

C.S.

PUBLIC WORKS (Stanley Improvement Scheme)	
No.	443/25

1925.

Executive Engineer, S.I.S.

SUBJECT.

192 5

11th June,

Previous Paper.

Report on possibility of obtaining lime from Local Stone.

Ref: M.P. 199/25 Encls 5 & 17.

MINUTES.

Report by Mr. G. Roberts, 11th June, 1925. ( / )

*PA 4/12/25*

*G.R. Submitted  
 9/6/25  
 O.C./Sec  
 16 June 1925*

*O.S.C./C.S.O.*

*Arrangements have been made for application to bring in about a ton of shell deposit from Fitzroy.*

*By  
 22 June 1925*

*Acting Harbour Master  
 For order  
 9/6/25  
 O.C./Sec  
 22 June 1925*

Subsequent Paper.

O.I.C./C.S.O.

Two tons of shell deposit were brought in  
by "Afterglow" on voyage No 69. 24/6/25.

R. S. Searley.  
A/G Harbour Master.

4/7/25.

Minute from Ex Engineer of 3<sup>rd</sup> July 1925 - Encl ②

Y. E.

Submitted.

GR  
O.I.C./C.S.O.  
6 July 1925.

O.I.C./C.S.O.

Opportunity was taken of Afterglow passing through  
to collect ~~the~~ quantity required of shell deposit but  
there had been a considerable fall of some shells  
before her visit. It may not be possible for Master  
of Afterglow to give information as to whether samples  
are available but bring up the paper in 6 weeks  
when Afterglow should be here

By  
S. H. G. 4/7/25.

The Honourable  
The Colonial Secretary,



STANLEY IMPROVEMENT WORKS

With reference to enclosures 5 and 17 in connection with the lining of the water for the Stanley Supply, I beg to state that endeavours have been made to burn, in a temporary kiln, stone which from outside appearance resembled a stone containing lime to a greater degree than any I have seen in the near vicinity. This stone came from the bed of the Reservoir now being excavated, and it was hoped to prove by calcining that sufficient lime was contained in the stone to enable it to be used for filtration purposes as suggested by Messrs Riley, Harbord & Law (Consulting Chemists) in Enclosure 17. About 1 ton of this stone was put into the kiln together with two other samples selected from different sites, and later a small quantity of shell deposit, obtained from Government House Grounds, was added.

2. I consider the kiln, although an improvised one, worked very efficiently and that a fair trial was given to the burning of the stone.

3. The kiln was drawn to-day (11th June, 1925) after burning for approximately 70 hours, with the results that the stone obtained from the Reservoir showed only a slight trace of lime as to be practically negligible for the filtration purposes, and the other two samples showed no trace of lime to be observed.

4. The shell



4. The shell deposit burnt to a lime of very fair quality but there was not sufficient of this deposit burnt to enable proper trials to be carried out, and, as it was put into the top of the kiln at a late hour, it was not given a fair trial in burning.

5. I am convinced, however, that lime can be obtained from this shell deposit by calcining with coal in a kiln, but I should like to carry out further tests with a larger quantity and try burning it with peat. It is questionable whether there is sufficient staving power in the peat for kiln burning but the experiment could be tried and if successful lime could be produced fairly cheaply as compared with the cost when burnt with coal.

I therefore submit that approximately 1 ton of this material be obtained from Fort Fitzroy, where it is understood this deposit exists, for the purpose of carrying out experiments at the Improvement Depot.

6. I am of opinion that this shell deposit contains guano and is possibly obtained from the site of a very old rookery. If this is so it is quite possible that there is not a very large quantity available but a minor survey would determine this. Should it be the case that the material contains guano it would not be possible to utilise it in its raw state for filtration and liming purposes, but it could be burnt and the lime obtained used in proper proportions with the top layer of sand in the filter bed, but I suggest that this be left until further investigations have been carried out and until it has been tried in a temporary filter which I propose to make for the purpose of determining what amount, if any,

of the discoloration can be removed from the water.

7. After these investigations have been carried out it may be desirable to submit samples of the raw, burnt and washed material for analysis in England.

8. The small quantity of shell deposit burnt was afterwards crushed and tested for making mortar. A small briquette was made but this has not yet had time to set, but when mixed the following temperatures were taken.

lime approximately 4 ozs. mixed with  
8 ozs. of sand and water.

Temperature of water.	.....	37°
" " sand.	.....	35°
Outside temperature.	.....	58°
Temperature after being mixed together for 1 hr.	.....	75°

*G. Roberts*

Executive Engineer,  
11th June, 1925.



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The Honourable  
Colonial Secretary.

STANLEY IMPROVEMENT WORKS.

Further to my report dated 11th June, 1925 in connection with the lining of the water for the Stanley Supply, I beg to state that 39 bags of shell deposit from Fitzroy were delivered at this Depot on 30th June, 1925.

2. It was intended to carry out calcining experiments with this material with a view to obtaining sufficient lime for filtration purposes, etc.

3. The shell deposit delivered is loose, too fine and lays close like sand, and, in its present state cannot be burnt in a kiln either with peat or coal as fuel.

4. When making the request for a supply I was under the impression that it was obtainable in fair sized lumps and compact similar to the small quantity which was obtained from Government House grounds. If it is obtainable in this form some results might accrue with calcining.

5. It is disappointing, but unless the shell deposit can be obtained in compact lumps it is not considered feasible to proceed further with the experiment.

6. Perhaps more information can be given on this, please.

*G. Roberts.*

Executive Engineer.  
3rd July, 1925.