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339 Collins Street,
MELBOURNE.

14 April 1917.

C.C. Plante Esq.

Dear Sir,

Preliminary General Report on
Kirkup's Slate Deposit

As per your request, beg to advise having proceeded to Tasmania to inspect a certain slate deposit hereafter described as Kirkup's slate deposit, samples of which were exhibited in Melbourne and also certain historical records and relics, which are referred to later.

Owing to the vivid descriptions of the deposit as per records, was anxious to reach the locality which I did on the 8th March accompanied by Mr Kirkup and Mr Green Hill of Burnie.

Area of property

320 acres, applied for under lease dated March 15th in name of John Kirkup.

Locality

About 12 miles north of Mt Bischoff and Waratah township, 6 miles south of King Copper mine and eleven miles south-west of Preolenna Coal mine with the Arthur River adjoining it on the western boundary.

DESCRIPTION

I cannot do better than quote the extract from Henry Hallyer's report which reads as under:

"On the 21st February about noon, we came down upon the Arthur River, again, running east but seeing it turned to the north, we went round the bend and from it ascended its very high and steep bank, and came to the foot of a long line of perpendicular cliffs of slate, from two hundred to three hundred feet high, which upon examination proved to be slate of the best quality splitting in parallel thickness to the size of Ladies Countesses or Duchesses, and lying in a regular horizontal strata from end to end. I brought away specimens and engraved upon a large slab standing under the cliff 'Whoever is found stealing slate from this quarry will be dealt with according to Law', with the date below it. If the Arthur should be found navigable for barges, from hence to the coast this discovery so near the river might be valuable. The cliffs appear to extend for many chains across and would supply all the world in slates".

On the 9th we proceeded to examine the deposit mentioned by Hallyer, Mr. Kirkup leading us on to the south bank of the Arthur River.

At this point we started climbing up the rocks and reached the slate deposits after some two hundred feet of climbing. Continuing, we were soon on the spot where Hallyer left the slab,

about three hundred feet above the Arthur River. On account of the cliff had to deflect to the right to climb up to the survey track known as Jones'. This track follows along the edge of the cliffs of slate, gradually rising and winding along each angle until we reached the northern slope of the slate deposit about 1-1/2 chains south of your north-west corner peg and about 700 feet above the Arthur River. Were it not for the dense undergrowth and timber I doubt if a track of any kind could have been made along the cliffs.

Needless to say, when we reached to this point and viewing the depths of the slate material passed over and still cliffs of slate above us, I stood in astonishment and wondered whether my vision had doubled. From here, I returned agreeably surprised at the immensity of the deposit and its general construction and queried myself whether I had erred in my observations of the general conditions of the deposit, or whether all geological descriptions of slate deposits had been shattered. So bewildered I was, that judgment was held in the balance until further investigations were made.

On the 10th or next day, was devoted to breaking and examining samples all along the entire track covered the day previous. These disclosed excellent quality and cleavage above all expectations. To obtain samples of such merit in a deposit where cleavage bedding and general conditions are at variance published theories and generally accepted ruling conditions current in the best slate quarries in Wales and elsewhere is all the more wonderful. I decided to pursue my investigations in the light of existing conditions at Kirkup's alone, irrespective of theories and practices elsewhere.

Commencing at the Arthur River bank where a dense conglomerate rock is showing for a height of 200 (hundred) feet upon which rests the slate deposit. We climbed upwards over the cliffs over 300 feet and reached another bedding or intrusion. This proved to be about 60 feet thick with slate for several hundreds of feet still resting on it. Further search disclosed the overburden or hanging wall resting on the top of the slate. This overburden or hanging wall and the bedding or footwall are a hard dense conglomerate rock while the intrusion or intermediate bedding is porphyritic rock. These all appear to be horizontal and at parallel angles with each other and their dip at parallel angles with the dip of the slate deposits. These rocks define the limitations of the slate deposit and must be regarded as the whole explanation accounting for the excellent cleavage and conditions within the slate deposit.

Course of the deposit and its bedding is north and south with an easterly dip of about 1 in 5.

EXTENT OF DEPOSIT

Am confident that No. 2 deposit or vein which is contained between the bedding and porphyritic rock extends the full length of your property on western side, viz. 1/2 mile. While No. 1 or upper vein has a fence measurement along the cliffs of over 1400 feet while its thickness across No. 1 and 2 veins is over 600 feet and taking same to a depth of 100 feet on its dip east will contain many millions of tons of slate material.

These veins on being followed downwards may be found to extend for greater distances than is at present exposed on the surface, the deposit being on a hill isolate on the surface by a valley or depression on the south and on the north end of your property same may be hidden by debris, as between your north-west boundary and the River Arthur to the north general conditions are almost definite assurances of permanency along the horizontal as well as depth.

Construction or formation of deposit and its location in relation to working costs.

The bottom of slate veins being situated 200 feet above the Arthur River and valley along same with the dip or underlay of slates away from the river provides ample room for depositing the waste rock for generations, besides making your drainage a simple matter as depth is attained.

DEVELOPMENT OF POWER

Your location is so placed that ample water is available for development of power.

CONSTRUCTION

The whole deposit is so placed that on No. 1 vein no less than four sections could be immediately put in commission, one of these would be over 100 feet along the cleavage or dip with no overburden except soil and heavy timber. It is from here that No. 1 samples were obtained. Length of slabs were 13 feet by 2-1/2 but had to be broken for pack saddles.

Timber is abundant on your property, immense trees of stringy bark up to 80 feet long are scattered over the slates.

Having briefly referred to location, extent, and construction, etc. of deposit which remarks are of no significance commercially except as to how far that information may be of economic value in transferring the deposit contents to commercial advantage.

The basis upon which the whole matter rests now are dependent on two things.

(1) the chemical contents
(2) the probably cost of production with reasonable equipment.

CHEMICAL CONTENTS

As before mentioned the deposit contains two slates veins and two classes of slate material, one for flagging and general uses and another suitable for roofing slates. The latter being your chief objective, endeavours were made to secure same. Two samples were submitted and placed under seal with you and the analyst report is herewith attached. ?

No. 1 sample was obtained from north-west angle deposit marked in section B on sectional plan about 458 along the track from N.W. peg and about 20 feet above the porphyritic rock. No. 2 from a point 822 feet south-west of No. 1 and is firm underneath and adjacent to the porphyritic rock being the top of No. 2 vein section D. At this point an excellent class of slate material is showing following along the porphyry for fully five hundred feet north. Never attempted to follow south owing to scrub.

Both samples are excellent testimony of the merit of the slates and abundance of material of same merit can be obtained.

COST OF PRODUCTION WITH UP-TO-DATE EQUIPMENT

Am submitting figures that were current costs under my supervision in South Australia some four years ago.

The natural advantages prevailing in your No. 1 deposit or vein would counter-balance higher wages etc. In respect to No. 1 the figures accompanying can reasonably be accepted as correct estimates. These costs were current with an inferior plant, but an excellent staff.

Roofing slates per 1000	Splitting and dressing)			Selling) Sydney
Quarrying and haling	20/-	30/-	50/-	) £7.10.0
Hearth stones 5' x 2 x 1½"				Selling
Quarrying per foot	6d.	sawing 3d.	9d.	1/3
Hearth stones 6 feet and over	6d	sawing 4½	10½d.	1/6
Monumental lines				Selling
Base stones 4' x 1½ x 1½"	3d.	1½d.	4½d.	9
Thin flagging all sizes 3¼" thick	3d.	1½d.	4½d.	6

Terms cash with 2½ off interest of 5% charged over 60 days. Flagging and large blocks were subject to prices, fixed at any time as between myself and consumers. To the above figures must be added ten per cent for capital expenditure, thus reducing the apparent profit somewhat.

EQUIPMENT

Enquiries are in hand to obtain full price list of your requirements for quarrying and dressing and capital required to place the quarry on the producing stage.

GENERAL

The immensity of the slate deposit warrants the systematic plotting of the whole of the cliffs to enable your advisers to thoroughly know where and how to open same to best advantage. At present there are no means whatever to sampling, except at random on account of the scrub and cliffs. To open up a quarry at any favourable spot on No. 1 vein at present may be the means to covering up the best material in No. 2 vein. Would suggest that a track four or five feet wide be cut across the two veins at a central point so that the whole of the varied material can be sampled.

However promising the proposition may be it will improve further if sampling satisfactorily, furthermore you can proceed to develop without hesitation and can confidently ask Government or Commonwealth support to assist you in the matter of transport facilities.

Permit me to congratulate you in having the initiation of the finest slate deposit I have had the privilege to see in Australia, economical to work and full of promise as far as exploited.

Again thanking,

Yours respectfully,

GRIFF W. WILLIAMS