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For the use of Government Officials only.

16 DEC 86
DEPARTMENT

Submarine Mines and Coast and Harbour Defence.

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The German, Austrian, and Italian Governments have recently adopted Nobel's Blasting Gelatine for the purposes of Submarine Mining and Coast and Harbour Defence, and within the present year the British Government, having satisfied itself of the proved superiority of this explosive, have also finally adopted Gelatine for the purposes indicated. The War Office Authorities have since expressed their satisfaction with the manner in which the Company have executed the considerable orders with which they have been entrusted.

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In a letter to the Company, dated 24th April, 1885, the same eminent authority writes as follows:- "I have to state that my experience is conclusive as to the efficiency of Dynamite and Blasting Gelatine (and especially of the latter) as explosive agents for submarine mines. No reports of mine have been published officially, and none are therefore available for the purpose you name. But you are quite at liberty to say that you have my permission to refer authorities to me for information as to the results obtained in comparative experiments with those two materials. Blasting Gelatine is, I may just state, not only decidedly more powerful than Dynamite, but it also has the advantage, that a mine charged with it is not injuriously affected if it has become leaky after submersion either by accident or from the effects of counter mines."

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4. P.W.D. No 9899

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Thos. Johnston Manager.

149 West George Street,
Glasgow, 6th October, 1886.

Best & Co

Agents for Madras Presidency.

B. No 3354 Wdy 20 Dec 86

Communicated to all Suptg: Engineers.

Dupd 2 copies 17.12.86
4/1/87 Suptg: Engrs: ✓
Mily: Dept: ✓ 17/12/86

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11TH MAY 1883, No. 1380 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

READ—the following letter from T. D. HARRIS, Esq., Executive Engineer, Vizagapatam Division, to the Examiner of Public Works Accounts, dated Waltair, 18th April 1883, No. 116 :—

With reference to your letter, No. 9 S.E. 1st, dated the 7th April 1883, I have the honor to forward, herewith, a copy of Superintending Engineer's No. 1068, dated the 29th June 1880, and to inform you that it is under this authority that dynamite, &c., is being purchased from the local market.

One copy of letter.

2. I may add, for your information, that B. I. S. N. Company's Steamers refuse to carry dynamite in consequence of the dangerous quality of the material, and I would therefore prefer purchasing them locally as required.

ENCLOSURE.

From Lieutenant-Colonel H. L. PRENDERGAST, R.E., Superintending Engineer, First Circle, to the Executive Engineer, Vizagapatam Division, dated 29th June 1880, No. 1068.

With reference to paragraph 3 of your letter, No. 715, dated the 12th instant, I have the honor to inform you that dynamite is to be procured from Messrs. Hinde and Company at Calicut, and from Messrs. Macaulay and Company at Bombay. As regards difficulty about carriages, I would leave that to be solved by the suppliers. I enclose a few items of précis obtained from Major Morant.

No. 148 S.E. 1st.

Endorsement on the above.

Forwarded to the Chief Engineer, Public Works Department, for information and for such orders as he may deem necessary. The case is analogous to that dealt with in G.O., No. 800 W., dated 12th March 1883.

The value of dynamite purchased amounts to Rs. 5,214-12-0.

(Signed) D. C. GORDON,
Examiner, Public Works Accounts.

3rd May 1883.

ORDER—dated 11th May 1883, No. 1380 W., Public Works.

With reference to paragraph 3 of the Resolution of the Government of India, No. 185, dated 10th January 1883, communicated with G.O., No. 469 W., dated 12th February 1883, the Government resolve to declare dynamite an article for the purchase of which, under all proper precautions and restrictions, officers of the Public Works Department may make their own local arrangements.

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To Superintending Engineers.
To the Chief Engineer for Irrigation.
" Consulting Engineer for Railways.
" Consulting Architect to Government.
" Superintendent, Madras Harbour Works.
" General Superintendent, Public Works Stores.
" Examiner, Public Works Accounts.

Exd. A. Aubert.
Spare Copies

GENERAL.
ACCOUNT.

Govt. of {1883} Madras.

PUBLIC WORKS.

Dated May, 11*th*.

Recd. *Encl.*

G.O., 11th May 1883, No. 1380 W.

MAY.

Dynamite

Passing orders authorising the purchase of — in the local market.

Public Works Department

Proceedings of the Madras Government

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Order thereon No 3354 W dated 20th December 1886.

Communicated to all Superintending Engineers.

(True Extract)

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149 West George Street,

Glasgow, 6th October, 1886.

Best & Co Agents for Madras Presidency.

Order thereon No 3354 W dated 20th December 1886.

Communicated to all Superintending Engineers.

(True Extract)

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Under Secretary to Government P.W.D.

To

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Military Department.

Public Works Department

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or the action of water, for the Nitro Glycerine to exude or liquefy.

This unique property of being practically unaffected by the action of water has been strikingly exemplified in the case of a sample of Blasting Gelatine which was submitted to the severe test of being Kept in Water for nearly seven years and on being recently removed was found to be in precisely the same condition as when first placed in the water, its strength and susceptibility to detonation being unaltered by its lengthened immersion.

The German, Austrian, and Italian Governments have recently adopted Noble's Blasting Gelatine for the purposes of submarine mining and Coast and Harbour Defence, and within the present year the British Government, having satisfied itself of the proved superiority of this explosive, have also finally adopted Gelatine for the purposes indicated. The War Office Authorities have since expressed their satisfaction with the manner in which the Company have executed the considerable orders with which they have been entrusted.

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Glasgow, 6th October, 1886.

Best & Co Agents for Madras Presidency.

Order thereon No 3354 W dated 20th December 1886.

Communicated to all Superintending Engineers.

(True Extract)

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Under Secretary to Government P.W.D.

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Noble's Explosives Company Limited, and their Agents will be pleased to give any further information that may be desired, and as practical Instructors are attached to most of their Agencies in British Colonies and Dependencies, as well as in foreign countries, the Company beg to offer their services, free of charge, to assist in conducting practical experiments with Blasting Gelatine so as to prove its suitability for the special purposes to which attention is hereby drawn

Noble's Explosive Company, Limited,

(signed) Thos. Johnston Manager.

149 West George Street,

Glasgow, 6th October, 1886.

Best & Co Agents for Madras Presidency.

Order thereon No 3354 W dated 20th December 1886.

Communicated to all Superintending Engineers.

(True Extract)

H C Baddeley. Captain R. E.

Under Secretary to Government P.W.D.

To

Suptg. Engineers.
Military Department.

Public Works Department

Proceedings of the Madras Government

Read the following :-

Private and Confidential

For the use of Government Officials only.

Submarine Mines and Coast and Harbour Defence.

It is well known that the attention of the Military Engineering and Ordnance Departments of the principal European countries, as well as of the United States of America, has been directed for many years past to the subject of the use of explosives for the above purposes, and the interest in this inquiry and investigation has recently become greatly strengthened. Numerous experiments on a most extensive and costly scale have taken place, and probably every known explosive has been employed in connection with the trials. For a considerable period Guncotton appeared to find most favour, but within the past few years that explosive has had to give place to a rival compound which, while possessing all the advantages claimed for Guncotton, has been found to be greatly superior in many important respects.

The new explosive is Blasting Gelatine, a recent invention of Mr Alfred Nobel, Technical Director of Noble's Explosives Co, Limited, Glasgow, and is a chemical compound consisting of Nitro Glycerine and Nitro Cotton, which together form a gelatinous mass so intimately mixed or blended the Nitro Glycerine practically constituting a solvent of the Nitro Cotton - that it is impossible, through lapse of time

or the action of water, for the Nitro Glycerine to exude or liquefy.

This unique property of being practically unaffected by the action of water has been strikingly exemplified in the case of a sample of Blasting Gelatine which was submitted to the severe test of being Kept in Water for nearly seven years and on being recently removed was found to be in precisely the same condition as when first placed in the water, its strength and susceptibility to detonation being unaltered by its lengthened immersion.

The German, Austrian, and Italian Governments have recently adopted Noble's Blasting Gelatine for the purposes of submarine mining and Coast and Harbour Defence, and within the present year the British Government, having satisfied itself of the proved superiority of this explosive, have also finally adopted Gelatine for the purposes indicated. The War Office Authorities have since expressed their satisfaction with the manner in which the Company have executed the considerable orders with which they have been entrusted.

The most accurate mortar tests have proved beyond doubt that Blasting Gelatine is 50 per cent more powerful than No I Keiselguhr Dynamite containing 75 per cent Nitro-Glycerine, and we beg to direct attention to the following opinions expressed by well- known experts :-

Sir Frederick A. Abel, C.B, F.R.S, Chief Chemist of the British War Department, in an address on "Explosive Agents", delivered in St Andrew's Hall, Glasgow, stated in the course of his remarks with reference to Noble's Blasting Gelatine, "It is in every respect the most perfect explosive known".

In a letter to the Company, dated 24th April , 1885, the same eminent authority writes as follows :- "I have to state that my experience is conclusive as to the efficiency of Dynamite and Blasting Gelatine (and especially of the latter) as explosive agents for Submarine Mines. No reports of mine have been published officially, and none are therefore available for the purpose you name. But you are quite at liberty to say that you have my permission to refer authorities to me for information as to the results obtained in comparative experiments with those two materials. Blasting Gelatine is, I may just state, not only decidedly more powerful than Dynamite, but it also has the advantage, that a mine charged with it is not injuriously affected if it has become leaky after submersion either by accident or from the effects of counter mines".

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