parts, had I been suddenly taken ill, or any way disabled, I never could have been found, for no one knew, nor could have been even told where I had gone. The hills have no names with the few people in the country, even the rivers are very badly named. I called the summit Mount Golunda, a name sonorous and easy to remember. I next descended northward, intending to run a sectional line across the river of Lewis's Ponds. I saw at great distance between me and Bathurst, granite rocks on a range to which it seems therefore desirable that I should extend my survey. I found the lateral ridges leading northward consisted almost of solid quartz for about 2½ miles, then descending about 700 feet I come upon a rocky banked stream, muddy as if gold washing was going on higher up. Drinking here, I crossed and ascended

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towards an elevated cone still in the direction of north. This too, I found consisted of the quartz, as if it was but a portion of the spur by which I had come from Mt. Golunda, until the river ravine had been cut through and separated them. Other vallies, steep hills and cones connected by narrow ranges, occupied my attention until the sun was near setting.

I had then explored a range running eastward, in hopes it would lead to the inhabited parts of the country, but to my disappointment, it brought me to the side of a deep ravine just as the sun went down ! In this I found a river flowing eastward, which I could not identify by the tracing of the map I had with me, and as the cold frosty air of night came on, my intention of "bushing it" cooled,

especially when I recollected I had nothing to eat, I was glad to see the slight trace of an old cattle path leading up a ravine on the other side, and as I had the full moon now directly at my back, I hoped to be able to reach some hut where I might be able to pass the night. After long exertion I came to the sawn stump of a tree, but the dray track by which timber had been taken from it, was barely occasionally visible. At length however it became tolerably well marked, but a fallen tree lost me all further traces.

I now endeavoured to pursue the same direction by following my shadow, until I heard dogs bark at a great distance occasionally. The bark was much more distant at last, and I turned back in despair towards it, until I reached a shepherd's hut where his wife and child were also. They pressed me to take some tea and damper, and gave me a piece of hard salt pork on a wooden platter. I found this was a sheep station of Mr. Thorn, and that I was but seven miles from Summer Hill. Thus I must have returned southward before I reached this station, five or six miles by the moonlight. I persuaded one of the shepherds to guide me for 5/- to the Inn at Summer Hill (where I had left my horse to feed & rest) and by nine o'clock I arrived there, less fatigued than I could have expected, having been on my legs since 7 AM, crossing the wildest mountain country without any road. My shoes were worn through the soles to my socks, and I had carried my aneroid sextant and ..? all day.

8th August Friday Mr. Davidson called and informed me that he had encamped the party at the place where the people were gold digging on Mr. Wentworth's land. I hastened there after renovating parts of my dress, I asked the tents to be struck and moved to Kyong.

We obtained from the diggers at Summer Hill some interesting specimens of quartz and I bought a nugget, also some of the ferruginous powder containing amongst it some grains of gold, also specimens of the rock underlying the red earth and quartz, resembling half-decomposed serpentine. We encamped on a flat a mile westward of the Inn at Kyong.

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9th August Saturday The day being rather rainy, in the earlier part, I went with Mr. Davidson and party to mark a more direct line of road, than the present road passing through Kyong, by which I hoped not only to shorten it a mile as compared with the present road, but also to avoid the soft black swamps and steep acclivities, and, which was equally necessary, to carry it through the Government Reserve set apart for the township. In all this we succeeded even beyond my expectations, finding sound ground nearly level, and generally over or near trap rock which forms the best sort of material for making a good road.

10th August Sunday This day I carried a survey along the range running northward from the east side of Kyong Valley, on which I found the granite I had seen from Golunda. This was a most satisfying day's work; I could fix most of the summits by angles on Golunda and Mt. Lachlan. The granite occurred in large blocks, the schist reappearing on the most northern summits, and further last of which I looked down on the Macquarie and saw at great distance the buildings of Bathurst. Returned by the Cornish Copper Mines.

11 August I had now brought my geological survey to proper limits, and right glad I was to pack up my specimens with my son's assistance, and set out on my way to Bathurst. Mr. Davidson accompanied me. My son was to follow with the carts and equipment. I found the extensive country between Kyong and Bathurst, after crossing the range surveyed yesterday had very little feature of any kind. As far as "Neil's Waterholes" the lower rock seemed to be schist. We first met the grant at "Black swamp creek". There the rock on the west side consisted of altered sandstone. From Black Swamp Creek the whole country is granite to Bathurst. Mr. Davidson's horse knocked up at Mary's Creek, six miles from Bathurst, and he had to remain behind with him, and afterwards he walked in to Bathurst.

I went on by his recommendation to Rotters Inn, in order to secure a seat in Wednesday's Mail. I found it was taken by government for the exclusive carriage of gold and that no passengers were allowed! On application to Majr. Wentworth however, he took on himself the responsibility of giving me an order and

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excepted me as a Government officer.

12th August I kept to the completion of this journal the best part of the day, "taking my ease in mine Inn", and receiving visits from old friends. Major Wentworth's obliging attentions I ought always to remember, as well as those of Colonel Morisset.

My son brought in the carts and party without any damage, weak as the horses were, and the only remaining subject of anxiety at the close of these arduous labours during two months and a half, passed in elevated mountains during the rigour of winter, where not a blade of grass was on the ground, and horse stealers were to be found everywhere, was how men could be obtained to drive the two carts to Sydney. My son was exhausted in himself, and Mr. Davidson promised to do the best he could to find somebody at Bathurst. A new fever of excitement prevailed respecting the gold found at the Turon, and Bathurst seemed quite deserted. Mr. Austin shewed me trays full of gold and asked me to feel their weight, I could scarcely lift them! I saw a nugget of 57 ounces, nearly as large as a closed fist, and numerous other fine specimens for which he however demanded too high a price for me to obtain any as specimens from that shop.

13 August At 2 AM I took my seat in the mail cart for Sydney. It carried about five hundred weight of gold and was protected by four policemen and a corporal in the vehicle, and escorted by two others behind on horseback. The roads are terribly cut up, having had no repairs of consequence made on them for years, while the immense traffic on this road to Bathurst since the discovery of the gold had rendered it almost impossible. We met drays and carts with parties of pedestrians at almost every turn, especially after we reached Bowen's hollow, where the road to the Turon leaves that to Bathurst. A knot of drays had been obstructed on a narrow pass under Honeysuckle Hill, by one having a wheel of which every spoke was broken, and it took sometime to obtain a passage for the mail. Between the ascent of Mount Victoria and the descent to Emu (a mountain track of about forty miles) I counted (with the assistance of the policemen) upwards of seven hundred people and sixty drays all on their way to the Gold Diggings. We reached Penrith about 9 PM. Where the mail halted for the night. That place resembled a country fair. I had a bed, but a separate room and a fire could not be had, and I went to bed earlier than usual.

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14 August As a new arrangement had been made for the separate transmission of the gold to Sydney, the mail was sent onward from this place by an Omnibus, in which I took my seat at 2 o'clock in the morning. The other passengers were indeed a strange set.

As the door was shut by the waiter of the Inn he shouted "Remember no smoking is allowed in Her Majesty's Mail". This seemed to operate as a temptation to smoke, for lucifers were immediately in requisition, and a drunken man opposite me, and constantly tumbling upon me, borrowed a lucifer from an old man up in the corner, who I expected would have been careful to refuse it. But I afterwards discovered they both belonged to one party returned from the Diggings. He not only lent a lucifer, but when he dropt it in the straw, another and another, and when the straw in the flour caught fire, and I in extinguishing it, complained, the drunken man began to swear, and held up his lucifer to my face in a contemptuous way, and I finally made friends, he being an old sailor, a class I like, by very civilly assisting to keep him on his seat, by keeping up my knee for that purpose, I reached Sydney in time to go home to breakfast.

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The most distinguished of services have been referred to with an atrocity of insolence and want of feeling unparelled I believe ever in the history of ...

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[Transcribed by Jacqueline Lamprecht for the State Library of New South Wales]