C.S.

PUBLIC WORKS.

WATER

193

No. 90/33

Hon. D.of.P.W.

SUBJECT.

193₃

12th April.

"Roberts Spring."

WATER SPRING. - ~~SAPPER HILL.~~

Suggested experiment with a view of utilisation of

Previous Paper.

MINUTES.

(1) Minute from Honourable Director of Public Works. 12/4/33

J.S. Submitted for approval.

There is money available under this vote so that it is not necessary, at any rate at present, to fund the ear-marked saving.

Subsequent Paper.

Hon. C.S.
This is interesting
approved.
JO 14-4-33

15-4-33.

Hon. D. P. Dooley

Please note

24. 4. 33.

~~Hon.~~ Col. Sec.

noted.

C Roberts.

24-4-33.

(1.9.)
15/8/33

Minute question Dept'l 6/7/34 (2-3)

Submitted. The samples of waters mentioned to be sent to the Ca's for analyses.

H C H
Ag Cs.
6.7.34.

Hon. C.S.

I understand there is some doubt as to the practicability of making use of this source or account

C.S.O. No. 90/33

Inside Minute Paper. *Sheet No. 2*

of the low situation and of the length of pipe line that would be required and also that alternative sources are being examined.

2. Perhaps it would be as well for the whole matter to stand over against the return from leave of Mr. J. Roberts at the end of next month.

7. 7. 34.

Hon. Director Public Works.

To note. Please bring matter to the notice of Hon: J. Roberts on his return.

9. 7. 34.

Hon. Col. Secretary.

noted. This will be brought up on return of Hon. J Roberts please.

B.f 28. 8. 34
mcH 12. 7. 34

for Col Sec
19/7/34

Hon. Colonial Secretary.

I called for this M.P. in connection with the preparation of the draft estimates for 1935. Further to the enclosed report of the 6th July, 1934, I beg to report that alternative sources of supply have been examined, both on the Common at Moody Valley and to the South East of Sapper Hill; none of these have proved to be reliable for a constant supply.
I have therefore to recommend that the town water supply be augmented from the spring and headings to the South of Sapper Hill which have been under observation during the past 16 months.

This supply will of course depend on the report of the chemists to the Crown Agents for the Colonies after an analysis of the samples, which it is proposed to forward at an early date.

In view of the increasing demand on the present town supply I am inserting an item in the draft estimates for 1935 to cover the cost of the new installation.

G. Roberts.

Director of Public Works.
5th September, 1935.

YE. Submitted for information.
M CH
ag. CS.
6.9.34

Seen
6.9.34

Hon. Director Pub. Wks.
To note.
M CH
ag. CS.
6.9.34

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Inside Minute Paper.

3.
Sheet No.....

Hon. Col. Sec.

Noted.
G. Roberts.
4-9-34.

P. A.

(4-5) Minute from Hon D Pope 24/9/34
6-9. Letter No 6/HH. of 27. 9. 34.

Hon. Director Pub. Wks.

To note.
HCH
27. 9. 34.

Hon. Col. Sec.

Noted.
G. Roberts.
28-9-34.

P. A
3/10/34.

8-9. Minute from Hon. D.P.W. of 15/11/34.

JWB.
Reqd. 8.9 submitted.
C. I. J. for C.S.
15/11/34.

Hon. Col. Sec.

I agree fully with the views of Hon. Director of Public Works and he may proceed with the action he proposes. There was a fairly heavy shower of rain very early this morning - it all helps the supply.

W C H

16. XI. 34

Hon. D.P.W.

To note.

C.S.J.
for C.S.
6/11/34.

Hon. Col. Sec.

Noted thank you.

The shower referred to by His Excellency has given us 270 gallons in 24 hr. this being approximately 1/6 of the consumption in the same time. It also helps by putting a little water into peoples tanks thus easing the demand on the fountain.

G. Roberts.
D.P.W.
17-11-34.

4

Y/L.

Submitted for information.

A.S.G. for C.S.
19/11/34.

Hon. Col. Sec.
Thank you. Fortunately we are getting some rain today.
M C H
19. XI. 34.

P.W. 20/11/34 For detailed estimate of cost of proposed increased water supply see recds 2 and 3 of 171/34, Public Works estimates.

Y/L
Papers Submitted for information.
M C H
C.S.
13. 2. 35

Seen. It may be necessary to limit the hours of supply if further shortage arises
13/2
Director Public Works.
To note.
M C H
C.S.
13. 2. 35

P.W. 14/2/35 Hon. Col. Sec.
noted.
C Roberts 14-2-35.

Copy of letter to Crown Agents from Riley, Harford & Law of 5/1/35. 10–11.

Letter from Crown Agents of 5/3/35. 12–13.

Director Public Works.

To note.

MCH
C.S.
15. V. 35–

Hon. Col. Sec.

Noted.

C. Robert.
14-5-35.

P.K
14/5/35

Minute from Hon. D.P.W. of 8/11/35. 14–15.

M.

Submitted. May the proposed Notices be published? If the shortage of water continues it may be necessary to limit the hours of supply.

MCH
C.S.
8. XI. 35

8/XI

Director Public Works.

To note approval.

MCH
C.S.
8. XI. 35

C.S.O. No. 90/33.

side Minute Paper. *Sheet No. 5*

Hon. Col. Sec.

noted.

G. Roberts.

D.P.W.
9/11/35.

P.A. 11/11/35

Extract from minute of 14th. the Governor in C.S. 221/35.

"Please ask the D.P.W. for a
"concise report on the new water
"supply with special reference to
"its superiority over the present supply,
"the number of houses that it will
"be possible to reach with it and
"the revenue derivable in the next
"few years."

(initd) 14th.
19. XI. 35.

Director Public Works.

Accordingly please.

You gave certain information on sheet 10 of 121/34 attached.

M C H
C.
19. XI. 35

Hon. Col. Sec.

Reds/677

Report attached as requested.

G. Roberts 19/11/35.

Y/K.

Report Submitted together with a draft despatch in compliance with Y/K's instructions in 1/86/34.

MCH
C/.
22. XI. 35

App.

~~Illegible~~ 22/XI/35

Despatch to Sec/S. No 171 of 23/11/35 (1819)

Y/K.

Despatch Submitted for Signature.

MCH.
C/.
23. XI. 35

Hon. Treas.. 25/11

Hon. S. for D.. 26/11/35

~~Director Pub. Works.~~ etc.

To Sec.

MCH
C/.
25. XI. 35

~~Hon. Col. Sec.~~

noted.

G. Roberts.
D.P.W.
27/11/35.

P. A.

MCH
C/.

C.S.O. No. 90/33

Inside Minute Paper.

Sheet No. 6

(20) Telegram ... S. of S. No. 4 of 16/1/36.

M/L.

Submitted. Inform D.P. Wks.?

MCH
C.S.
17.1.36

Yes please.

This spring is to be known in future as the Roberts Spring and the title of this file can be altered accordingly. For about two years searches were made in the neighbourhood of Stanley for a supply of this material and we have had to put up with a poor substitute. Notable benefits are to be anticipated from the utilization of the spring and it is only right that the discoverer's name should be permanently attached to it

17/1/36

Director Public Works.

To note that scheme has been approved by the S. of S.

MCH
C.S.
17.1.36

Hon. Col. Sec.

Noted.

G. Roberts.
D.P.W.
17/1/36.

P.A.
MCH

Minute from D.P.W. 28/12/35. (21)

See Ref. 99/33

P.A.
29/2/36

S. of S. despatch No. 19 of 20/1/36. (22)

Director Public Works.

To see. Samples of the water were sent to England for examination and it was stated that there was nothing to indicate that the water was not potable. As a matter of fact it is strong water of exceptionally fine quality?

MCH
7.4.36.

Hon. Col. Sec.

Suggest that copies of Reds 4-5-10 & 11 be sent to S. of S.

G. Roberts
D.P.W.
5/4/36.

C.S.O. No. 90/33

Inside Minute Paper.

Sheet No. 1

C/Sec.

On the assumption that Your Excellency will approve of that course of action suggested by the D.P.W. I put up draft reply b Red (22).

C.S.J. for C.S.
12/4/36

12/4/36

(23) Despatch to S. of S. No 32 of 15/4/36

H/E.

Despatch submitted for favour of Your Excellency's signature.

C.S.J. for C.S.
15/4/36

20/4/36

P.A
20/4/36

(24) Minute from Hon. S.M.O. of 12/5/36

Hon S.M.O.

Your suggestion in Red (24) is approved.

P. 14/5/36
A.C.S.

Hon. Col. Sec.

Thank you

W.H. Cheverton

15th May 1936

Hon. Colonial Secretary.

With reference to enclosure 2I, I beg to report that the area to enclose the water works in the vicinity of Mullet Creek has been determined and pegged out, and submit Mr. Browning be informed thatthe land, described below, will be fenced:-

A piece of land in the vicinity of Mullet Creek enclosing a spring and the water works with an acreage of I7.4I acres (I7½ acres more or less). Bounded by a new fence on the North 730 feet on the South 730 feet on the East I,039 feet and the West I,039 feet.

G. Roberts.

Director of Public Works.
2Ist May, I936.

Hon. D.P.W.
Will you please also state the amount by which you consider the rent paid by Mr. Browning should be reduced. Jrcs 22/5/36

Hon Col Sec.

The area of Mullet Creek Farm is approximately 4,521 Acres, for which Mr Browning pays £5.5.- per Annum, this works out at slightly less than 3/- per Acre. The area now being reserved for the Water supply is slightly less than 18 acres, therefore a reduction of 5/- per annum would more than cover the loss to Mr Browning G. Roberts

26/5/36.

C.S.O. No. 90/33

Inside Minute Paper.

Sheet No. 8

Y.E.

I take it that Mr. Browning be informed as desired by the Hon. D.P.W. at red (21) adding the particulars contained in his minute opposite dated 21st May and that the rent be reduced as suggested in the Hon. D.P.W's minute d/26/5/36.

[signature] 29/5/36

[signature] 30/5/36

25. Letter to H. Browning, Esq., of 2/6/36.

Hon. D.P.W.
To see red (24).
[signature] 3/6/36

Hon. Col. Sec.
Noted.
C.W. Roberts.
16/6/36.

P.A.
18/6/36.

(26) Minute from D.P.W. of 4/7/36.

Y.E. Submitted.
I visited the works after the occurrence with the Director of Public Works and in my opinion it would be extremely difficult to obtain convicting evidence owing to the isolation of the area and the simplicity with which such an act could be done and I don't think any useful purpose would be served by Police investigation.
I sympathize with the D.P.W. in this unfortunate event.
[signature] 8/7/36

I much regret to hear of this mischievous action
[signature] 8/7

Hon. D.P.W.

W.r.t. (26) please see the minute by H.E. dated 8 July.

J.S. q.d.
9/7/36

Hon Col Sec.

Noted thank you.

G. Roberts
D.P.W.
10/7/36.

C.37.
11/7/37

Minute from H.E. the Ag. Governor 12/7/37. (27)

Minute to D.P.W. of 14/7/37. (28)

Hon Col Sec.

Report on Water Supply by (29)
General Foreman submitted.

J.
D.P.W.
20/7/37.

H.E.

Rpt (29) submitted.

It seems clear water in summer & coloured water in winter.

Fred
22/7/37

Hon. C.S.

This is most unsatisfactory. When the sanction of the S. of S. was sought in CDS 18-19 for the expenditure of £3000 for a supply of clear water it was confidently that the supply of clear water

would be continuous. If "A" of 29 is correct then there is something wrong with the harnessing of the Spring. I have seen Springs in the Camp that are unaffected winter or Summer, the water always being of crystal clearness and this with no echandaine.

2. According to para: 3 of red 17. the Spring yields 15,000 galls of water in 24 hours. If "headings" have been opened up for surface water to augment the Spring then it is obvious that crystal clear water cannot be expected. The echandaine was authorised to obtain clear and not peat stained water. The D.P.W. is responsible for seeing that clear water is supplied.

3. Who actually supervises the Spring and windmill pump? — is it the Foreman of works or the Water Bailiff. There has been trouble with the windmill

due to high winds. All this should have been gone into when it was ordered. Please ask the D.P.W. to furnish a report on it.

MCH.

22. 7. 37.

Minute to Director of Public Works of 23.7.37. 30-31.

PA
24/7/37.

Minute from Ofc. S.W.D. of 13/12/38. (32.)

V.E. Submitted. The Windmill referred to is too lightly constructed for service here. It has been continually breaking down and I do not think further expense should be incurred for new parts. The water supply will not be affected.

MCH
C.S.
15. XII. 38

Very unsatisfactory re breakdown of windmill.

[signature] 15/12

D.P. Wks
To see.
MCH
15. 12. 38

Hon Col Sec.
Noted. Since clearing & piping the springs mentioned in my minute, rea. 32, a further measurement shows an output of approximately 7000 galls day.

[signature]
17/12/38.

C.S.O. No. 90/38.

Inside Minute Paper.

Sheet No. 10

D.P. Works.

The output of water has not been affected by the failure of the Mill. Is it proposed to dismantle the Mill?

Mc H
C.S.
19. XII. 38

Hon'ble Sec.

With the additional water turbine & three pumpings a day the water supply is now a simple matter, & it is intended to dismantle the broken mill as opportunity occurs.

P.O.
20/12/38.

Seen
Mc H
21. 12. 38.

P. A.

(33) Minute from Executive Engineer of 21/3/40.

H.S. Referred. In the P. Works Dept. Estimates for 1940, the Salary of Engineman who placed under Personal Emoluments but when I went through the draft Estimates 1940 with H.E. it was not considered advisable to add such an Office to P.E. The Engineman is at present paid from item 3 of Head XIX

29. 3. 40 Mc H C.S.

H. C. S.

I do not quite understand red (33). Why should it be necessary to place the salary of the Engineer, Water Works, under Personal Emoluments in order that he may be present to pump water at all times? Could not some other arrangement be made to economise on £230 p.a.?

2. Salary at the rate of £190. p.a. is an unusual figure, where there is a grading scheme in force. If the office is to be placed on the "fixed" establishment it might be classified as Grade III - Salary at the rate of £150 by £10 to £200, and the individual to commence at such salary in the grade as may be approved. The holder of the office would then have to be considered for pension, leave facilities, quarters, etc.

3. I do not consider it advisable to add such an office to the establishment and, in any event, it should not be done without the previous sanction of the Secy. of State. Please see C. R. No. 267.

G. B.
F. S. 30.3/40.

C.S.O. No. 90/33

Inside Minute Paper

Sheet No. 11

Y.

Submitted in connection with red (33).

2. The amount provided for water Service under Head XIX (3) is £300 and labour is paid from that vote.

W.C.H.
30.3.40

I dislike adding to permanent staff. It is of immediate concern that an employee of the P.W.D. should be engaged in pumping water and I cannot see why — as the men may be changed from time to time he should not be an hourly paid casual at approximately £190 p.a.

1/4/40

E.E.

We discussed this matter this morning & I should like you to minute me your opinion, members of the Executive, & which you are taking to improve the water supply.

A.R.
3.IV.40

Honorable Colonial Secretary.

In accordance with His Excellency's suggestion for which I am very grateful as P.E. men are "a doubtful blessing." I have arranged with the engineman to pay him a flat rate of 1/6 per hour for 45 hour week — £3. 7. 6 on the understanding that he ~~£5.~~ with the exception of Sunday, he pumps at such times & hours of day or night that may be necessary to achieve the desired effects.

Having now the necessary labour I am having the headings (one at a time) opened up with a view to tracing them back to their source & then by piping the supply avoid discolouration. This work, if successful, will take some time but when complete the engineman will be able to revert to his present wage & hours.

C.S. H. 4. IV. 40.

Hon. F.S.

I/O see.

C.J.S.
for C.S.
26/4/40.

Hon. C.S.

Sure. Thank you.

for C.S.
27/4/40.

B.H.
27/4/40.

C.S.O. No. 90/33

Inside Minute Paper.

Sheet No. 12

(34) Minute from Hon. S.M.O., of 8.8.40.

S.M.O.

Note. This matter is under consideration

10/viii/40

Clerk

8 Aug

12/8/40.

P.A.

35. Minute from Executive Engineer of 22/1/42.

Y/E Submitted

C. for C.

23/1/42.

I approve. Let the E.E. go ahead.

23/1/42

E.E.

To note.

C. for C.

24/1/42.

Honourable Colonial Secretary.

Note. Thank you. Work was commenced yesterday.

E.E.

27.1.42.

I met Hon. Bendon on the 5th yesterday & apologised that owing to the urgency of the work no previous consultation or permission was obtained. He suggested a reasonable compromise in the matter & I will submit this in due course. E.E. 27.1.42

P.A.

Honourable Colonial Secretary.

I reported to His Excellency this morning that the first part of the filter (half the scheme proposed in (35) that is for about 12500 gallons per day) is now working satisfactorily at this rate. It needs top scum removed about every two months. The test has shown that the actual slimmy cannot be removed without such slow filtration as would be given by a filter an acre in area with about 6'.0" of sand. This is beyond our resources. On the other hand Eurasal independent tank tests of water from filter & water from household tap have proved that the "tang" of the water is removed after filtration & it is altogether more potable.

His Excellency instructed me to enlarge filter bed to give 40 – 50 thousand gallons per day at once & to charge cost to water service for which a S.W. will if necessary be eventually issued. I am arranging to get all requisite materials, on sale as track conditions allow & will recall a gang from P.I.C. when all materials are on site.

A.W.H. 1.VI.42.

Y.E. Submitted for information, please.

D.P.A. D.A.C.S. 2/6/42.

Yr. A.D. 3/VI/42

P.A.

Minute from Executive Engineer of 25.8.42. 36.

C.S.O. No. 90/33.

Inside Minute Paper.

Sheet No. 13.

(37).

Ex-Eng.

I understand that the original works on the Esther cost about £100 & that the savings mentioned in para 6 of (35) were not available because pumping proved to be necessary after all?

2. Please hypothecate savings of £410 under Head XIX, detailed under Sub-heads. You will of course be bound by this hypothecation. S.W. forms should accompany your reply.

KB
26/8.

(38)

Honourable Colonial Secretary.

The situation is as stated in your 1st para. of (37).

2 The anticipated Savings are

Estimate	1. Roads	£50
	13 upkeep Settlers	75
	14 Lights & Waters	75
	16. Light & fuel	60
	18 Drainage Pest banks	40
	20. Wet time pay	350
		£600

In order to avoid any confusion of thought I should point out that the savings are not the result of high estimating or that the work was not essential but the lack of labour to do the work. In the case of wet time pay — the better control of labour & fewer men is the cause.

3. S.W. herewith as ordered.

AMS E

31. VIII. 42

Executive Engineer, (39)

I am afraid I am still not clear about this matter. In (35) you estimated the cost of a 25,000 gallon filter at "£100 or less" with corresponding savings on pumping if it should prove possible to suspend it. His Excellency authorised the project on this basis (Sheet 12).

2. You subsequently reported the work half done (12,500 gallons) and obtained authority to complete a larger scheme for 40-50,000 gallons in all.

3. You now state that the 1st Filter(£25,000 gallons?) and experuments and new connections in Town cost £175 and that no savings on pumping are available.

4. I should be grateful for the following information.

(a) Cost of pumping.
(b) Cost of experiments.
(c) Cost of first (25,000 gallon) filter.
(d) Cost of new connections in Town.

and should also like reference to the prior authority obtained for the expenditure in excess of £100, if any, incurred on (b) and/or (c), and for (d).

5. On your original figure the 2nd filter (25,000 gallons?) might have been expected also to cost about £100 and there is no record on this M.P. of any indication that it would in fact cost more than double this - £235. What was the reason ?.

6. These two Special Warrant's should be on the same form as only one sub-head is involved. By "forms" in (37) I meant in triplicate. I am sorry if I misled you.

7. I fully appreciate the urgency of these works, but it is important that the financial procedure laid down by Colonial Regulations should be closely followed.

K Bradley
Financial Secretary.
1. 9. 42.

(40)

Honorable Colonial Secretary.

Information called for on attached minute 41.
S.W. applications also enclosed. A.S.E. 21.IX.42.

Minute to H.E. the Governor of 23. 9. 42. 42-43.
appd. (44). 25/IX/42

Minute to Executive Engineer of 25. 9. 42. 45.
Letter to Colonel W.H. Hynes of 25. 9. 42. 46.
Letter from Colonel W.H. Hynes of 26. 9. 42. 47.
(46)

F.F. to see (47).
KB
29/9.

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Sheet No. 14

(49)

Hon Colsec

S.W. is now submitted in accordance with para 2. (2) refd to.

A.H.Q.
a/g.C.S.
5/10/42.

(50).

F.F.

S.W. opposite for your signature please. He has already received your approval (H3. p 6. 0 44).

K.B.
6/10

51. Memo from Executive Engineer of 9/10/42.

(52).

Ex. Eng.

Are you now satisfied that there has been no pilfering of petrol?

How soon will extra supplies of water be available as a result of the R.E's work?

K.B.
10/10.

(53)

Honourable Colonial Secretary.

From a careful scrutiny of the petrol issues I am amused, from the figures produced I am satisfied.

Present average daily consumption of water in Stanley is 45,000. "Pre-troop" days it was 25,000. This looks like additional consumption by troops of 20,000 gallons per diem. O.C. R.E. says eventual demand will only be 6,000 gallons for military - a very low figure in my opinion - but it will decrease I feel when they move to the Camp. Assuming the actual figures to be civil 25,000 & military 15,000, we have to find a total of 40,000 gallons.

O.C. R.E informs me that he is proposing

to pump up to fillers from Moodey Valley Stream to ensure a dry weather flow through fillers of 50,000 gallons per diem. When this becomes operative the balance over from army needs will be coming to our reservoir.

To days reading of Mount William Source is 53,000 gallons per diem. If this can be kept up we can cease pumping altogether, but unfortunately this source never falls very quickly & we are approaching the dry season.

The collecting tank at Roberts Spring with present inflow takes 2½ hours to fill. (3000 gallon tank – spring 300 galls per hour + heading 900 gallons per hour) The tank is pumped dry in an hour. That is 3000 gallons can be put up to reservoir every 3½ hours, ignoring any filling that goes on while pumping. ∴ in an eight hour day we can only pump 7,000 gallons. All the time Mt. William is running full now this is not necessary.

On this basis I am stopping all pumping for a week or fortnight & will watch results. The Engineers I will employ on cleaning reservoirs etc. At the end of this time I will report further as to future possibilities.

Finally, I would point out that the statements as to frequent interruption of Mt. William, & the "24 hours" pumping referred to in (51) were based on information given me by the Water Bailiffs, & as then given were misleading. R.E.'s are using no main supply water for building works on the Site of the Camp.

W. E.
14.X.42.

(54).

RECORD :

(53) discussed with Executive Engineer. Application for more funds withdrawn temporarily. The file to be referred to him again on the 1st November 1942.

16/10/42.

31/10/42

Minute to Executive Engineer of 25/11/42 (55)

C.S.O. No. 90/33

Inside Minute Paper. *Sheet No. 12*

54. Memo from Executive Engineer of 30.10.42.
(55)

O.i/c T.

I send you this file as discussed on the phone this morning.

KB.

56. Minute from O.i/c Sy. 1/11 of 4/11/42

57. " " E.E. of 10/11/42.

Y.E. (58)

In para 5 of (43) I reported that the Ex.Eng. hoped to economise on pumping and thereby avoid any over-expenditure of the $700 provided in the Estimates for the maintenance of the water service. Your decision in regard to the financing of this service and the new construction work was conveyed to the Ex.Eng. in (45). (51) onwards shew (a) that the hoped for economies have not materialised and (b) that an excess expenditure of $111 is anticipated owing to extra petrol used and labour for new connections asked for by the military. The final figures in (57) may be taken as a careful estimate up to the end of the year. I hope that when the work being done by the R.E's is finally completed and the Camp is built, we shall really begin to see an economy in the pumping.

2. Meanwhile, would Y.E. be prepared to sign a Special Warrant for $201 and authorise excess expenditure on maintenance up to $111, the final figure to be included in the omnibus warrant ?

(59) KB 14/11/42.

I am afraid I am too dense to understand 57 & as for 54 I can see no relationship existing between rainfall & output. Sorry. Until the fog is cleared for me I can do nothing

16/XI/42

Minute by Ex Eng. (60). 25.11.42.

Y.E. (61).
S.W. for $201 under XIX/2 submitted. (The previous one for $209 was charged to wrong Expenditure). This is in accordance with our recent discussion. - see (60).

Minute from Executive Engineer 5/4/43. (61.)

(62)

D.Rly

We discussed with S.M.O. His opinion is that the use of the filter beds is not a health factor, & & we decided that you should first approach Major Beresford yourself & see what can be done.

K.B.
6/4.

(63)

Honourable Colonial Secretary.

I spoke with O.C. R.E. yesterday & he has agreed to attend to the matter. I also discussed the question of the filter being returned to Govt. Care when the R.E.'s go. He agreed this would be better. May D.A.A. & Q.M.G. be asked to agree with us formally please, it being understood that the Force will help us should need arise with labour or transport as they are found users with us.

C.M.S. H.E.
8.IV.43.

P.S. Covering letter to C.R.E. attached 9.IV.43 64.

Minute from Hon. S.M.O. of 3.7.44. 65.

Letter to Brown Agents of 8.7.44. 66.

Letter from Brown Agents of 29.9.44. 67.

" " " " of 17.10.44. 68.

Hon. S.M.O.,

To see Reds 67a 68, pl.

for C.S.
24/12/44. 69.

H.C.S. ① I believe Dr. Hamilton is sending a sample of water for chemical analysis and I suggest the one analysis including an estimation for fluorine would do.

② Could the C/A: be thanked for their active interest in this matter. Mr. Liddle has given me a brief description of the geological formation which Dr. McMurray would like to know. [illegible] 1/1/45

C.S.O. No. 90/33

e Paper.

(70)

Sheet No. 16.

H.E.

By the mail which does just left I have sent to the C. M.
2 + ½ gallon water sample from the Moody Brook.
I have included examination for Fluorine in my request, if the samples are large enough.
J.E.H., C.S. 16-XII-44
I have interpreted the geological note in my file "Trout". H.

71. Telegram to Crown Agents of 19.12.44 71.
72. ~~Telegram~~ letter from Crown Agents of 27.2.45.
73 Letter from Crown Agents of 8-6-45.

(74)
Govt. Naturalist
To see ref (43) pl.
H.E.S.
24.9.45.

(75)
J.E.H. SN
25-IX-45
analysis now in my 'Trout' file.

76. Minute from Executive Engineer of 18.2.46

(77)
E.E.
To note H.E.'s approval of your proposals at (76) pl.
H.E.S.
23.2.46.

(78)
Honourable Colonial Secretary
Noted. Thank you. H.E.
23.2.46.

MINUTE.

12th April, 1933

To

THE COLONIAL SECRETARY,

Stanley, Falkland Islands.

From Director Public Works,

Stanley.

I beg to report that there is a fresh water spring to the South of Sapper Hill and in line with the sea entrance to Mullet Creek. This spring is bubbling through sand, and I suggest that it be investigated with a view to augmenting the existing town supply.

2. A bore hole could be put down, the supply measured over a period, and samples of the water could be sent to England for analysis, and for this preliminary work I submit that approval be given to spend up to £50 out of the £70 now earmarked as a saving under XX. Public Works Recurrent (8) Minor Works. Approximately 90% of this money will be expended on labour. Artesian boring gear is available.

G. Roberts.

Director Public Works.

No.

(It is requested that, in any reference to this minute the above Number and the date may be quoted.)

MINUTE.

6th July, 1934

To THE COLONIAL SECRETARY,

Stanley, Falkland Islands.

From Director of Public Works,

Stanley.

IMPROVEMENTS TO STANLEY WATER SUPPLY.

I beg to report that water connections to buildings in the town are increasing and tenants are having baths and W.C's fitted, and consideration should be given to the augmentation of the existing supply.

2. The supply from the "stone run" at Mount William (existing source of supply from catchment area) varies throughout the year and in a time of drought in the summer only a small amount of water is running through the stone run.

3. There is an artesian spring to the South of Sapper Hill which is constant throughout the year supplying clear spring water. The supply from this spring, however, is insufficient in itself for the needs of the town, but trenches have been excavated to the West and South of the spring through which flow apparently surface water entering the trenches through clay and rock, and it is estimated that this, with the spring water, is more than sufficient for Stanley throughout the year.

4. Observations have been kept on the spring and water from the trenches. The spring is constant throughout and the supply does not vary in winter or summer. The measurement from this spring taken over "V" notch weir is $1\frac{1}{8}$" giving some 3,620 gallons per day of 24 hours. The water in the trenches varies in the seasons, but even in the summer after long dry spells there is a good supply of water flowing.

5. A measurement taken on the [illegible] Septem[illegible] 1933, after 3 week's dry spell, gave:-

From the spring..... 3,620 gallons (I6 tons) per day of 24 hours.

Over check weir, i.e. water from the spring and trenches mixed... I5,750 gallons (70 tons) per day of 24 hours.

Another reading taken 26th June, I934 (mid-winter) after considerable rain and snow, gave:-

From the spring..... 3,620 gallons (I6 tons) per day of 24 hours.

Over check weir..... 20,200 gallons (90 tons) per day of 24 hours.

It is estimated that the daily consumption of water in Stanley is I0,000 gallons or 44½ tons.

6. Samples of the water to the South of Sapper Hill have been taken, and it is suggested, as a preliminary and for information, that these be sent to the Crown Agents for the Colonies for analysis by their chemists. The samples are in this office and were obtained on the 5th July, 1934. Three bottles were filled containing:-

(a). Sample of water direct from the spring.

(b). Sample of the water from the trench flowing through and over clay and rock.

(c). Sample of the mixed water (a) and (b) flo[illegible] through and over clay and rock trench.

7. If it is decided to forward them, the Crown [illegible]s for the Colonies should be informed that:-

(i) sample (a) was taken direct from a spring and (b) and (c) from a rough clay and rock trench adjoining.

(ii). the area is not fenced and samples (b) and (c) are liable to animal contamination.

(iii) the samples were obtained in mid-winter after heavy rains and snow, and that the discolouration of (b) and (c) is not so evident in the summer season.

L B White
for Director of Public Works.

(5)

No.

(It is requested that, in any reference to this minute the above Number and the date may be quoted.)

MINUTE.

24th September, 1934

~~From~~ To

THE COLONIAL SECRETARY,

Stanley, Falkland Islands.

From. Director of Public Works,

Stanley.

M.P. 90/33.

IMPROVEMENTS TO STANLEY WATER SUPPLY.

Further to submission of 6th July, I934, I beg to report that it is proposed to send samples of the water from the spring and heading to the South of Sapper Hill to the Crown Agents for the Colonies for analysis by their chemists.

2. Three bottles have been filled containing

(a). Sample of the water obtained from the spring. (as lettered on bottles)

(b). Sample of water from a trench heading adjoining the spring, believed to be surface water, and flowing through and over rock and clay in trench.

(c). Sample of water from the spring mixed with water from the trench (a & b mixed). The sample was taken from the trench where (a) and (b) met.

3. The bottles will be securely packed in case and addressed to the Crown Agents for the Colonies and sent by S.S. "Lafonia" sailing 28th September, I934.

4. The Crown Agents for the Colonies should be informed that

(i). Sample (a) was taken direct from a spring - the water bubbling through fine sand.

(ii). Sample (b) is water running through a trench heading excavated near the spring, and the water, which is believed to be surface water, is running through and over rock and clay in a rough trench.

(iii). Sample (c) - mixture of (a) and (b) - was taken from the trench where the two waters met.

(iv). The area is not fenced, and samples (b) and (c) might be liable to slight animal contamination

(v). After heavy rainfalls in the winter season samples (b) and (c) have a slight

peat discolouration, but this is not so evident in the summer season.

(vi). It is proposed to collect this water and pump by windmill to the existing reservoir in Stanley where it will pass through a sand filter before entering the town mains and being used for potable purposes.

(vii). The area from which the water is collected will be cleansed of all animal contamination and an animal proof fence will be erected to enclose same.

(viii). Water from the spring (sample "a") is insufficient for the needs of Stanley and it is proposed to utilise the mixed water (sample "c") if considered suitable for potable purposes by the chemists.

G. Roberts.

Director of Public Works.

(9)

90/33.

27th September, 34.

Gentlemen,

I am directed by the Acting Governor to inform you that the Public Works Department have by this mail forwarded to you for analysis and report three bottles containing samples of water which has been taken from a spring and heading to the South of Napper Hill.

2. I have to request that you will be good enough to cause the samples to be analysed and forward a report thereon in due course. I have to add for your information that -

(i). Sample (a) was taken direct from a spring - the water bubbling through fine sand.

(ii). Sample (b) is water running through a trench heading excavated near the spring, and the water, which is believed to be surface water, is running through and over rock and clay in a rough trench.

(iii). Sample (c) a mixture of (a) and (b) was taken from the trench where the two waters met.

(iv). The area is not fenced, and samples (b) and (c) might be liable to slight animal contamination

(v). After heavy rainfalls in the winter season samples (b) and (c) have a slight peat

discolouration /

The Crown Agents for the Colonies.
4, Millbank, Westminster.
London. S.W.1.

discolouration, but this is not so evident in the summer season.

(vi). It is proposed to collect this water and pump by windmill to the existing reservoir in Stanley where it will pass through a sand filter before entering the town mains and being used for potable purposes.

(vii). The area from which the water is collected will be cleansed of all animal contamination and an animal proof fence will be erected to enclose same.

(viii). Water from the spring (sample "a") is insufficient for the needs of Stanley and it is proposed to utilise the mixed water (sample "c") if considered suitable for potable purposes after analysis.

I am,

Gentlemen,

Your obedient servant,

M.C.CRAIGIE-HALKETT.

Acting Colonial Secretary.

(9)

No.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

15th November, 1934

From Director of Public Works, *To*

Stanley.

THE COLONIAL SECRETARY,

Stanley, Falkland Islands.

TOWN WATER SUPPLY.

I beg to report that owing to the continuance of the dry weather being experienced it is essential to conserve the town water supply. The amount entering the reservoir at the present time is 4,000 gallons in 24 hours whereas the consumption over the same period is 12,000 gallons, giving a daily loss of 8,000 gallons.

2. I submit that the first step to take should be a request to consumers through the medium of the paper "Penguin" to economise with water as much as possible, also that approval may be given to close temporarily the Public Baths. As you are aware the requests for house connections from the town mains have considerably increased recently and up to the present time all applicants have had the water laid to their premises. I submit that no further applications should be entertained until such time as the supply is increased by the proposed new supply from Mullet Creek.

3. I attach proposed notices to be inserted in the paper "Penguin" for approval please.

G. Roberts.

Director of Public Works.

DRAFT NOTICES TO BE INSERTED IN PAPER "PENGUIN

17th ?

Notice to be inserted on the ~~15~~th November, 1934 and at intervals of say every 4 days.

CONSUMERS OF WATER FROM THE TOWN WATER SUPPLY ARE REQUESTED TO ECONOMISE WITH THE WATER AS MUCH AS POSSIBLE DURING THE DRY SPELL NOW BEING EXPERIENCED.

17th

Notice to be inserted on the 16th November, 1934.

THE PUBLIC BATHS WILL BE CLOSED TEMPORARILY AS FROM SATURDAY THE 17th NOVEMBER, 1934. THIS HAS BECOME NECESSARY OWING TO THE SHORTAGE OF WATER DUE TO THE EXCEPTIONALLY LONG SPELL OF DRY WEATHER.

Notice to be inserted on the 17th November, 1934.

THE PUBLIC ARE HEREBY INFORMED THAT UNTIL FURTHER NOTICE THE GOVERNMENT CANNOT UNDERTAKE TO CONNECT ANY MORE PROPERTIES TO THE TOWN WATER SUPPLY. IT IS, HOWEVER, PROPOSED TO INCREASE THE SUPPLY EARLY NEXT YEAR WHEN APPLICATIONS WILL AGAIN BE CONSIDERED.

ALL COMMUNICATIONS
TO BE ADDRESSED TO THE
CROWN AGENTS FOR THE COLONIES,
THE FOLLOWING REFERENCE AND THE
DATE OF THIS LETTER BEING QUOTED.

W/E/367/12.

TELEGRAMS: "CROWN LONDON"
TELEPHONE: VICTORIA 7730.

4, MILLBANK,
LONDON, S.W.1.

(13)

8th March, 1935.

Sir,

I have to acknowledge receipt of your letter No.90/33 of the 27th September informing us of the despatch of three samples of water for analysis.

2. The samples were duly received and forwarded to Messrs. Riley, Harbord & Law, who are our Consulting Chemists, and I now enclose a copy of their report. It will be noted that Messrs. Riley, Harbord and Law point out that the samples are all soft waters containing a small amount of sodium chloride as the main mineral constituent, and are acid in reaction mainly due to the presence of free carbon dioxide, and become nearly neutral after boiling.

5. 1. 35.

3. With regard to the suitability of the samples for drinking purposes, the firm point out that owing to the lapse of time in transit from the Falkland Islands, a bacteriological examination would have been useless, but the nitrogen condition of these waters is quite normal and there is nothing in the chemical analysis to indicate that they are not potable.

Cancelled per rev 8 on 1/86/34

4. In the circumstances, we are proceeding with the execution of Indent No.86/34, dated the 29th October 1934, which calls for materials for Stanley Water Supply Extension.

5. If the results of a bacteriological examination

in/

The Colonial Secretary,
Stanley,
FALKLAND ISLANDS.

WLW.

in the Falkland Islands indicate that sterilization by chlorine is necessary, we shall be pleased to furnish quotations for chlorinating plant on receipt of particulars as to quantity of water to be chlorinated, pressure at desired point of application and any other relevant information.

6. We regret that owing to a misunderstanding the enclosed report was not forwarded earlier.

I am, Sir,

Your obedient servant,

for Crown Agents.

Z/E. 367/12.

COPY OF LETTER FROM RILEY, HARBORD & LAW TO CROWN AGENTS.

Parliament Mansions,
Orchard Street,
Victoria St., S.W.1

5th January, 1935.

Gentlemen,

The following are the results of our analyses of the three samples of Water received here on the 14th December :-

Marks	"A"	"B"	"C"
Appearance	Clear Colourless	Slightly turbid pale yellow	Slightly turbid pale yellow
Reaction pH	5.3	5.6	5.4
On filtered samples:	Parts per 100,000		
Total solids dried @ 130°C.	13.9	14.6	14.4
" " ignited	11.5	11.2	10.8
including:			
Silica	1.46	1.04	0.92
Lime	0.48	0.32	0.46
Magnesia	Trace	Trace	Trace
Soda	4.50	4.88	4.18
Chlorine	5.30	5.60	5.40
Sulphuric Anhydride.....	0.64	0.34	0.60
approximately equivalent to:			
Sodium Chloride	8.6	9.2	8.5
Calcium Sulphate	1.1	0.7	1.1
Nitrites	Nil	Nil	Nil
Nitrates	Less than 0.1	Trace	Trace
Free Ammonia	0.013	0.008	0.013
Albuminoid ammonia	0.002	0.005	0.005

These samples are all soft waters containing a small amount of sodium chloride as the main mineral constituent.

They are acid in reaction mainly on account of the presence of free carbon dioxide, and become nearly neutral after boiling.

Owing to the lapse of time in transit from the Falkland Islands a bacteriological examination was useless, but the /

the nitrogen condition of these waters is quite normal and ther
is nothing in the chemical analysis to indicate that they
are not potable.

Yours faithfully,

p.p. RILEY,HARBORD AND LAW.

(sgd) E.F.Law.

(15)

No.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

8th November, 1935

From Director of Public Works

Stanley.

To

THE COLONIAL SECRETARY,

Stanley, Falkland Islands.

TOWN WATER SUP LY.

Rec'd 9.

I beg to report that owing to the continuance of the dry weather being experienced it is essential to conserve the town water sup ly. The amount entering the reservoir at the present time is 5,700 gal ons in 24 hours, whereas the consumption over the same period is 14,000 gallons, giving a daily loss of 9,000 gallons, and onthis assumption with the water in the reservoir there is sufficient to last about 25 days.

2. I submit that notices, as attached draft, be inserted in the "Penguin", and that approval may be given to close temporarily the Public Baths.

G. Rowlands

Director of Public Works.

(14)

DRAFT NOTICES TO BE INSERTED IN "PENGUIN".

Notice to be inserted on the 8th November and at intervals of say 4 days.

CONSUMERS OF WATER FROM THE TOWN WATER SUPPLY ARE REQUESTED TO ECONOMISE WITH THE WATER AS MUCH AS POSSIBLE DURING THE DRY SPELL NOW BEING EXPERIENCED.

Notice to be inserted on the 9th November, 1935.

THE PUBLIC BATHS WILL BE CLOSED TEMPORARILY AS FROM MONDAY THE 11th NOVEMBER, 1935. THIS HAS BECOME NECESSARY OWING TO THE SHORTAGE OF WATER DUE TO THE EXCEPTIONALLY LONG ~~XRX~~ SPELL OF DRY WEATHER.

(17)

No. _____

(It is requested that, in any reference to this minute, the above Number and the date may be quoted.)

MINUTE.

20th November, 1935

To

THE COLONIAL SECRETARY,

Stanley, Falkland Islands.

From the Director of Public Works,

Stanley.

STANLEY WATER SUPPLY.

I strongly advise that early steps should be taken to augment the town water supply from a spring in the vicinity of Mullet Creek. The following reasons are put forward in support of this.

2. The present town supply, obtained from a 'stone run' at Mount William, is inadequate for the present demands. It will not permit of any more connections being made to private properties or sale of water to ships, and after a dry spell there is a definite water shortage.
The position at the present time is that there is only sufficient water in the reservoir to last the town for 9 days. I consider the position to be serious inasmuch as, should there be an outbreak of fire in the town, it would be necessary for the Fire Brigade to draw from the reservoir, the possibility then being that the town would be entirely without potable water.
The reason for the present shortage is due to the fact that there has only been 1$\frac{7}{10}$ inches of rain during October and November with the result that the present source of supply is only delivering 5,000 gallons in 24 hours, whereas the consumption is some 14,000 in 24 hours. A dry spell at this time or even later in the year is by no means exceptional.

3. The artesian spring at Mullet Creek is yielding 15,000 gallons in 24 hours. This quantity has not varied during the last 3 years. It is anticipated that the

supply can be increased by opening up headings. The water is crystal clear, whereas the present supply from the 'stone run' is badly peat stained, especially after heavy rains.

4. The new supply would allow a further 150 connections to be made. The revenue on the capital cost will be approximately 1% for the first year rising to 4% in 4 years and 10% when all properties are connected.

F. Roberts.

Director of Public Works.

(19)

GOVERNMENT HOUSE,
STANLEY,
23rd November, 1935.

FALKLAND ISLANDS.

No. 171.

Sir,

I have the honour to refer to paragraph 14 of my despatch No. 136 of the 20th November, 1935, regarding the expenditure of £3,000 in connection with the utilisation of a new source of water supply for the town of Stanley.

M.P. 331/35

2. The present supply is heavily peat stained, is insufficient in quantity, and being dependent on gravity flow, is unable to reach a number of houses. The proposed supply is from a spring of pure clear water of ample quantity discovered by Mr. Roberts, the Director of Public Works. I attach a report by him on the subject, from which the need of a new water supply becomes only too apparent. The revenue on the capital cost will be approximately 1% for the first year increasing to 4% in four years and to 10% when all houses have been connected.

Rec'd 17

In duplicate.

3. After giving most careful consideration to the matter, I am satisfied that in the interests of the public health an adequate supply of pure clear water is required, that the expenditure on this work would be fully justified, and that the work should be carried out without delay. The revenue on increased house connections would gradually cover interest on the capital outlay.

4. In the event of your approving this expenditure I shall be glad if I might be informed by/

THE RIGHT HONOURABLE
MALCOLM MACDONALD, M.P.
SECRETARY OF STATE FOR THE COLONIES.

(18)

by telegram in order that preliminary work may be commenced. I request also that the Crown Agents may be authorised to proceed immediately with the order which was sent to them on the 15th November, 1934, for the materials required.

I have the honour to be,

Sir,

Your most obedient
humble servant,

(Sgd.) H. HENNIKER-HEATON

DECODE.

20

TELEGRAM.

From SECRETARY OF STATE FOR THE COLONIES,

To H.E. THE GOVERNOR.

Despatched: 16th January, *19*56. *Time*: 1325.

Received: 17th " *19* " *Time*: 1045.

Red 19.

No. 4. Your despatch No. 171 Water Supply expenditure approved Crown Agents have been requested to execute order.

Secretary of State for the Colonies.

See M.P. 99/33

(11)

MINUTE.

25th February, 19 36

From To

THE COLONIAL SECRETARY,

Stanley, Falkland Islands.

From. The Director of Public Works,

Stanley.

IMPROVEMENTS TO STANLEY WATER SUPPLY.

It is submitted that a letter be sent through your office to Mr. Browning informing him that it is proposed to carry out certain works on suburban land in the vicinity of Mullet Creek, the work being in connection with the Stanley water supply; and that in due course it is proposed to enclose a catchment area of approximately 12 acres, details of which will be forwarded to him at a later date.

G. Roberts.

Director of Public Works.

(22)

FALKLAND ISLANDS

No. 13.

Downing Street,

20 January, 1936.

Sir,

Rec'd 19

I have the honour to refer to your despatch No.171 of the 23rd November 1935 and to confirm my telegram No.4 of the 16th January in which I approved the expenditure of a sum of £3,000 in connexion with the supply of water for the town of Stanley and informed you that the Crown Agents for the Colonies have been asked to comply with the indent for material referred to in paragraph 4 of your despatch.

2. It would be of interest if I could be furnished in due course with particulars as to the quality of the water obtained from the new source of supply.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

(Signed) J. H. THOMAS

GOVERNOR

H. HENNIKER-HEATON, ESQ., C.M.G.

etc., etc., etc.

GOVERNMENT HOUSE,

STANLEY.

15th April, 1936.

FALKLAND ISLANDS.

No. 32.

Sir,

I have the honour to acknowledge the receipt of your despatch, No. 13 of the 20th of January, 1936, on the subject of the supply of water for the town of Stanley, and to furnish herewith, as requested, particulars as to the quality of the water obtained from the new source of supply.

In duplicate.
Leds 495 T
10711

I have the honour to be,

Sir,

Your most obedient
humble servant,

(Sgd.) M. HENNIKER HEATON

THE RIGHT HONOURABLE
J. H. THOMAS, P.C., M.P.,
SECRETARY OF STATE FOR THE COLONIES.

(24)

No. 90/33.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

12th May, 1936.

To The Honourable,
Colonial Secretary,
Stanley, Falkland Islands.

From Senior Medical Officer,
Stanley.

I have the honour to ask for permission to include the analysis of the Roberts' Spring water in the Annual Medical Report.

Senior Medical Officer.

(25)

90/33.

1st June, 36.

Sir,

I am directed by the Governor to inform you that it is proposed to carry out certain works on surburban land in the vicinity of Mullet Creek and that in due course it is the intention to enclose a catchment area.

2. This Catchment area will be as described hereunder :-

> a piece of land in the vicinity of Mullet Creek enclosing a spring and the water works with an acreage of 17.41 acres (17½ acres more or less)
>
> Bounded by a new fence on the North 730 feet on the South 730 feet and on the East 1039 feet and on the West 1039 feet.

3. Consequent upon the proposed work the rent which is at present paid by you will be reduced by the sum of 5/- per annum from the date on which the land is used by Government.

I am,

Sir,

Your obedient servant,

Acting Colonial Secretary.

Browning, Esq.,
Mullet Creek Farm,
STANLEY.

(26)

No. _____

(It is requested that, in any reference to this minute, the above Number and the date may be quoted.)

MINUTE.

7th July, 1936.

From DIRECTOR OF PUBLIC WORKS.

To COLONIAL SECRETARY.
Stanley.

Hon Colonial Secretary,

With reference to the work being carried out in connection with the improved water supply, I have to report that after 8 weeks work during which time many difficulties have been overcome, the collecting tank was successfully lowered into position on Saturday the 4th July, work was carried on until dark and continued again on Sunday the 5th, when at mid-day I personally inspected everything and the job was closed down.

On inspecting the works on Monday morning the 6th July, it was found that some person or persons had visited the site and had interfered with the valves causing the workings to become flooded, and upsetting the balance of the tank. This I consider to be an act of sabotage.

It is difficult at the present time to estimate the actual damage, but I think it is likely to be anything between £100 and £200. As you are no doubt aware this work has been difficult and has been carried out under most trying conditions and to have this happen when success was in sight is very disappointing. Every endeavour is being made to get the tank again in to position, but if this is not possible it will be necessary to recommence the work from the beginning.

Precautions have been taken to prevent a recurrence by employing watchmen during silent hours.

J. Collerk
Director of Public Works.

(27.

From His Excellency the Governor

to The Honourable the Colonial Secretary.

Water Supply.

Hon. C.S.

I notice that for some time the water supply shows the peaty discolouration. I understood this had definitely been overcome some time ago when the Spring at the back of Sapper Hill was connected up. To get clear water at Govt. House it has to be taken from a tank (rain supply).

In view of the heavy cost in getting this Spring water from the flat at the back of Sapper Hill will you please ask the D.P.Wks if this discoloured water is from that Spring and if so why it is now discoloured? A few months ago the water was quite clear.

WCH
12.7.97

(28)

No 90/38

M I N U T E.

From

The Hon. Colonial Secretary,
Stanley

To.

Director of Public Works.
Stanley.

I am directed by the Acting Governor to inform you that His Excellency has noticed that for some time the water supply shows peaty discolouration although he understood that this had definitely been overcome some time ago when the spring at the back of Sapper Hill was connected up. At present to get clear water at Government House it has to be taken from a tank (rain water).

In view of the heavy cost in getting this spring water from the flat at the back of Sapper Hill, His Excellency would like to know if this discoloured water is from that spring and if so why it is now discoloured, as a few months ago the water was quite clear.

Acting Colonial Secretary.

(29)

Public Works Dept.

Stanley.

20th July, 1937.

I beg to report that owing to the very calm weather recently experienced it was found impossible to keep the town supplied with water from the Mullett Creek spring.

During the period 1st to 28th June, the windmill was idle for 16½ days through lack of wind and it was found necessary to turn on Mount William water , and it has been used on and off for short intervals since.

On June 28th, owing to the severe frost the wooden pump rod was broken and could not be connected up again until the thaw, It has been found advisable to close down the windmill in frosty weather to avoid damage by ice and during such times Mount William water is turned on.

Regarding the discolouration of the water, the spring itself is always quite clear and supplies about 10,000 galls per day which is about half the supply, the other half is regulated by ball valve (according to wind force) from headings through underground runners which is quite clear in dry weather, as was the case last summer, but in wet weather is discoloured, apparently by seepage from the surface, and we are obliged to use this water to keep up the supply.

"A"

It is not known whether these headings come from an unknown spring or from the neighbouring stone-runs.

G. L. Challen

General Foreman of Works.

Is the clear spring water available to every house with a water connection? What it amounts to is that the spring has fully augmented the Mt. William (original) supply but people can only get "crystal" clear water in summer. M.C.H.

(31)

MINUTE.

M.P. No. 90/33. 23rd July, 1937.

From

The Colonial Secretary,
STANLEY.

To

The Director of Public Works,
STANLEY.

Rec'd 29

With reference to your report dated the 20th July, relative to the discolouration of the water supply, I am directed by the Acting Governor to inform you that the position as reported is most unsatisfactory.

2. I am to say that when the sanction of the Secretary of State was sought for the expenditure of £3,000 to provide a supply of clear water it was expected that such a supply would be continuous and if, as is stated in the report, in wet weather the water is discoloured by seepage from the surface it would appear that there is something wrong with the harnessing of the Spring. His Excellency has observed springs in the Camp which are unaffected Winter or Summer, the water always being of crystal clearness and this result has been obtained with no expenditure.

3. His Excellency also invites your attention to an earlier report dated the 20th November, 1935, when the Director of Public Works stated that the spring at Mullet Creek was yielding 15,000 gallons every 24 hours and that this yield had not varied during the previous three years but if "headings" have been opened up for surface water to augument the supply from the spring then it is obvious that crystal clear water cannot be expected. I am to point out that the expenditure was authorised to obtain clear and not peat stained water and that the responsibility in this connection rests with you.

4. His Excellency wishes to know who supervises the spring and the Windmill pump ? - is it the Foreman of Works or the Water Bailiff.

5./

(30)

5. It is also noted that there has been trouble with the Windmill due to high winds but all this should have been gone into when the Windmill was ordered and I am now to ask you to submit your full report on the difficulties which have arisen.

ACTING COLONIAL SECRETARY.

No.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted.)

MINUTE.

13th December, 1938.

From Officer-in-charge,
Public Works Dept.
Stanley, Falkland Islands.

To The Honourable,
Colonial Secretary.

I beg to report that during the gale on Sunday the 4th inst, the windmill at Mullett Creek Spring was again seriously damaged, the boss of the windwheel was broken and the wheel forced off the shaft to the ground. It is very badly bent and buckled and a considerable quantity of spare parts would be required to put it in service again.

2. This mill has been a source of continual expense and anxiety, not being strong enough to stand up to the strain imposed upon it, and I doubt that one more strongly constructed would survive the severe squalls and cross currents that are predominant at that spot.

3. The failure of this mill will not affect the town water supply to any extent as the motor pump is capable of keeping the storage reservoirs and tank at their maximum. To avoid the expense of overtime labour on pumping it has been decided to harness two small clear springs in close proximity to the Mount William main, which will give an output of about 5000 galls per day. These springs have been inspected and measured prior to the transmission of this report, and the expense of tapping the main will be slight as sufficient second-hand piping is available for the purpose. By this arrangement the daily consumption of 17000 galls plus watering vessels, can be maintained, and should it happen that future requirements will ever exceed the storage capacity then the question of an extra intake tank to permit all day pumping might be considered.

O.i.c. Public Works Dept.

(3)

No.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

21st March, 1940

From The Executive Engineer,
Public Works Dept.,
Stanley, Falkland Islands.

To The Honourable,
The Colonial Secretary,
Stanley.

In accordance with His Excellency's commands I have the honour to request that the engineer employed at the pumping station may be placed on monthly pay at the rate of £190 per annum.

This request is made in order that he may be present to pump water at all times and therefore lessen the amount of water from headings which has to be used under the present arrangement with the resultant very discoloured water. The alternative would be overtime payment which from experience and experiment would have resulted in a pro rata expenditure of about £230 per annum.

Rush Woodfall.
Executive Engineer.

(34)

No.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

8th. August, 1940.

From Senior Medical Officer,
Stanley.
Stanley, Falkland Islands.

To The Honourable,
Colonial Secretary.

Water Supply - Town of Stanley.

I invite your consideration to the question of water supply in Stanley. It seems to me that the present situation should be reviewed.

The theoretical water needs of the Town at 20 gallons per capita is in the neighbourhood of 25,000 gallons per day.

In 1938, of this theoretical need the public water system supplied 16,500 gallons. By 1939 the Public Works Department reports consumption had risen to 20,000. In 1940 ships in harbour have been securing water from the Town water mains, additional residents have had water laid on and as a result there has been a water scarcity.

The available unstained satisfactory water is below present needs - the water as at present supplied is of a character that cannot be approved from a public health standpoint.

I submit that a basic survey should be made to determine:

(a) The potential needs of the community.

(b) The available sources of potable water.

(c) The adequacy of the present plant to handle the water if it were made available.

Geo. Townsend

Senior Medical Officer.

(35)

COLONIAL SECRETARY'S OFFICE 23 JAN. 1942 FALKLAND ISLANDS

No.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

22nd. January 1942. 19

From The Executive Engineer.

Stanley, Falkland Islands.

To The Honourable The Colonial Secretary

STANLEY WATER SUPPLY - INCREASE OF SUPPLY AND REMOVAL OF STAIN.

I have the honour to submit the following report and recommendations in connection with the above matter following various investigations and experiments that I have made during the past few weeks.

1. The objects of the investigation were to see whether
   (a) New springs could be found within economic distance of the present collecting tanks, which would give a yield of clear water not only sufficient to meet present needs but an imminent probable increase.
   (b) To ascertain the possibility of removing part if not all of the stain in the water.

The present stained condition of the water has not been proved to be injurious to health although the Senior Medical Officer informs me that there would appear to be a direct incidence of colic and very badly stained water. Its appearenee would quite possibly lead to its condemnation for use by any large body of troops by their medical officers.

2. No new springs of clear water have been found within economical distance of existing installations. Many new sources of supply have however been found at Mount William. The present search has not included Mullet Creek area as this was thoroughly looked over some twelve months ago when the only new spring was connected up.

From this it would appear that unless the Government are willing to authorise heavy capital expenditure to extend existing mains to new sources of supply, wherever they may occur, the present stained water must form the bulk of the supply. In addition to the probability of the necessary finance being made available, the urgency of the problems precludes such a course with the supply of the necessary materials being possibly long delayed.

3. The primary question therefore became whether or not the staining and such other impurities that may accompany it can be removed at reasonable economic cost. I have always been told that it could not be and that as a result of previous enquiries the plant required would be very costly and also have a heavy maintenance cost. Despite this I went into the question. My first experiment was with an ordinary household filter and I found that badly stained water came out with no stain visible to the naked eye.

Following this I had the filter at Mount William cleaned out and refilled. The result was the water after passing through was as badly stained as when it went in. I checked the size of the filter and found that on accepted basis of calculation it could not hope to deal with more than 2000 gallons per diem and less if the filtering medium was increased in density. As a test I checked the flow of water over the filter until it was just a trickle and after twentyfour hours found the water coming through clear. It would therefore appear that given a large enough filter bed to pass 25,000 gallons per day through a fine medium, the staining can be removed.

4/. I have

4. I have made calculations with this end in view and find that the filter required will be of a minimum area of 750'-0" super with a graded stone and sand filter bed. (In passing it is pointed out that the present filtering medium is 2" broken stone).

I have as far as is possible taken all factors into consideration but in dealing with such a problem there may always be some unknown fact that breaks down all reasoning. While therefore, I have the greatest possible confidence that the proposed filter if installed would give the desired results I cannot give an absolute guarantee to this effect.

5. On the assumption that no improvement resulted from the discolouration of the water point of view there would definitely be an improvement in the bacteriological content. If on the other and more likely supposition the scheme was a success, there would be an immediate saving of about £10 per week for pumping costs until such time as the anticipated large increase in demands arises.

6. I would therefore recommend that I may be authorised to construct a filter of the size mentioned with the necessary sprinklers etc. just below the last junction in the 4" main at Mount William at a cost of £100 or less if no virgin rock is found in the excavations.

Funds are available for this in XIX -2 Water Service and no Special Warrant will be necessary unless for either of the above reasons pumping has to be continued.

7. If the work is to be done, I would be grateful of early instuctions so that it may be completed during the summer and in readiness for any future development that may arise.

Self typed.

Rusk. Woodfall.

A. R. I. B. A.
Executive Engineer.

MINUTE.

No. ______

25th August, 1942.

~~From~~ To:

THE COLONIAL SECRETARY,

Stanley, Falkland Islands.

~~To~~ From:

The Executive Engineer,

Stanley.

The filter beds have now been completed at Mt. William at a cost of £235. 0. 0. and permission to submit a S.W. for this amount is now requested vide M.P. 90/33, sheet 12, reverse.

I estimate a deficiency in the Water Service vote, in addition to the above, of £175. 0. 0. This additional expenditure is necessitated by (1) the cost of experiments for and construction of the original filter with no corresponding saving of pumping as anticipated following very dry spell, (2) the unusually large number of new connections for private houses following billeting and the large number of connections being made for the Imperial Troops.

Further work both on the 4" main and finding additional sources at Mt. William are now being taken on by R.E.s with military labour, I merely acting as consultant.

[signature]
Executive Engineer.

I think ask corresponding saving £1600 on other subheads, in XIX. P.W.R.
[illegible]

(41)

MINUTE.

No.

21st September, 19 42.

To:-

THE COLONIAL SECRETARY.

Stanley, Falkland Islands.

From:-

The Executive Engineer,

Stanley.

Replying to (39). When a special work like this is done under a subhead, no separate costs are kept and it is entered up with normal routine services under that head. After this length of time it is only by examining each store voucher and the work diaries entry for every individual man that the cost can be obtained. This, coupled with the fact that although experiments started in the first days of January they actually went on after the work of building the filter commenced, has made precise allocation as called for very difficult.

2. With regard to para 3 of (39) this was not the cost of the work but my estimate of the deficiency in the vote as a result of these works. You will note cost was in fact higher.

3. The following is the information asked for :-

(a) Cost of pumping: This averages £7. 5.8. per week or £87.8.-. for 12 weeks.

(b) Cost experiments: The word experiments here was used in the first case to cover finding new sources, daily readings of the yield, connecting up to filter if necessary and reconnecting old supplies. When the actual filter was completed it meant still further search for fresh sources, gauging with various depths of sand and at various rates of inlet. Experiments started on January 3rd 1942 and went on till the filter was started on 26th January and the cost for this period was £62. 17. 9. In justice a proportion of the subsequent cost of filter should also be charged against experiments for the reason explained above.

(c) Cost of first (25,000 gallon) filter. The original filter was to have been 600 feet in area. This area was fixed as the result of calculations based on empirical formula, i.e. was in itself experimental. I decided to build half of this area first with greater depth and hence my reference to a 12,500 gallon filter. In practice and on test this first filter carried 40,000 gallons but tended to seal up too quickly for full efficiency. Work on this filter including experiments and cleaning off (including the cartage of some 20 yards of sand from Surf Bay) shews on my books as £138. 14s. 7d.

(d) Cost of new connections in Town. This was at the time of red (36) in part anticipatory and was mentioned as additional support for the estimated excess expenditure. If this information is essential I will endeavour to supply it but connections to private houses are paid for by the Government from main to the owners boundary and thence by the owner. In cases where there is an exceptionally long run on the property it is customary to make an allowance. From this I trust you will see the amount of work involved to get the information asked for is very considerable.

I regret I had no authority for excess expenditure. £209

4. The reasons for the additional cost of the second filter were that in anticipation of the arrival of troops who would be supplied from this source, I doubled the area of the filter and on instruction worked overtime at week ends in order to complete before the troops arrived and finally used such labour as I had rather than withdraw from F.I.C. as indicated in my note of 1.VI.42.

5. I attach S.W. for £410 as requested. I divided it originally as there was at one time a suggestion of treating the one for £235 as Military War Expenditure which in fact it was.

Russ Woodfat.

Executive Engineer.

Reference para 2. above I am not at all sanguine that this amount will now prove adequate in any case it will not cover bonus.

~~Copy to Executive Engineer for information.~~

(43)

MINUTE.

No. 90/33.

23rd September, 19 42.

From THE COLONIAL SECRETARY.

Stanley, Falkland Islands.

To His Excellency the Governor,

~~Government House~~,

~~STANLEY~~.

Your Excellency,

Papers from (36) refer to the cost of the new filter scheme at Mount William, but the minutes are rather confused owing to (36) being badly worded and misleading, and I submit the following precis of the actual situation based on subsequent discussion with the Executive Engineer.

2. In (35) E.E. recommended the construction of a new experimental filter at £100 and estimated corresponding savings on pumping following construction. Y.E. authorised the work on this basis (Sheet 12).

3. In June E.E. reported this work half completed, and Y.E. authorised its enlargement to 50,000 gallons (double the original size) in view of the expected arrival of the garrison. No cost was mentioned.

4. The whole job has now been completed (present improvements designed to increase dry weather flow being done by the Military at their own expense) and the cost turns out to be

(a)	prospecting	£ 63
(b)	Construction 1st Filter	138
(c)	" 2nd Filter	209
		£410

The figure of £209 has been arrived at by deducting (a) + (b) from the total entries in the P.W.D. books chargeable to the scheme. Unfortunately no corresponding saving on pumping (as in (35)) occurred owing to weather conditions.

5. The provision under XIX/2 in the 1942 Estimates is £700. The E.E. now informs me that he hopes to introduce economies in the pumping service as a result of which this provision should be sufficient for routine purposes, though he cannot guarantee this. Extra expenditure has been caused by an unusual demand for water-connections to houses, and by extra pumping due to a greatly increased demand which has not as yet been met by the new scheme because the latter is often out of commission while the improvements being carried out by the Military are still under construction.

6. As regards bringing the excess expenditure to account, the second filter would not have been constructed at present if it had not been for the arrival of the garrison, since 25,000 gallons is the normal consumption of Stanley. Are we then to ask the War Office to pay for it, as our "War Expenditure" Head is not intended for expenditure on behalf of the Imperial troops ? On the other hand the extra supply will be a permanent asset to the Colony and the War Office is actually improving it still further at their own expense. In view of this, the probability that we shall acquire quantities of buildings and materials after the war at little or no cost, and of our desire to co-operate as fully as possible, I recommend that we accept this capital cost of £209 as a charge against XXI War Expenditure and that we do not charge the Force for water consumed by them, now or in the future. On this basis we can charge £201 to XIX/2 and by adjustment £209 to a new sub-head under XXI War Expenditure. The latter charge is known and complete and Y.E. might consider signing a Special Warrant accordingly, but I would prefer to postpone the Special Warrant/

42.

Warrant under XIX/2 until December. If Y.E. agrees, the E.E. will be instructed that the total expenditure under XIX/2 must not exceed £901 (£700 + £201) without prior approval.

K.B. 7.S.

~~Colonial Secretary.~~

23rd September, 1942.

Copy to O.I.C., Treasury for information.

(45)

No. 90/33.
(It is requested that, in any reference to this minute, the above Number and the date may be quoted.)

MINUTE.

25th September, 19 42.

From The Financial Secretary,
Stanley, Falkland Islands.

To The Executive Engineer,
STANLEY.

Red 41.
Red 43

With reference to your Minute of the 21st September regarding the Mount William filter-beds, I enclose for your information a copy of a Minute I addressed to His Excellency, which he has approved.

2. You will note that

(1) No charge for consumption of water is to be made to the Force now or in the future, unless, of course, unforeseen circumstances arise.

(2) A Special Warrant should be applied for now for £209 under XXI, War Expenditure, on receipt of which this sum should be credited to XIX/2 and debited to XXI, new sub-head. Please consult the Treasury about this.

(3) The expenditure on the original filter of £201 is also approved as a charge against XIX/2, but no Special Warrant should be applied for until December, when the exact over expenditure on this subhead can be accurately stated. In no circumstances should your total expenditure under this subhead exceed £901 (£700 + £201) without prior written approval.

Financial Secretary

(46)

25th September, 1942.

Dear Colonel Hynes,

I think you will be glad to know of a recent decision by His Excellency in regard to the Mount William water works. Our original intention was to build a 25,000 gallon filter-bed up there which would have been sufficient for the normal requirements of Stanley. On learning, however, that a garrison was being sent out, His Excellency ordered the enlargement of the scheme to 50,000 gallons. The extra capital cost was £209, and it may fairly be said that the work was undertaken entirely for the benefit of the garrison. His Excellency has, however, decided that the expenditure should be borne by the Colonial Government, and has further agreed that no charge is to be made to the Force for water consumed either now or in the future unless unforeseen circumstances arise.

2. I understand that the new filter-beds are now being further improved by the Royal Engineers and I would like you to know how much we appreciate help of this kind, which will be of permanent benefit to the Colony.

Yours sincerely,

Colonel W. H. Hynes,
Officer Commanding F.Is. Force,
STANLEY.

(47)

Headquarters,
Falkland Islands Force.

26th. September, 1942.

Dear Bradley,

Red 46

I thank you for your letter of the 25th inst; and should be obliged if you would kindly convey to His Excellency my grateful thanks, on behalf of the Secretary of State for War, for his very generous treatment of the Force with regard to water supply.

Believe me, it is greatly appreciated by all concerned.

Yours sincerely,

Colonel.
Commander, Falkland Islands Force.

RCS.

The Honourable,
The Colonial Secretary.

(51.)

MINUTE.

No.

9th October, 1942.

To:- THE COLONIAL SECRETARY.

Stanley, Falkland Islands.

From:- The Executive Engineer,

Stanley.

Water Supply.

Red 45.

Reverting to your minute of the 25th September it has not been possible to effect the anticipated economies in pumping. The Military demands have increased considerably as a result of intensive building work. The Mt. William source has been frequently interrupted following work being done by R.E.s. The increased demand with the decreased supply entails continuous pumping for 24 hours to keep the reservoir up to the level essential for fire fighting purposes. My intention was to stand off one engineman and save some £40 on wages and £20 on petrol. The present limit of extra expenditure of £201 will not therefore meet the cost till 31/12/42. I submit the following details of the situation at date and have kept bonus seperate as this is in any case covered.

Debit balance on subhead at 1/10/42 including September store issues.		347. 15. 8.
Credit S.W. from M.W.E.		209. -. -.
		138. 15. 8.
Credit bonus charged to this head from 1/8/42 to 1/10/42 inclusive.		17. 3. -.
Net debit balance.		121. 12. 8.
Enginemen's wages, 13 wks to 31/12/42. at £6. 3. 2d. per week.	80. 1. 2.	
Plumbers, say six weeks at £6 per week.	36. -. -.	
Petrol, oil & stores.	40. -. -.	156. 1. 2.
		277. 13.10.
Bonus as above.	17. 3. -.	
Enginemen's bonus 13 wks at 22/6d. per week.	14. 12. 6.	
Plumbers bonus 6 weeks at 22/6d per week.	6. 15. -.	38. 10. 6.
		316. 4. 4.
Less		201.
		£116. 4-4.

277.
201
176

I would point out that the actual cost of the plumbers services cannot at this stage be stated. I have every hope that the estimate will meet the case however.

This minute is written to seek authority to have the limit of expenditure increased from £201 to £280 (excluding bonus) should need arise before 31. 12. 42.

Executive Engin

54.

MINUTE.

No.

30th October, 1942.

To:

THE COLONIAL SECRETARY.

Stanley, Falkland Islands.

From:

The Executive Engineer,

Stanley.

Further to my minute on the experimental cessation of pumping at Roberts Spring, the yield from Mt. William fell so sharply following the short dry spell that pumping had to be recommenced.

I append daily readings from Mt. William source and also rainfall from which it will be seen how closely the two are intermixed and how it is impossible to gaurantee that pumping will or will not have to be recommenced.

October	18.	34560 gallons.	Rainfall. Nil
	19.	33000	Nil
	20.	31000	Nil
	21.		Nil
	22.	30800	0.51 Milli-
	23.	35000	4.32 metres
	24.	33000	0.51
	25.		Trace
	26.	43200 ?	Nil
	27.	34560	Trace
	28.	31500	Nil
	29.		Nil

Rush Woodfall

Executive Engineer.

(56)

MINUTE.

No. _____

4th November, 1942.

From

O.i/C. TREASURY
THE COLONIAL SECRETARY,

Stanley, Falkland Islands.

To The Honourable,

The Colonial Secretary,

STANLEY.

It would appear that financial aspect of the foregoing is as follows:-

Cost of one Filter £209 has been credited to Water Supply and charged to L.W.B.

Cost of the second filter is estimated at £201 and was authorised [redacted], but no official authority has yet been given. A Special Warrant will be required to cover this.

Vide Ref (5). The original vote was £700, but at the end of next March it is estimated that this will be exceeded by anything from £70 to £100. The amount of Surgner's wages yet to be paid has been calculated at £61. 11. 8. which added to petrol and oil and other expenses. at present unknown. also Cost of Living Bonus, it is quite possible that the original £700 vote will be eventually exceeded by something like £100. perhaps more. Prior written approval will be required to cover this excess. I submit that the matter of the £201 be eliminated now by a Special Warrant for a like amount, and that the over spent, subject as above to written approval. be allowed to be incorporated in the usual end of the year "omnibus" warrant.

O.i.C. Treasury.

(57)

MINUTE.

No.

12th November, 19 42

To THE COLONIAL SECRETARY,
Stanley, Falkland Islands.

From The Executive Engineer,
Stanley.

(1) In accordance with your instructions I have analysed expenditure on XIX 2. Water Service for the current year up to 31.IX.42 and append these figures and also submit a revised estimate which does not include any cost of living bonus and deals only with the original basic estimate of £700.

(2) Two items are responsible for the increase (c) Materials and (d) labour for maintenance. The former may be subdivided as between petrol and stores for the pumping station £102. 4s. 10d (mainly petrol) and £59. 19. 3. for maintenance issues repairs and new connections. The labour for maintenance includes cleaning and resanding the filter on two occasions and other minor maintenance works there just prior to the R.E.s taking over.

(3) Comparative analysis expenditure to 30.IX.42.

Work.	Estimate 1942.	Actual to 30.IX.42.
(a) Pumpmen & labour at spring.	360.	234. 10. 9.
(b) Labour: Watering ships.	136.	35. -. -.
(c) Materials for spring and maintenance: Petrol, stores etc.	76.	162. 4. 1.
(d) Labour: Maintenance, new connections etc.	128.	177. 15. 5.
	700.	609. 10. 3.

(4) Revised estimate of total deficit on vote at 31.XII.42.

Debit balance on vote at 4.XI.42 including Oct.stores.	207.	16. 1.
Wages of pumpmen, 8 weeks at £6. 3s. 2d. per wk.	49.	5. 4.
Petrol and stores for November and December.	30.	-. -.
Labour for maintenance and watering ships.	25.	-. -.
	312.	1. 5.
Present authorised overexpenditure.	201.	-. -.
Additional authority now asked for -	111.	1. 5.

Executive Engineer.

(60)

No. 93/33 O.i.C. Treasury
For your information

MINUTE.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

For C. S.

From Colonial Secretary,

Stanley, Falkland Islands.

25th November, 19 42.

To Executive Engineer,

Public Works Department,

STANLEY.

I have to confirm our conversation at an interview with His Excellency this morning regarding the financing of the water services for 1942. You should apply forthwith for a Special Warrant for £201 under Rdt 2. You are further authorised to incur additional excess expenditure on this sub-head to a maximum of £111, and should apply for a Special Warrant next month when the final nett over expenditure can be accurately ascertained.

Colonial Secretary.

(61)

No.

COLONIAL SECRETARY'S OFFICE 5 APR 1943 FALKLAND ISLANDS

MINUTE.

5th April, 1943.

From To:-

THE COLONIAL SECRETARY.

Stanley, Falkland Islands.

From:-

The Executive Engineer,

Stanley.

Following the recent noticeable deterioration in the quality of the main water supply I this morning visited the Mount William Filters and have to report as follows :-

1) The sprinkler pipes have been removed over one filter and holes cut in the wall below them. The result has been that

(a) The lower level in the trough starves the western filter bed and it is hardly in use at all

and (b) the water dribbling through these holes continuously at the same point has, despite drip stones, eroded the sand away and the resultant filtration is negligible.

I would point out that when these pipes were first removed I was informed that some better device was intended.

2) The condition of the filter beds is disgraceful, the sand is filthy, tufts of grass are growing here and there and green weed (algae) is shewing in many places. I doubt very much whether the beds have been cleaned since they were taken over, before which,(even without Moody Valley Water) they needed attention every two or three months.

3) I assume the settling tanks and leads thereto are temporary - they have that appearance.

I observe that Mr. Bender's farm has been connected to the main supply to the town. This was done without reference to this department and therefore no water rate has been assessed for this year. The pipe is not buried and when burst by the frost will mean a heavy leak which may not be noticed for some period.

I am sending a copy of this minute to the Hon. S.M.O. and would submit that before any other action is taken he should be asked to visit the filters at an early date with the S.M.O. of the Garrison.

Executive Engineer.

(64)

9th April,1943.

To:- O.C. Royal Engineers,

From:- The Executive Engineer, Public Works Dept.

Confirming the call of your Lt.Taylor on Wednesday it was then agreed that the filter beds should be completely cleaned off and re-sanded and rammed and the sprinklers replaced with the north end stopped by wooden plugs for future cleaning. I trust you will be able to put this work in hand at an early date as the matter is urgent.

Executive Engineer

No.

(It is requested that, in any reference to this minute the above Number and the date may be quoted).

COLONIAL SECRETARY'S OFFICE
5 - JUL 1944
FALKLAND

MINUTE.

3rd July, 1944. (65.)

From THE SENIOR MEDICAL OFFICER,

Stanley, Falkland Islands.

To THE HONOURABLE,

THE COLONIAL SECRETARY,

STANLEY.

I should be grateful if you would enquire from the Crown Agents for the Colonies the quantity of water required by analytical chemists in order to furnish a report on its Fluorine content.

This information is reqyired in connection with our investigations of dental caries.

Jas. Simmons

SENIOR MEDICAL OFFICER.

90/33.

Copy to Hon.S.M.O. for information.

(66)

8th July, 54.

Gentlemen,

In connection with an investigation into the incident of dental caries the Senior Medical Officer has asked me to ascertain the quantity of water required by analytical chemists in order to enable them to report on its Fluorine content. I should be grateful if you would obtain this information for me.

I have the honour to be,

Gentlemen,

Your obedient servant,

K. G. BRADLEY
Colonial Secretary.

The Crown Agents for the Colonies,
4, Millbank, Westminster,
LONDON, S.W.1.

ALL COMMUNICATIONS TO BE ADDRESSED TO THE CROWN AGENTS FOR THE COLONIES. THE FOLLOWING REFERENCE AND THE DATE OF THIS LETTER BEING QUOTED.

G2/586.

TELEGRAMS { INLAND: "CROWN SOWEST LONDON." OVERSEAS: "CROWN LONDON."
TELEPHONE: ABBEY 7730.

(67)

4, MILLBANK,

LONDON, S.W.1.

29th September, 1944.

Sir,

Red 65

I have the honour to refer to your letter No.90/33 dated 8th July, concerning the quantity of water required by analytical chemists to enable them to report on its Fluorine content and to state that we have been in communication with a number of authorities and it appears that 1 or 2 Winchester quarts should be adequate for the purpose. The Public Analyist of Westminster informed us, however, that if he were asked to carry out such a test he would require one gallon.

2. I enclose for your information a copy of a letter from the Deputy Director of Water Examination, Metropolitan Water Board, in answer to our enquiry and would mention that we wrote to Dr. Margaret Murray on 14th September, but so far we have received no reply and it may be that she will communicate direct with the Senior Medical Officer in the matter. Any information which we may receive from Dr.Murray will be passed on to you.

3. As it was reported in the "Analyst", 1934, 380, that about 90% of the children born and bred in Maldon, Essex, were found to have mottled teeth due to the presence of between 4.5 and 5.5 parts per million of fluorine in the water supply, we wrote to the Medical Officer of Health, a copy of whose reply is attached, in case he had had experience with the Fluorine test which might be of assistance to the Senior Medical Officer in his investigations.

4. You will, doubtless, let us know if we can be of any further assistance in obtaining information in connection with the investigations.

I have the honour to be, Sir,
Your obedient servant,

for Crown Agents.

The Colonial Secretary,

Falkland Islands.

W

GCM.

G2/586.

COPY OF LETTER FROM THE METROPOLITAN WATER BOARD TO THE CROWN AGENTS.

Water Examination
Department,
The Laboratories,
177, Rosebery Avenue,
E.C.1.

DBB/JO.

11th September, 1944.

Gentlemen,

In reply to your letter of 9th September, reference G.2/586, the amount of water required for a fluoride estimation by the Sanchis-Scott method is 50 ml. (or less if the fluoride content is high).

The method is described in the Journal of the American Water Works Association, November 1941, where there is a good committee report on fluoride estimation methods. The conclusion of the Committee was that the simple Sanchis-Scott method was at least as good as the much more cumbersome distillation method. It should be noted that chlorinated waters must be dechlorinated before estimating fluorides.

For a full mineral analysis of a water it is desirable to have two Winchester quarts.

A considerable amount of work on fluorides has recently been done for the Medical Research Council by Dr.Margaret Murray of Bedford College, London, now working temporarily at the Physiological Laboratory, Cambridge, who would, I am sure, be pleased to give you the benefit of her experience should you require any further information.

Yours faithfully,

(Sgd.) Denison B.Byles.

Deputy Director of Water Examination.

W

G2/586.

COPY OF LETTER FROM THE BOROUGH OF MALDON TO THE CROWN AGENTS.

Municipal Offices,
Maldon,
Essex.

16th September 1944.

Gentlemen,

Your Ref. G2/586. Water Analysis for Fluorine Content.

I have to acknowledge receipt of your letter of the 9th instant, with reference to the above, and to inform you that I have been in communication on this matter with the Council's Analyst, Dr.E.V.Suckling of Gidea Park College, Gidea Park, Essex, who informs me that one Winchester quart sample of water is ample for the determination of the fluorine content of water, but, if however, other determinations are required, such as the calcium or iodine contents, it would be advisable for the sample toconsist of two Winchester quarts.

With reference to the last paragraph of your letter, I am sorry but cannot add any further information on this matter to that which has appeared so freely in the appropriate technical press of late, and which no doubt the Medical Officer referred to in your letter is conversant.

Yours faithfully,

(Sgd.) J.Leslie R.Philip.
pp.R.H.S.
A/Medical Officer of Health.

W

G2/586

Communications to be addressed to The Crown Agents for the Colonies, 4, Millbank, London, S.W.1, and the above reference quoted.

TELEGRAMS { INLAND: "CROWN SOWEST LONDON."
OVERSEAS: "CROWN LONDON."
TELEPHONE: ABBEY 7730.

4, MILLBANK,
LONDON, S.W.1.

17th October, 1944.

Sir,

Rec'd 65

With further reference to your letter No. 90/33 dated 8th July and in continuation of our letter under the above reference number dated 29th September concerning the determination of fluorine in drinking waters, I have the honour to transmit herewith a copy of a letter received from Dr. Margaret M. Murray.

I have the honour to be, Sir,
Your obedient servant,

for Crown Agents.

The Colonial Secretary,
FALKLAND ISLANDS.

G2/586

COPY OF LETTER FROM PHYSIOLOGICAL DEPARTMENT, BEDFORD COLLEGE, TO CROWN AGENTS

Regents Park,
London, N.W.1.
September 26th, 1944.

Gentlemen,

In reply to your enquiry about the determination of fluorine in drinking waters I should state that one quart of water is an ample amount to submit for analysis. The water can be sent in any ordinary glass bottle. If the Metropolitan Water Board are not prepared to make the determinations for you I am willing to do so, provided there are not a large number of samples and I may do them at my convenience. I say this because our laboratory is returning to London to a damaged building after five years of evacuation. There would be no charge.

It would be of interest to know the nature of the source of the waters and the associated geological formations.

Yours faithfully,
(Sgd.) Margaret M. Murray.

(71)

DECODE.

TELEGRAM.

From Colonial Secretary.

To Crown Agents, London.

Despatched: 19th December, 19 44 *Time:* ....

Received: ..... 19 *Time:* ....

Ref. 68

Your letter G2/586 of 17th October. Government Naturalist has forwarded sample of water for analysis giving details of requirements by mail. Please act on his letter. Most grateful for your trouble.

COLONIAL SECRETARY.

G.T.C.

O/Misc. 870/35

72

Communications to be addressed to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, and the above reference quoted.

CROWN AGENTS FOR THE COLONIES

4, MILLBANK,
LONDON, S.W.1.

TELEGRAMS { INLAND: "CROWN SOWEST LONDON."
OVERSEAS: "CROWN LONDON."
TELEPHONE: ABBEY 7730.

27th February, 1945.

Sir,

I have the honour to refer to a letter dated the 12th December, 1944, from the Government Naturalist regarding analyses of water, and to state that the samples have been received and forwarded to the Imperial Institute, London, whose report on the lines mentioned in the Government Naturalist's letter will be forwarded to you in due course.

I have the honour to be,
Sir,
Your obedient servant,

for Crown Agents

COLONIAL SECRETARY'S OFFICE 15 MAR 1945 FALKLAND ISLANDS

The Colonial Secretary,
Falkland Islands.

g

BHM

-/10/44

En. 15

:. 870/35.

Communications to be addressed to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, and the above reference quoted.

4, MILLBANK,
LONDON, S.W.1.

TELEGRAMS { INLAND: "CROWN SOWEST LONDON"
OVERSEAS: "CROWN LONDON."
TELEPHONE: ABBEY 7730.

8th June, 1945.

(73)

Sir,

I have the honour to refer to the Government Naturalist's letter of the 12th December, 1944, and to our letter to you of the 27th February regarding analyses of water and to enclose, for transmission to the Government Naturalist, the report of the Imperial Institute on the two samples he sent.

With further reference to your letter 90/33 of the 8th July, 1944, it will be observed from the report that Fluorine was not detected in the samples by the method of test referred to in the last paragraph of the report.

I have the honour to be,
Sir,
Your obedient servant,

for Crown Agents.

The Colonial Secretary,

FALKLAND ISLANDS.

No.

(It is requested that, in any reference to this minute the above Number and the date may be quoted.)

COLONIAL SECRETARY'S OFFICE 19FEB1946 FALKLAND ISLANDS

MINUTE.

(16)

18th February, 1946.

From The Executive Engineer,

Stanley, Falkland Islands.

To The Honourable,

The Colonial Secretary,

Stanley.

Water Supply.

Both the Senior Medical Officer and the Director of Agriculture have made periodic complaint of the poor pressure of water to both the Registered Dairies in the Town. This lack pf pressure is also in less degree the subject of complaint by the Public in the upper part of the town. The basic trouble is that the so called high level tank when installed was not set up high enough to anticipate the future supply to the upper part of the town.

With a view to remedying this position I propose to move the Army Camp reservoir to a place on the pipeline from Mullet Creek where it crosses the N.E. spur of Sapper Hill, and pump direct into this tank using the rest of the pipeline as a feed to the higher parts of the town by short circuiting the present ligh level tank, which will be retained as a standby and will, by means of a ball valve, come into action automatically.

It is essential that the work of haulage of the tank sections and heavy steel work from north of the Camp to the new site be put in hand while the camp is dry enough to permit such a cross country journey. *

I estimate the cost of the whole work at £95 and this could have been met from XIX P.W.R. 2. Water Supply but a quite unanticipated expenditure of £123 on new pump out of Unallocated Stores following the complete wear out of the old one and the cost of installation has left the estimated expenditure on this head short by this amount.

I would ask authority for the construction at Mullet Creek of a 20,000 gallon tank. The present situation is costly and ridiculous. The existing collecting tank takes on an average three hours to fill. It is pumped empty in an hour. The present pumpman can only pump three tankfulls per diem, and some 15,000 gallons run to waste each night. With a new tank he could pump whole time or, in accordance with the demands on the supply. This would save the mans time and petrol. The alternative would be to revert to the employment of two pumpmen full time. I estimate the cost of this work at £220 and ask for authority to complete the work as a minor work under XIX. 7 where a balance of £350 is available and not earmarked for any other purpose.

22/2/46

Charles Goodfellow.

Executive Engineer,

* The tank has been dismantled already & was done by the plumbers as a spare time job last year.

CWS.