

CTION DEPARTMENT
Received 23/12-74

sea tank co

	Info	Action	File	Visa
Reservoir				
Production		X		
Secretary				

SIR ROBERT MC ALPINE & SONS, LTD.

ELF NORGE A/S

FRIGG FIELD

TREATMENT PLATFORM N° 1

TP1

MONTHLY REPORT

N° 9

TP1A-205-9 - SCF 003

OCTOBER 20th 1974

ELF-NORGE FRIGG TREATMENT PLATFORM N°1
CONTRACTOR'S MONTHLY REPORT N°9
TO 20TH OCTOBER, 1974

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SECTION I - DESIGN PROGRESS REPORT

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

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I DESIGN PROGRESS REPORT (Cont'd)

(D) Temporary Works & Construction Facilities

Section of Work	Percentage Complete		Comments
	Engineering	Drafting	
<u>TEMPORARY WORKS</u>			
Items 1-15 now 100% Complete			
<u>CONSTRUCTION FACILITIES</u>			
20. Sheet Pile Sea Wall	100	100	
21. Basin Excavation	100	100	
22. Basin Well Pointing	100	100	
23. Tower Crane Erection	100	100	
24. Slipform Shutters to Caisson Walls	100	100	
25. Concrete Placing Booms	100	100	
26. Causeway to Floating Jetty	100	85	
27. Floating Jetty	100	100	
28. Offshore Moorings	95	95	
29. Sea Wall Removal & Dredging	100	100	
30. Tow Out and Moor	90	30	Remainder of Work by United Towing
31. Connect Services after Tow Out	100	100	
32. Slipform Shutters to Columns	85	85	
33. Construction Hoists to Columns	90	75	
34. Dismantle Tower Cranes	75	75	
35. Clear Platform for Tow	0	0	
36. Connect Tugs and Slip Moorings	0	0	

SECTION II - SITE PROGRESS REPORT

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

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II SITE PROGRESS REPORT

(A) GENERAL REPORT

1. General Comment

The construction of the base slab and dwarf walls has been completed, and the threading, stressing and grouting of the stressing cables have also been completed. The erection of the slipform shutters is effectively finished, and it is hoped that the slipform operation will commence shortly.

2. Photographs

1 No. aerial photograph, taken on 17th October, 1974, is included at the end of this Report. It shows the Elf Basin from the North-west, and the slipform is clearly visible.

3. Weather

This has again been fairly unsettled over the past month, with a certain amount of rain in the form of light and heavy showers. There have been a number of fine and dry days with a lot of sun, but it has been generally colder.

4. Labour

The Labour force has increased to an effective strength of 932 men, including sub-contract labour, but not including the general absenteeism figure of 143 men.

A detailed breakdown of this Labour is given in Part (C) of this Section.

5. Plant & Equipment

Details of the principle items of Plant on Site are included in Part (D) of this Section.

Four tower cranes are now erected and operational on the base slab. Four concrete placing booms have been erected on the slipform for the placing of concrete during the slipform operation, and these are supplied by four Schwing concrete pumps located on the side banks of the Basin.

The erection of Batcher No. 2 is complete, although the ancillary buildings and the erection of the nine cement silos have still to be finished. The Batcher has started producing concrete, mainly for temporary works, and trial mixes have been done.

Cont'd/....

II SITE PROGRESS REPORT (Cont'd)

(A) GENERAL REPORT

6. Temporary Works

(a) Access Roads

Work is still in progress on concreting the site roads. The road to the camp is complete, and the other roads are well in hand.

(b) Services

Work on the 11 kv. ring main is now complete, and the switch gear has been installed in the substation. Painting and general finishing has still to be done inside, and the North of Scotland Hydro Electricity Board have still to complete their main overhead lines and connect up to the substation.

The construction of the reservoir, the lining of it with polythene and most of the pipework have been completed.

Some extensions to other services are in hand.

(c) Camp Accommodation

Phases I and II of the Camp are almost complete, and Phase III is well in hand. 134 men are now in residence.

(d) Wharf

The Wharf is effectively complete and the cement silos erected there are in operation.

The extension to the permanent landing ramp is in hand.

7. Concrete Mixes

Trial mixes have been done at Batch No. 2, and the 7 day results are satisfactory. The 28 day results will be known in the near future. Concrete at present is being produced mainly for temporary works.

8. Construction Basin & Permanent Structure

One raft 'A' element and six wall 'B' elements were concreted during the month. The caisson is now complete to the 3.0 metre level.

Threading, stressing and grouting of the stressing cables has been completed in the 0.5m base slab.

The erection of the slipform shutters, the mess and control rooms, the concrete placing booms and the toilet facilities is complete, and it is hoped that the slipform operation will commence shortly.

II SITE PROGRESS REPORT (Cont'd)

(A) GENERAL REPORT

9. Materials

The position is generally satisfactory, with bulk materials still being delivered by ship and ferry to the Wharf.

10. Programmes

An updated Concrete Construction Programme is being prepared.

TO 20TH OCTOBER, 1974

II SITE PROGRESS REPORT (Cont'd)

(B) PROGRESS SCHEDULE

1. Temporary Works & Construction Facilities

Section of Work	Percentage Complete		Progress for Month (Percent -age)	Comments
	Programmed	Actual		
<u>TEMPORARY WORKS</u>				
1. Office Accommodation				
(a) McAlpine	100	100	-	
(b) Sea Tank	100	100	-	
(c) Shell	100	100	-	
2. Camp Accommodation	100	95	10	Covers Phase I & II of the Camp
3. Canteen	100	100	-	
4. Site Water Supply	100	98	-	Effectively operational
5. Electricity Supply to Site	-	50	15	
6. Telephones	-	-	-	25 No. lines are now in use on the Site. The G.P.O. are taking steps to make 50 lines available
7. Site Foul Drainage	100	98	-	
8. Wharf	100	99	2	
9. Auxiliary Concrete Batchers	100	100	-	
10. Main Concrete Batchers	100	98	18	operational
11. Concrete Mix Approval	100	100	-	
12. Reinforcement Yard	-	100	-	
13. Joiners Shop	-	100	-	

Cont'd/....

II SITE PROGRESS REPORT (Cont'd)

(B) PROGRESS SCHEDULE

1. Temporary Works & Construction Facilities

Section of Work	<u>Percentage Complete</u>		Progress for Month (Percent -age)	Comments
	Programmed	Actual		
<u>TEMPORARY WORKS</u> (Cont'd)				
14. Fitters Shop	-	95	-	Heating outstanding
15. Prestressing Store	-	99	-	

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II SITE PROGRESS REPORT (Cont'd)

(B) PROGRESS SCHEDULE

1. Temporary Works & Construction Facilities (Cont'd)

Section of Work	Percentage Complete		Progress for (Percent -age)	Comments
	Programmed	Actual		
<u>CONSTRUCTION FACILITIES</u>				
20. Sheet Pile Sea Wall	100	100	-	
21. Basin Excavation	100	100	-	
22. Basin Well Pointing	100	100	-	
23. Tower Crane Erection	100	100	25	
24. Slipform Shutters to Caisson Walls	100	100	73	
25. Concrete Placing Booms	100	100	100	
26. Prepare Floating Jetty	-	50	15	
27. Prepare Offshore Moorings	-	30	30	
28. Sea Wall Removal & Dredging	-	-	-	
29. Tow Out and Moor	-	-	-	
30. Connect Services after Tow Out	-	-	-	
31. Slipform Shutters to Columns	-	-	-	
32. Construction Hoists to Columns	-	-	-	
33. Dismantle Tower Cranes	-	-	-	
34. Clear Platform for Tow	-	-	-	
35. Connect Tugs & Slip Moorings	-	-	-	

NOTE: Programme Percentages Complete are now based on Construction Programme in Basin of 29th August, 1974.

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

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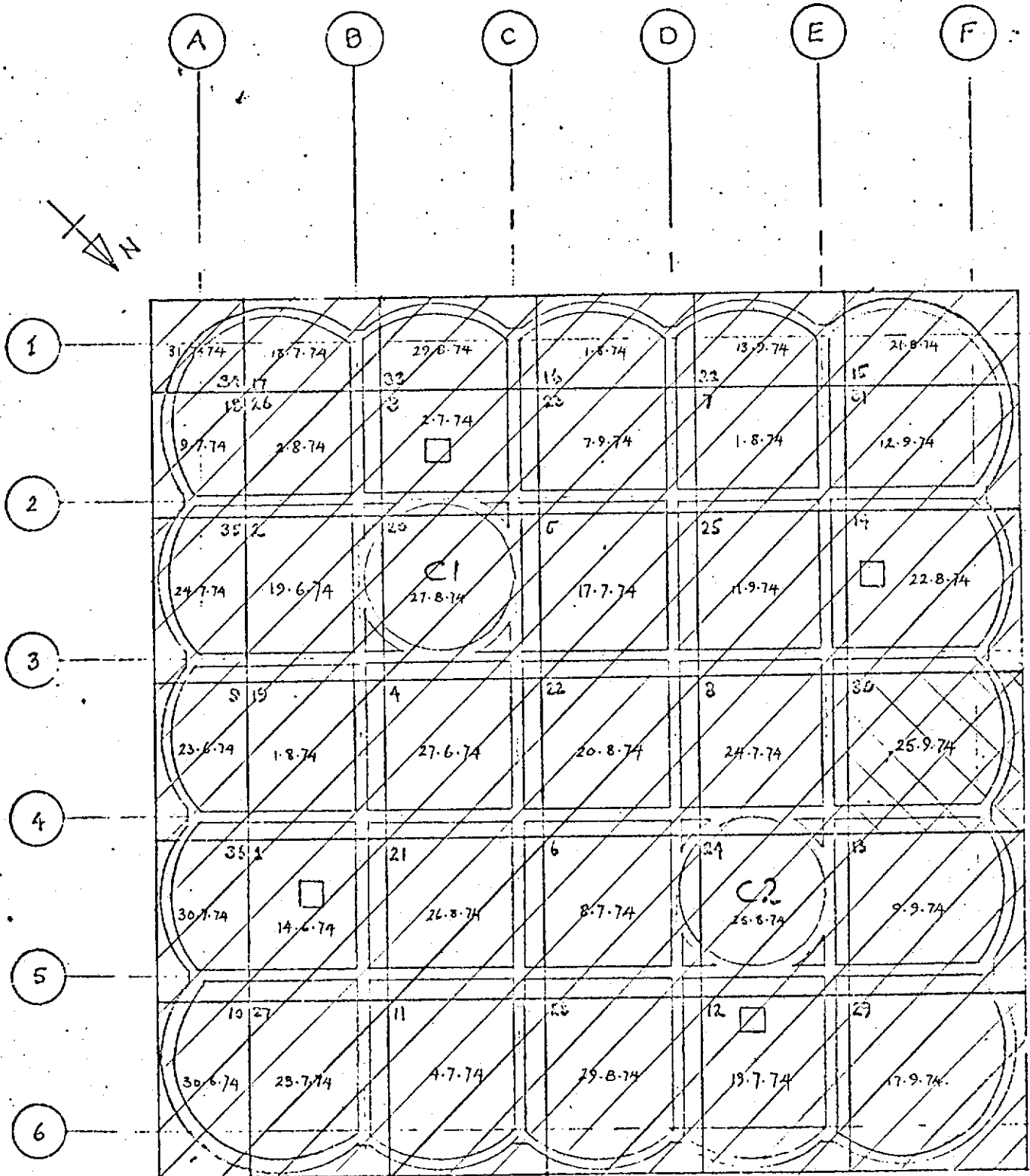
II SITE PROGRESS REPORT (Cont'd)

(B) PROGRESS SCHEDULE

2. Permanent Structure

Section of Work	Percentage Complete		Progress for Month (Percent -age)	Comments
	Programmed	Actual		
1. Precast Skirt Sections				
(a) Make	100	100	-	
(b) Place	100	100	-	
2. Caisson Base Slab 0.50m	100	100	3	
3. Prestress Base Slab	100	100	88	
4. Vent Pipework	-	20	20	
5. Grouting Pipework	-	5	5	
6. Piezometer Pipework	-	5	5	
7. J-Tubes	-	9	9	
8. Sea Bed Risers	-	-	-	
9. Immersion Pipework	-	-	-	28 No. sleeves & 4 No. receiver bottles cast in
10. Caisson Dwarf Walls	100	100	14	
11. Caisson Walls in Basin	100	-	-	
12. Caisson Walls at Moorings	-	-	-	
13. Complete Base Slab & Fillet	-	-	-	
14. Caisson Ballast Concrete	-	-	-	
15. Construct Columns (2No.)	-	-	-	
16. Prestress & Grout Columns	-	-	-	
17. Caisson Roofs	-	-	-	
18. Immersion Module & Cabling	-	-	-	

NOTE : Programme Percentages Complete are now based on the Construction Programme in Basin of 29th August, 1974.



0.5 m. base slab pours.

'A' Elements

ELF-NORGE TP 1

A B C D E F



1

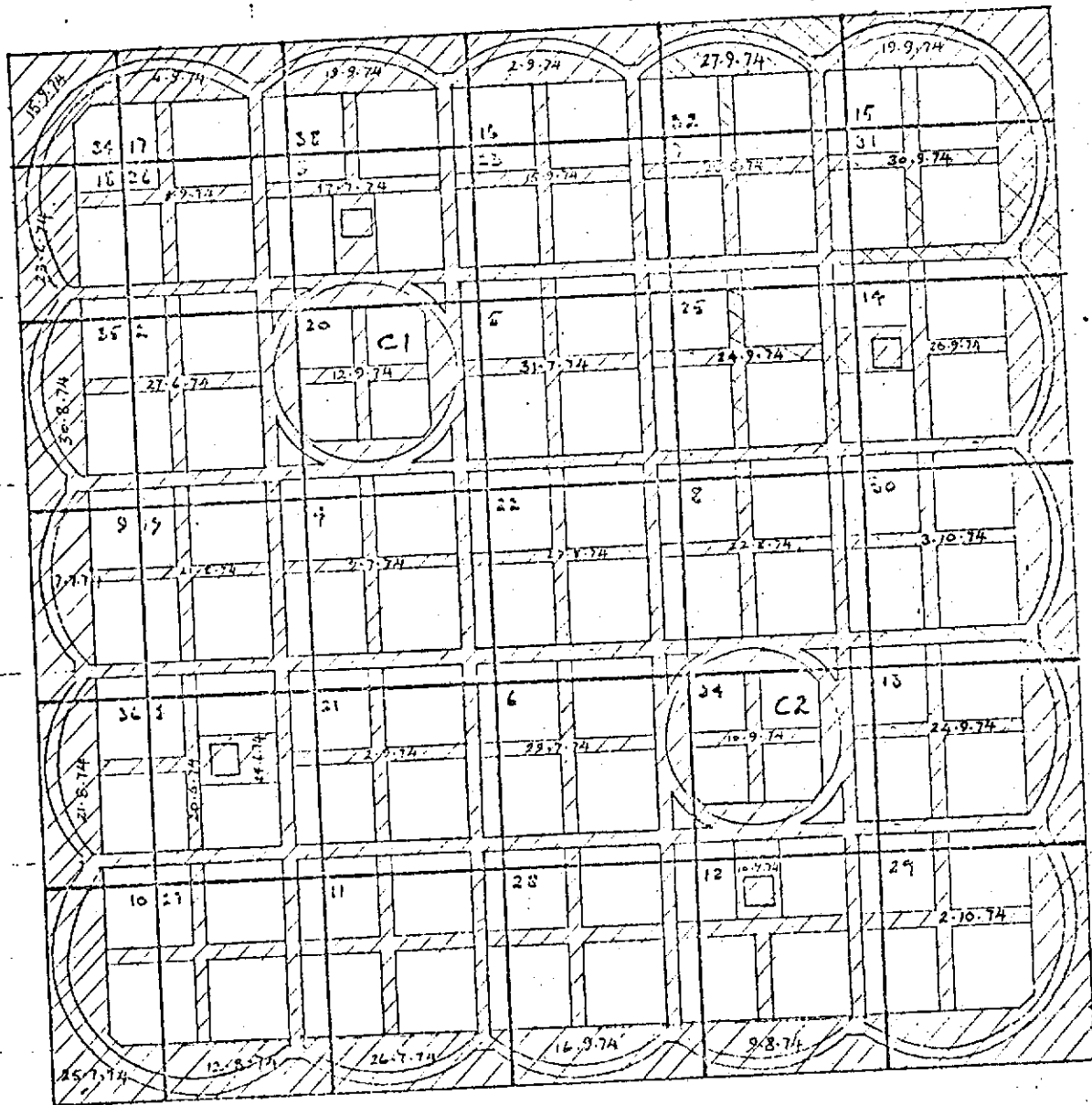
2



3

4

5

6



 Pours to Date
 Pours for Mont.

Dwarf Wall Pours. 'B' Elements

ELF - NORGE TP 1

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

CONTRACTOR'S MONTHLY REPORT NO. 2

TO 20TH OCTOBER, 1974

II SITE PROGRESS REPORT

(c) LABOUR REPORT

The effective Labour strength at 20th October, 1974, is as follows:-

<u>McALPINE LABOUR</u>	Joiners (incl. Joiner's Labourers)	144	No.
	Steelfixers (incl. Steelfixer's Labourers)	86	No.
	General Labourers	241	No.
	Other Trades	<u>384</u>	No.
		<u>855</u>	No.
<u>SUBCONTRACTORS LABOUR</u>	Millars Wellpoint	3	No.
	Humphreys & Glasgow	6	No.
	Terrapin	25	No.
	Inter Consult	14	No.
	Mitchell West Sea Diving	3	No.
	Alexander Findlay	6	No.
	Wimpey	11	No.
	Brown & Root	6	No.
	Colebrand Ltd.	<u>3</u>	No.
	<u>77</u>	No.	
	<u>TOTAL</u>	<u>932</u>	No.

This Total does not include absenteeism in the various trades.

The number of absentees is 143 No.

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

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TO 20TH OCTOBER, 1974

II SITE PROGRESS REPORT

(D) PLANT REPORT

Plant Return for major items of equipment in effective use.

Crawler Cranes/Excavators

3 No. NCK 605
1 No. NCK Pennine C34B
2 No. Priestman Lion
1 No. NCK Andes C41B

Back Actor Excavators

3 No. $\frac{5}{8}$ cy. Hydraulic Excavators
1 No. $1\frac{1}{4}$ cy. Hydraulic Excavator

Crawler Tractor/Dozers

2 No.

Tracked Shovel Loaders

7 No.

Wheeled Tractors

6 No.

Wheeled Shovel/Excavators

7 No.

Dumptrucks

19 No.

Mobile Cranes

8 No.

Truckcretes

10 No.

Dumpers

10 No.

Concrete Batcher

1 No. Bentford PB34 $\frac{3}{4}$ cy.
(Auxiliary Batcher)

1 No. Winget 2x2cy.
(Batcher No. 1)

1 No. Winget 2x1cy.
(Batcher No. 2)

Tower Cranes

1 No. Record 646E (Reinf. Yard)
4 No. Record 764CDM (Elf Basin)

Also, Generators, Welding Sets, Lighting Sets, Concrete Vibrators, Mobile Concrete Mixers, Pumps, Transport Vehicles, Air Compressors, Piling Hammers and Extractors, Fuel and Water Bowers, Chainsaws, Saw Benches, Boilers, Transformers, Battery Charger, Grabs, Rollers, Reinforcement Cutting and Bending Machines, Storage Tanks, Aggregate Screening Plant, Mobile Toilets, Boats, Aggregate Hoppers, Coaches, Pontoons, Cement Silos, Concrete Pumps, Concrete Placing Booms, Cement Tankers.

SECTION III - PROCUREMENT PROGRESS REPORT

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

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TO 20TH OCTOBER, 1974

III PROCUREMENT PROGRESS REPORT

(A) BULK ITEMS

MATERIAL	ORDER PLACED	TOTAL QUANTITIES DELIVERED		QUANTITY DELIVERED FOR MONTH	COMMENTS
		SCHEDULED	ACTUAL		
Concrete Aggregates	15/1/74	60000 tonnes	46500 tonnes	5000 tonnes	See Note 1
Concrete Sand	15/1/74	40000 tonnes	25000 tonnes	2300 tonnes	See Note 1
Cement	7/1/74	4445 tonnes	4445 tonnes	365 tonnes	See Note 2
Reinforcement		5900 tonnes	5231 tonnes	242 tonnes	

NOTES

1. Scheduled Aggregate & Sand deliveries are monitored against the original delivery programme.
2. Cement called forward to suit consumption and storage space.

It should be noted that the figure of 4445 tonnes includes a quantity in storage for Elf of 1315 tonnes. However, the total amount in storage available for the slip is 2630 tonnes, and deliveries continue to arrive every day.

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

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TO 20TH OCTOBER, 1974

III PROCUREMENT PROGRESS REPORT (Cont'd)

(B) FABRICATED AND BOUGHT-IN ITEMS

Item	Order Placed	Fabrication	Delivery Due	Delivery Made	Comments
1. <u>Precast Skirts</u>					
(a) Lifting Anchorages	7/3/74 (3016/ M/A)		13/3/74	Yes	Complete
2. <u>Caisson Base Slab 0.50m</u>					
(a) Grout Directional Steelwork	5/3/74 (3016/ B/303)				Complete
(b) Seabed Grout Pipework	4/3/74 (3016/ B/302)	B.S.C.	22/7/74	30/7/74 6/9/74	2660/3800 3450/3800
Diffusors for Ditto	-	-	4/3/74	Yes	Complete
(c) Seabed Vent Pipes 3"	4/3/74 (3016/ B/302)	B.S.C.	22/7/74	3/5/74 6/9/74	1200/ 2000m 2250
5"	"	B.S.C.	22/7/74	11/4/74	126/200
10"	12/3/74 (3016/ B/304)	B.S.C.	August	13/9/74	580/1000
Plugs for Ditto	-	-	4/3/74	Yes	Complete
(d) Piezometer Pipework	4/3/74 (3016/ B/302)	B.S.C.	22/7/74	30/7/74 6/9/74	3000/3800 4250
Plugs for Ditto	-	-	4/3/74	Yes	Complete
(e) Tower Crane Fixings			12/4/74	3/4/74	Complete
(f) Prestressing Equipment Strand	21/2/74 (3016/ B/300)	Bridon Wire	25% by 1/5/74	Complete	
Sheathing	27/2/74	C.C.L.	1/4/74	8/4/74	Complete
Grout Exit Couplers	27/2/74 (3016/ B/301)	C.C.L.	1/4/74	8/4/74	Complete

Cont'd/....

III PROCUREMENT PROGRESS REPORT (Cont'd)

(B) FABRICATED AND BOUGHT-IN ITEMS

Item	Order Placed	Fabrication	Delivery Due	Delivery Made	Comments
2. (f) (Cont'd) Plain Couplers	27/2/74 (3016/ B/301)	C.C.L.	1/4/74	8/4/74	Complete
Tube Units	"	C.C.L.	1/4/74	29/4/74	Complete
Bearing Plates and Grips	"	C.C.L.	1/5/74	-	Complete
Dummy Barrels	"	C.C.L.	1/5/74	-	Complete
(g) 3" Instrument- ation Pipe	C37/27	B.S.C./ Inshaw	9/4/74 18/4/74	24/4/74	Complete
(h) Echo Sounding Reservations					U.I.E. Complete
3. <u>Caisson Base Dwarf Walls</u>					
(a) Ground Bottom Switch Plates	C37/26	-	12/4/74	Yes	McA. Supply Complete
(b) Sleeves for Cables, Sounders & Contacts	-	-		2/5/74	U.I.E. Complete
(c) Immersion Pipe- work Outlets	-	-		2/5/74	U.I.E. Complete
(d) Risers Anchors	-	Brown & Root		Yes	10/14
(e) Risers Tubes 24" 26" 32"	-				Brown & Root
(f) Risers Supports					Brown & Root
(g) J-Tubes 10 $\frac{3}{4}$ " & 18"	9/4/74 (3016/ B/305)	A. Findlay		On Site	5 No. pieces for stage 1 'B' Elements
(h) Tunnels 38" 44"		A. Findlay			6m length through 'B' Elem- ents
(i) Mooring Points		A.K.D.			Item 2 Drg. 192
(m) Towing Points					Complete

III PROCUREMENT PROGRESS REPORT (Cont'd)

(B) FABRICATED AND BOUGHT-IN ITEMS

Item	Order Placed	Fabrication	Delivery Due	Delivery Made	Comments
4. <u>Caisson Walls in the Basin</u>					Complete
(a) Fixing Bolts for temporary Con-creting Boom					Complete
(b) 7 No. Steelplates, reference electronics	26/6/74	A. Findlay	End July		Complete
(c) Plates for cable-way and hydraulic pipes.	9/9/74	F. & E. Metals	End Sept.	20 No. 11/10/74	80 No. Total (4 No. 1st Slip)
(d) Plates for pulling Module	9/9/74	F. & E. Metals	End Oct.		2 No.
(e) Towing Point Type D (Sockets)					Complete
(f) Towing Point Type E (Sockets)					Complete
(g) Mooring Sockets for Pontoon (Type A)		Taylor & Palister Newcastle	1st week Oct.	45 No. 5/10/74	70 No. Total (20 in 1st Slip)
(h) Sockets Type B for access landings		Covallien Eng. Ltd.	Mid-Oct.	11/10/74	Complete
(i) Sockets Type C for access landings		"	Mid-Oct. 1st Week Oct.	11/10/74	Complete
(j) Plates for Ventfixings	12/8/74	F. & E. Metals Newcastle	25% End Sept. 75% Mid Nov.	45 No. 10/10/74 & 21/10/74	179 No. (44 No. 1st Slip)
(k) Waterbars in walls for joint between 1st & 2nd stage slip					Complete
(l) Sockets for padeyes	26/9/74	South Dock Ironworks	Mid Nov.		
Type (1)		Co. Ltd.	8th Oct.	17/10/74	Complete
Type (2)	26/9/74	Sunderland	8th Oct.	17/10/74	Complete
Type (3)	26/9/74	"	8th Oct.	17/10/74	Complete
Type (4)	26/9/74	"	8th Oct.	17/10/74	Complete
Type (5)	26/9/74	"	8th Oct.	17/10/74	Complete
Type (6)	26/9/74	"	8th Oct.	17/10/74	Complete
Type (8)	26/9/74	"	8th Oct.	17/10/74	Complete
Type (9)	10/10/74	"	28/10/74	18/10/74	Complete

III PROCUREMENT PROGRESS REPORT (Cont'd)

(B) FABRICATED AND BOUGHT-IN ITEMS

Item	Order Placed	Fabrication	Delivery Due	Delivery Made	Comments
4. Cont'd					
(m) Sockets for Divers Platform	26/9/74	South Dock Ironworks Co. Ltd., Sunderland	8/10/74	9/10/74	Complete
(n) Sleeves for cable-way	9/9/74	F. & E. Metals	End Sept.	9/10/74	Complete
(o) Plates for Working Platforms		Kettering	8/10/74	8/10/74	Complete

SECTION IV - SUPPORT FRAME

IV - SUPPORT FRAME

A/ DESIGN

3 more issues of MDH drawings related to deck support trusses, central tank and cover plates were delivered to CMP, as well as camber diagram for the main trusses.

Permanent and temporary holes through the cover plates are still to be specified, same for holes through the tie in can bearing plate.

B/ PROCUREMENTS

. 2" structural plates are felt to be insufficient in quantity by CMP.

. Local procurements : 26%

steel plates for pump casings and sump caisson were supplied.

C/ FABRICATION

Progress . Support frame 25%

Steel cap 16%

Miscellaneous 12%

The contractor issued a revised schedule dated October 12th, including change orders and showing a two months extension. This was unsatisfactory to ELF and has to be revised accordingly.

SECTION V - IMMERSION EQUIPMENT

V - IMMERSION EQUIPMENT

- . Immersion module had to be altered because of variations in valves dimensions but is still scheduled for the end of December.
- . Dewatering and ballasting procedure are being determined.

SECTION VI - RISERS AND J TUBES

VI - RISERS AND J TUBES

- . A new procedure (jacking up pipes from + 14.00 level) is being studied by BROWN & ROOT/WIMPEY. Requirements for this procedure such as fixings in the concrete walls are still to be designed and incorporated to the as launched caisson.
- . STC informed BROWN & ROOT about intensity of movements of the platform during towage and about a preliminary antiscouring procedure.
- . STC asked all BROWN & ROOT external fixings to be protected against towing gears and be clear from them.
- . Penetration of external risers into the columns were specified by Mac DERMOTT HUDSON/STC and the sleeves are to be supplied by BROWN & ROOT for incorporation right below the slipform.

SECTION VII - GROUTING

VII - GROUTING

- . The best location for grouting and piezopipes exit is still investigated in conjunction with BROWN & ROOT operations.
- . SOLMARINE is in charge of the grouting study of the tie in can bearing plate.

SECTION VIII - MARINE OPERATIONS

VIII - MARINE OPERATIONS

- . Towing gears i.e. towing points, chains, cables and shackles were specified and an alternative immersion procedure with buoyant pontoons was investigated.
- . Route in the North Channel is presently under survey for depths and currents.

SECTION IX - ANTISCOURING

IX - ANTISCOURING

DELFT HYDRAULIC LABORATORY recommended a 20 m wide by 1 m thick layer of antiscouring material (10/50 kg) and BROWN & ROOT was informed with a preliminary procedure.

SECTION X - CRITICAL PATH ANALYSIS

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

CONTRACTOR'S MONTHLY REPORT NO. 9

TO 20TH OCTOBER, 1974

X - CRITICAL PATH ANALYSIS

A revised Construction Programme is being prepared at the moment, and will be incorporated in the C.P.M. Programme, issued by S.T.C. in due course.

SECTION XI - PHOTOGRAPHS
