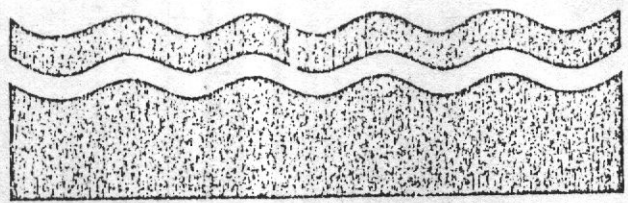


Mission Stavanger



sea tank co

PRODUCTION DEPARTMENT
3/4-75

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SIR ROBERT MC ALPINE & SONS, LTD.

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ELF NORGE A/S

950 340 - E14

FRIGG FIELD

TREATMENT PLATFOM N° 1

TP1

MONTHLY REPORT

N° 13

TP1-A. 205-9 SCF 007

20 FEBRUARY 1975

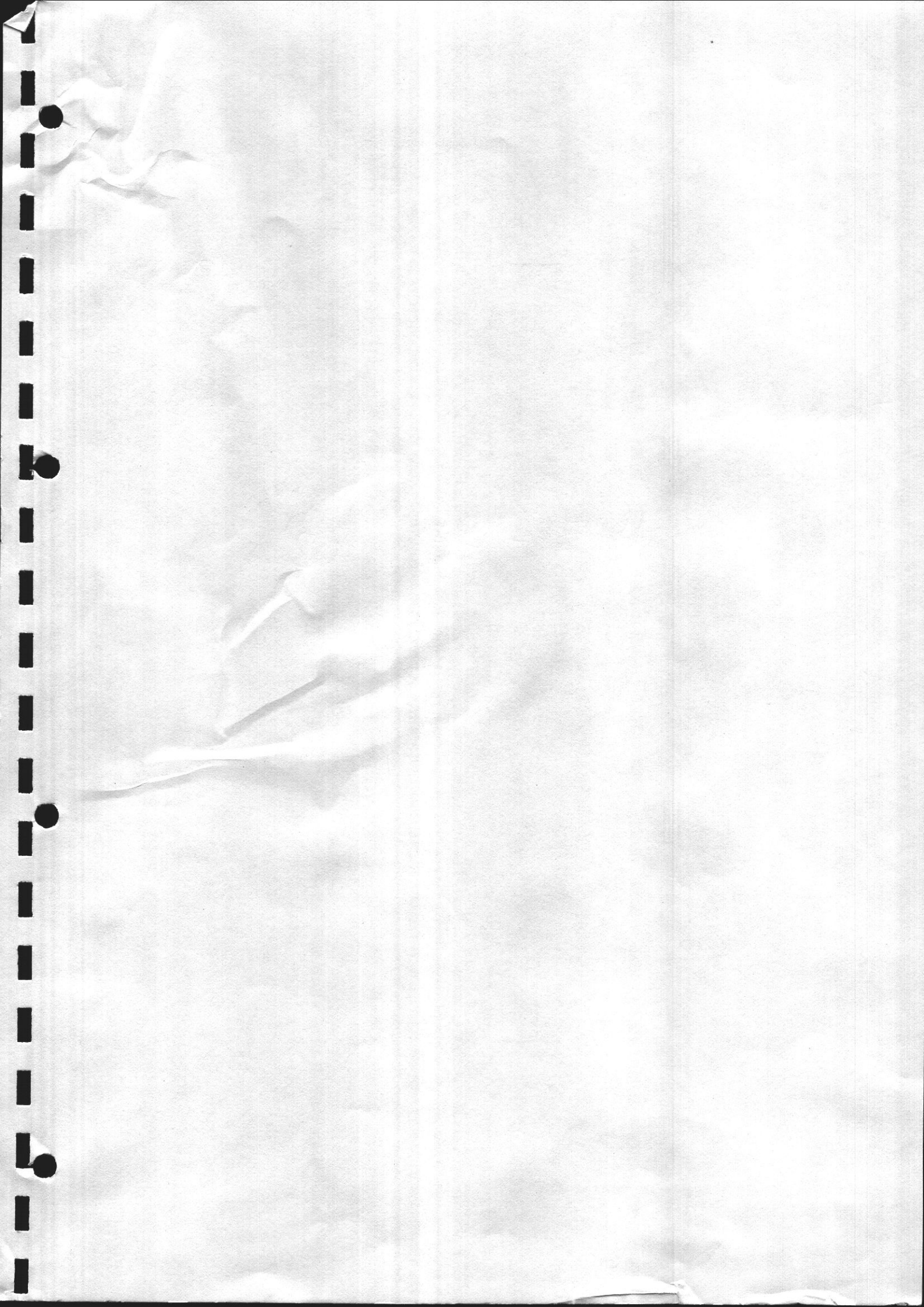
ELF NORGE FRIGG TREATMENT PLATFORM N°1

CONTRACTOR'S MONTHLY REPORT N°13

TO 20TH FEBRUARY, 1975

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SECTION I - DESIGN PROGRESS REPORT

I - DESIGN PROGRESS REPORT

A/ GENERAL REPORT

- . STC was formally instructed to proceed with the new design (40 m caisson) on February 4th, and therefore advised all parties.
- . Calculation notes were issued for caisson's reinforcement and hydrodynamic stresses.
- . Complete list of built in items in second stage slipform is still expected from Brown and Root.

B/ STRUCTURAL DRAWINGS

Main activity consisted in revising drawings for second stage slipform i.e. =

- general drawings
- external fixings
- column's prestressing arrangement
- inner walls
- vaults
- columns base.

C/ MODEL TESTS

Tests are scheduled in the near future and will cover towing at minimum draft, immersion and towing at optimum draft.

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

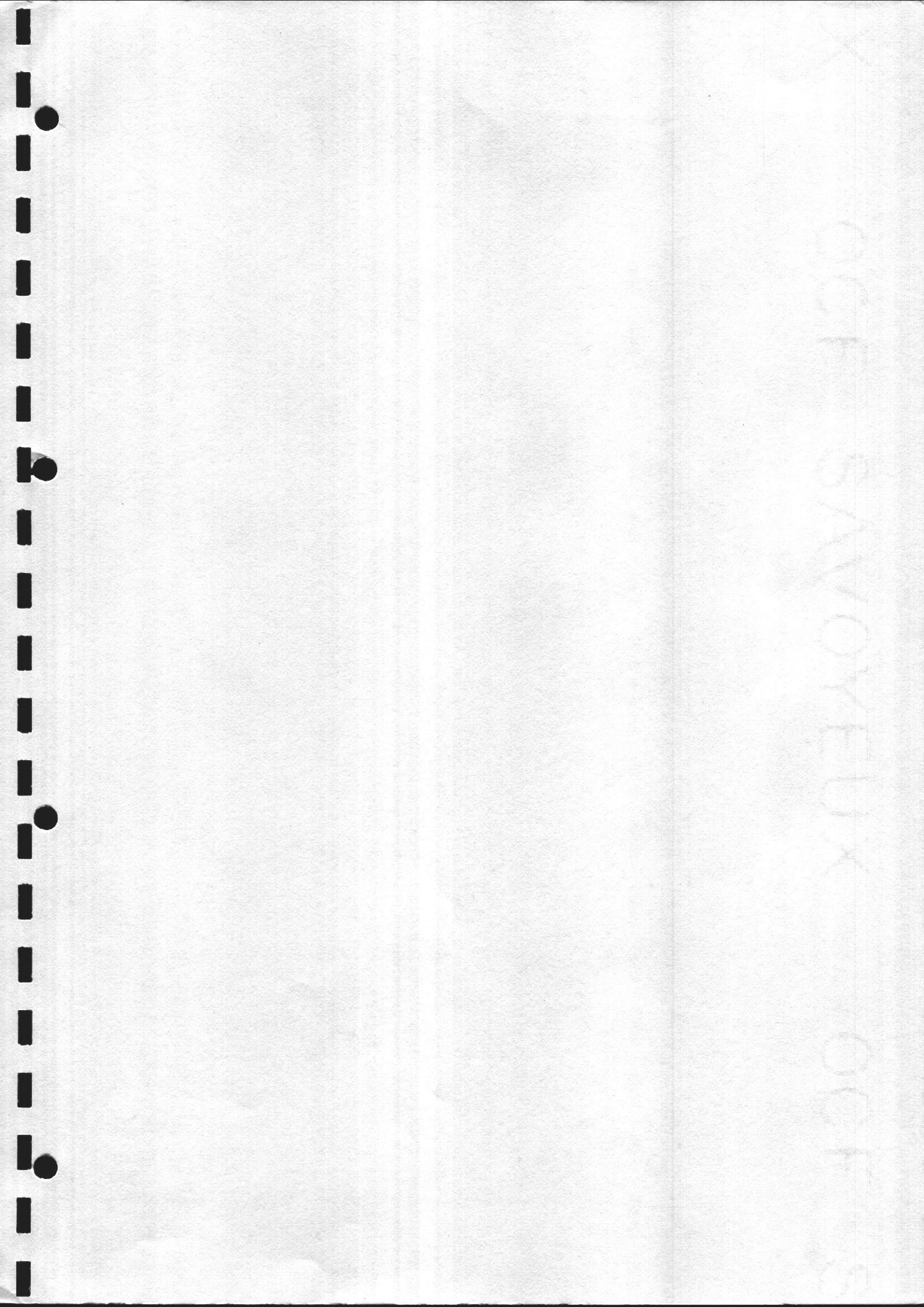
CONTRACTOR'S MONTHLY REPORT NO. 13

TO 20TH FEBRUARY, 1975

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 - 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	100	
27. Floating Jetty	100	100	
28. Offshore Moorings	95	95	
29. Sea Wall Removal & Dredging	100	100	
30. Tow Out and Moor	100	100	
31. Connect Services after Tow Out	100	100	
32. Slipform Shutters to Columns	100	100	
33. Construction Hoists to Columns	95	90	
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
CONTRACTOR'S MONTHLY PROGRESS REPORT NO. 13
TO 20TH FEBRUARY, 1975

II SITE PROGRESS REPORT

(A) GENERAL REPORT

1. General Comment

Slipforming of the caisson walls to - 90.80 was completed on Sunday, 26th January, 1975.

Since then work has been in progress with respect to preparation of the platform, flooding the basin, and removal of the sea-wall with a view to floating the platform out early in March.

2. Photographs

An aerial photograph of the basin from the South-West and a ground shot from the West, both taken on the 18th February, 1975, are included at the end of this Report.

3. Weather

There was a spell of cold wet weather from 21st to 25th January, but since then it has been mainly dry.

4. Labour

Details of the effective Labour strength are given in Part (C) of this Section.

Since our last Report the following disputes have occurred:-

- (a) 10.2.75. - A.U.E.W. members (crane drivers and some others) commenced working a 40 hour week as a continuation of their attempt to gain Union recognition.
- (b) 11.2.75. - Lorry drivers withdrew their labour following the legitimate sacking of a driver. The drivers returned to work on 14.2.75.
- (c) 14.2.75. - A majority of the Canteen Staff withdrew their labour in an attempt to obtain increased pay. They returned to work on 19.2.75.

Cont'd/....

II SITE PROGRESS REPORT (Cont'd)

(A) GENERAL REPORT

4. Cont'd

- (d) 14.2.75. - Crane drivers and fitters withdrew their labour in the furtherance of their claim for Union recognition and following the legitimate sacking of a steward. The steward was re-instated on the 18th February, and the men returned to working a 40 hour week.

Following a meeting on 20.2.75. the men returned to normal working.

5. Plant & Equipment

Details of the principle items of Plant being used on construction of the Elf Platform and its associated works are included in Part (D) of this Section.

At Batchier No. 2 the nine additional cement silos are now being used for storage of cement but some work still remains to be done on the system for extracting cement from the silos.

6. Temporary Works

(a) Access Roads

Work carried out on the Site roads during the past month has been mainly concerned with improving the drainage. Construction of a concrete road to serve Findlays area, where the roof shutter support steelwork is to be fabricated is in progress and approximately 50% complete.

A mobile suction cleaner with brush attachment has been introduced in an attempt to keep the roads free from mud.

(b) Services

Considerable progress has been made during the month on the laying of ducts alongside the Site access road to accommodate the incoming G.P.O. telephone cable.

Cable ducts and ducts for other services have also been laid in the roof shutter fabrication area.

(c) Camp

In the Phase III section of the Camp, 4 out of the total of 8 No, mens' dormitory blocks have been erected together with the staff dormitory block and church building. Installation of partitions and services in the dormitory blocks is in progress.

The extension to the Camp Canteen has been erected and preparations are in hand for laying the floor tiling.

II SITE PROGRESS REPORT (Cont'd)

(A) GENERAL COMMENT

6. Cont'd

(d) Wharf

There has been no progress during the month with respect to completing the extension to the permanent landing ramp for the Western Ferries boats or on construction of the access road to the second Wharf at the centre strong point.

(e) Additional Canteen Opposite the Main Site Office

Installation of services and cooking facilities etc., is progressing satisfactorily and the canteen should be in operation early in March.

(f) Caisson Roof Shutter Fabrication Area

Preparation of the area, N.E. of the Camp Site is progressing satisfactorily.

A layer of stone has been laid over approximately 50% of the area on which the roof shutter units will be assembled and concrete floor slabs have been cast for the Erection Contractor's Offices, Stores, etc.

(g) Fabrication of Caisson Cell Roof Shutter Units

Steelwork for 3 of the 12 No. roof shutter units required for the Elf Platform has been assembled. Erection of steelwork for a further 2 units is in progress.

7. Construction Basin and Permanent Structure

Slipforming of the caisson walls up to - 90.80 was completed at 11.00 a.m. on Sunday, 26th January.

Since then work carried out on the Platform has comprised concreting to tunnels and J-tubes, extending piezometer and grouting pipework, installation of strainstall equipment and general progress with preparation of the platform base for 'float-out'. It is expected that this will take place early in March.

Flooding of the basin, using water syphoned in from the sea was carried out during the night 8th/9th February.

Pumping of ballast water into the cells of the Platform, to ensure that it did not float when the sea-wall was removed, was carried out in the period 11th/12th February.

Dredging work to remove the sea-wall embankment commenced on 9th February and has progressed continuously since then except on 10th and 11th February when the hopper barges carrying away the excavated material were prevented from unloading due to bad sea conditions.

II SITE PROGRESS REPORT (Cont'd)

(A) GENERAL REPORT

7. Cont'd

When low tide has permitted 3 No. TS24 scrapers have also been used to assist in the removal of the embankment. By midnight on 20th February, approximately 45% of the material from the sea-wall had been removed.

8. Materials

Delivery of materials during the month has been satisfactory.

9. Programmes

A detailed programme for construction of the floating bridge is to be issued on 25th February.

An updated Main Programme is being prepared.

CONTRACTOR'S MONTHLY REPORT NO. 13

TO 20TH FEBRUARY, 1975

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				
(a) Phases I & II	100	100	-	
(b) Phase III	100	45	20	
3. (a) Canteen	100	100	-	
(b) New Main Site Canteen	100	95	15	
(c) Extension to Camp Canteen	100	30	25	
4. Site Water Supply	100	98	-	Effectively operational
5. Electricity Supply to Site	-	80	20	
6. Telephones	-	-	-	34 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	100	-	
8. Wharf	100	99	-	
9. Auxiliary Concrete Batcher	100	100	-	
10. Main Concrete Batcher	100	100	-	
11. Concrete Mix Approval	100	100	-	
12. Reinforcement Yard	-	100	-	
13. Joiners Shop	-	100	-	
14. Fitters Shop	-	98	-	
15. Prestressing Store	-	100	-	

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

CONTRACTOR'S MONTHLY REPORT NO. 13

TO 20TH FEBRUARY, 1975

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	-	Steel sheet piles removed. 45% of dredging completed
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. Prepare Floating Jetty	-	55	5	
27. Prepare Offshore Moorings	-	75	20	
28. Sea Wall Removal & Dredging	-	56	56	
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	-	-	-	

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

CONTRACTOR'S MONTHLY REPORT NO. 13

TO 20TH FEBRUARY, 1975.

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. Prestress Base Slab	100	100	-	
4. Vent Pipework	-	31	-	
5. Grouting Pipework	-	35	27	
6. Piezometer Pipework	-	30	22	
7. J-Tubes	-	*25		*69% given in last month's Report incorrect
8. Sea Bed Riser Tunnels	-	33	3	
9. Immersion Pipework	-	-	-	28 No. Sleeves & 4 No. Receiver Bottles Cast In
10. Caisson Dwarf Walls	100	100	-	
11. Caisson Walls in Basin	100	100	65	
12. Complete Fillet in Basin	100	100	-	
13. Caisson Walls at Moorings	-	-	-	
14. Complete Base Slab	-	-	-	
15. Caisson Ballast Concrete	-	-	-	
16. Construct Columns (2 No.)	-	-	-	
17. Prestress & Grout Columns	-	-	-	
18. Caisson Roofs	-	-	-	
19. Immersion Module & Cabling	-	-	-	

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

CONTRACTOR'S MONTHLY REPORT NO. 13

TO 20TH FEBRUARY, 1975

II SITE PROGRESS REPORT

(C) LABOUR REPORT

The effective Labour strength, taken as the average of the totals on each Wednesday of the month is as follows:-

McAlpine Labour

	<u>Elf</u>	<u>Ardyne Point</u>
Steelfixers	40	24
(including S/Fixer Labourers)		
Joiners	28	49
(including Joiner's Labourers)		
General Labourers	57	139
Other Trades	<u>42</u>	<u>326</u>
	<u>167</u>	<u>538</u>

NOTES :

1. Elf numbers are averages of men employed on the Construction of the Elf Platform.
2. Ardyne Point numbers are averages of men engaged upon completing, running and maintaining the Site facilities for the benefit of all Platforms under construction at Ardyne Point.

Subcontractor's Labour on Site at the 20th of the month

Kockum	6
Tyers Welding	1
Sterling Construction	29
Terrapin	31
H.G.S. Ltd.	53
Westminster Dredging	115
Findlay	6
Kilpatrick	36
Tractor Shovels	<u>6</u>
	<u>283</u>

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

CONTRACTOR'S MONTHLY REPORT NO. 13

TO 20TH FEBRUARY, 1975

II SITE PROGRESS REPORT

(D) PLANT REPORT

Plant Return for major items of equipment in effective use.

Crawler Cranes/Excavators

1 No. Manitowac
1 No. NCK 1405
1 No. NCK 605
1 No. Priestman Lion IIIA
2 No. NCK Andes C41B
1 No. NCK Rapier 305
1 No. NCK Penine

Back Actor Excavators

4 No. $\frac{5}{8}$ cy. Hydraulic Excavators
1 No. $1\frac{1}{4}$ cy. " "
1 No. 1cy. " "
1 No. $1\frac{1}{2}$ cy. " "

Crawler Tractor/Dozers

7 No.

Tracked Shovel Loaders

6 No.

Wheeled Tractors

4 No.

Wheeled Shovel/Excavators/Loaders

6 No.

Dumptrucks

19 No.

Mobile Cranes

1 No.

Truckcretes

6 No.

Dumpers

9 No.

Concrete 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 764 CDM (Elf Platform)

T.S. 24 Scrapers

3 No.

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

CONTRACTOR'S MONTHLY REPORT NO. 13

TO 20TH FEBRUARY, 1975

III PROCUREMENT PROGRESS REPORT

(A) BULK ITEMS

MATERIAL	ORDER PLACED	TOTAL QUANTITIES DELIVERED		QUANTITY DELIVERED FOR MONTH	COMMENTS
		SCHEDULED TO MEET CON- STRUCTION PROGRAMME	ACTUAL		
Concrete Aggregate	15/1/74	19230 tonnes	*45360 tonnes	- tonnes	See Note 1
Concrete Sand	15/1/74	12020 tonnes	*24220 tonnes	- tonnes	See Note 1
Cement	7/1/74	6890 tonnes	6890 tonnes	2129 tonnes	See Note 2
Reinforcement		5900 tonnes	6070 tonnes	NIL	Delivery Complete

NOTES :

1. *This month there is a reduction in the quantities of concrete aggregates and sand shown as being delivered for this Platform due to a re-allocation of these items with respect to the 3 No. Platforms being built at Ardyne.
2. Cement called forward to suit consumption and storage space.

ELF-NORGE FRIGG TREATMENT PLATFORM NO. 1

CONTRACTOR'S MONTHLY REPORT NO. 13

TO 20TH FEBRUARY, 1975

III PROCUREMENT PROGRESS REPORT (Cont'd)

(B) FABRICATED AND BOUGHT-IN ITEMS

Note: All items listed in our Report No. 12, but not listed below, have been received.

Item	Order Placed	Fabrication	Delivery	Delivery	Comments
<u>Caisson Walls at Jetty</u>					
(a) Plates for ladders	3016/NE/186 (13/12/74)	F & E Metals Newcastle	13/1/75	24/12/74	Delivery Complete
(b) Sockets Type F for crane fix- ings	By McA. Office, London				Delivery Complete
(c) Padeyes Type 3 " 5 " 7	Reqn. V66/68 dated 14/2/75	South Dock Ironworks Sunderland	10/3/75 10/3/75 10/3/75		
(d) Plates Type 18	Reqn. V66/69 dated 14/2/75	F & E Metals Newcastle	10/3/75		
(e) Cast In Plates for roof shuttering		A. Findlay			Delivery Complete
(f) Unistrut P330 Channels	Reqn. V66/69 dated 14/2/75		10/3/75		



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SECTION IV - SUPPORT FRAME

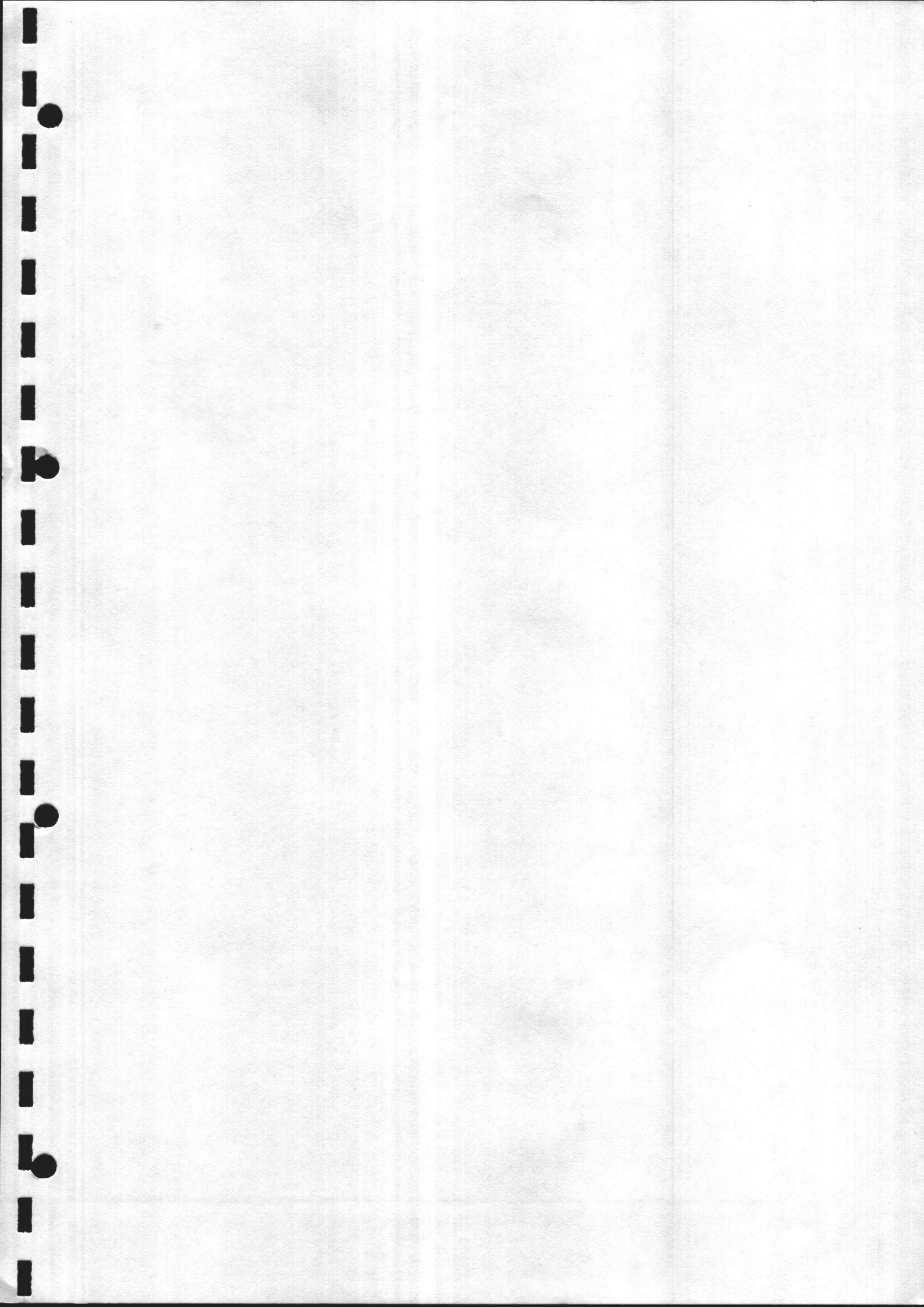
IV - SUPPORT FRAME

. Design

- Design of tie in cans and support frame is completed.
- Design for equipments along columns such as casings, fenders, landing, stair cases and guides, is completed provided that their fixings are compatible with concrete requirements, with location of critical equipments and with method of erection.
- Drilling of holes in the tie in can's base was postponed untill setting of bolts in the concrete top ring. This will be achieved by turning tie in cans upside down and procedure is to be submitted to ELF and MDH.

. Fabrication

- Progress (see photographs hereby)
 - support frame and steel caps 60 %
 - tie in cans 50 %
 - miscellaneous 25 %
- yard preparation is now completed and loading quay is in good progress.
- All prefabricated items, but transverse trusses, are now on Mardyck site. Transverse trusses are being built in Bonneval.
- Miscellaneous items (appurtenances) will be brought in from ARLES or from subcontractor's yards.
- Central tank is ready to be fitted with manholes, ladders, guides, pipe flanges and to be coated.
- Tie in cans = stiffeners were assembled and their welding reached a 20 % progress.
- Main trusses = progress 60 %
- Steel caps = 50 % progress for stiffeness welding.



SECTION V - IMMERSION EQUIPMENT

V - IMMERSION EQUIPMENT

- Design Progress

Hydraulic devices	95 %
Electric	85 %
Electronics	80 %
Piping	100 %

- . Design of temporary bridge resumed with the assessment of some complementary equipments (living quarters, fuel supplies) being on the support frame.
- . Maintenance of immersion equipment in Loch Fyne was investigated and some requirements (access and lifting devices) were coordinated with BR/WIMPEY's installations.

- Fabrication

All equipments were sent back to Sandouville for assembly within the immersion module. Tests (module and teleprocessing) are scheduled for March.



OCF SAVOYEUX

OCF

SA

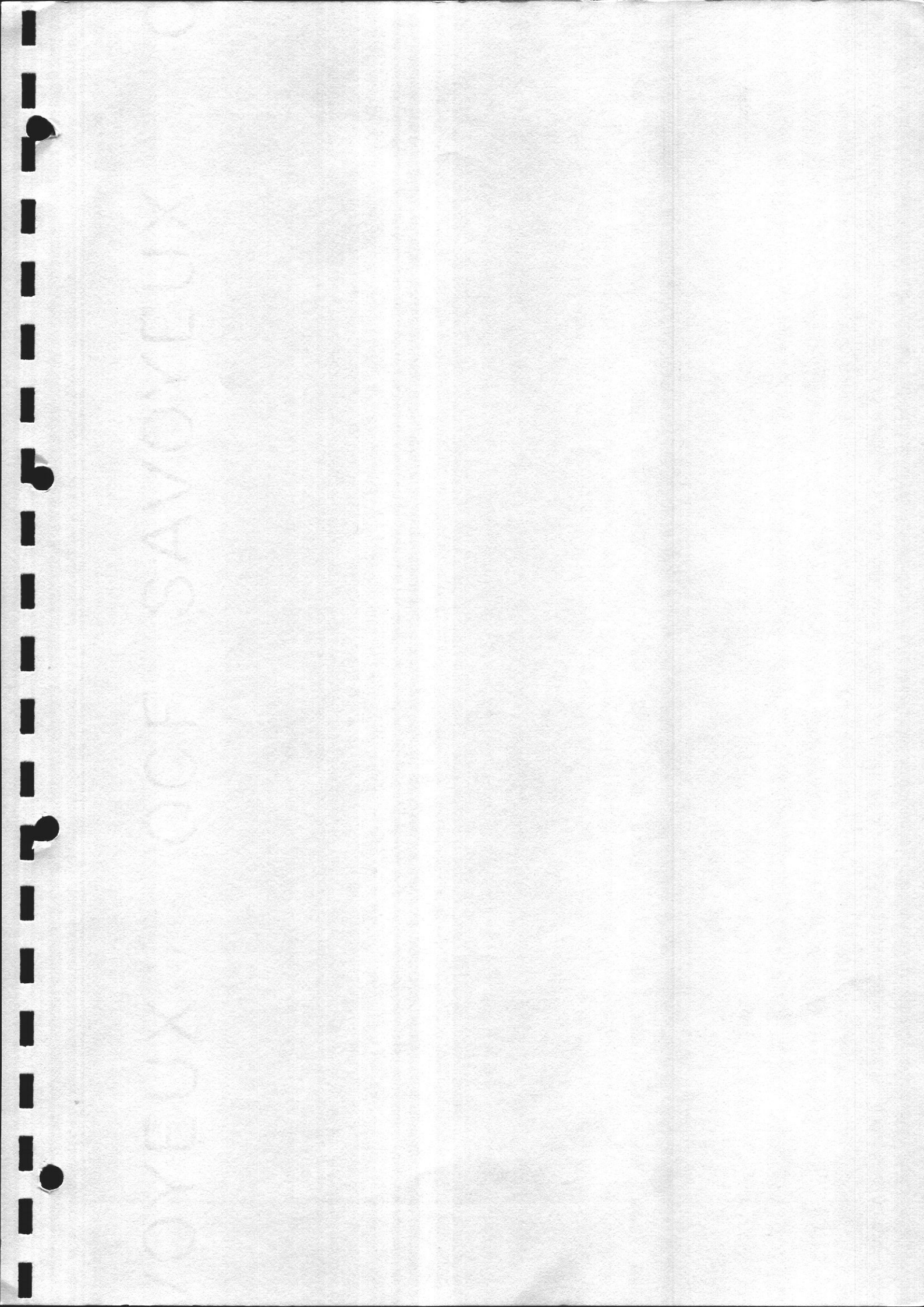
SECTION VI - RISERS AND J TUBES

VI - RISERS AND J TUBES

- . A revised installation procedure was proposed by BR/WIMPEY. Owing to the early supply of risers and J tubes pipes; large onshore prefabrication was introduced easing overlapping of McA/WIMPEY operations. This procedure relies on a derrick barge to load pipe bundles into the column's base. Critical sequences are now to be fully investigated.
- . J Tubes were assembled welded and tested up to the inner face of the column's base.
- . Third and last part of tunnels and minipackers could not be loaded into the columns.

SECTION VII - GROUTING

VII - GROUTING



SECTION VIII - MARINE OPERATIONS

VIII - MARINE OPERATIONS

Basin was flooded the 9th of February and dredging of the sea wall proceeded.

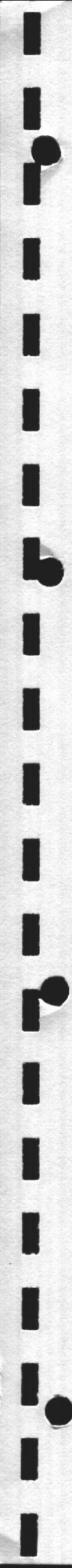
Pressure was put on the floating jetty and mooring system in Ardyne for which soils proved to be unfavourable.

Loch Fyne mooring

- Suitable areas were surveyed and preliminary results of depth, sediments thickness and quality, were submitted to NDA - SMIT proposed a preliminary design according to these informations :

A four legs mooring system with three tensioning pontoons

- Ø 102 and 76 mm ORQ chains (800 t) were ordered to SIROT METTALURGIE for delivery next July.



SAVOYEU% 000 SAVOYEU%

SECTION IX - ANTISCOURING

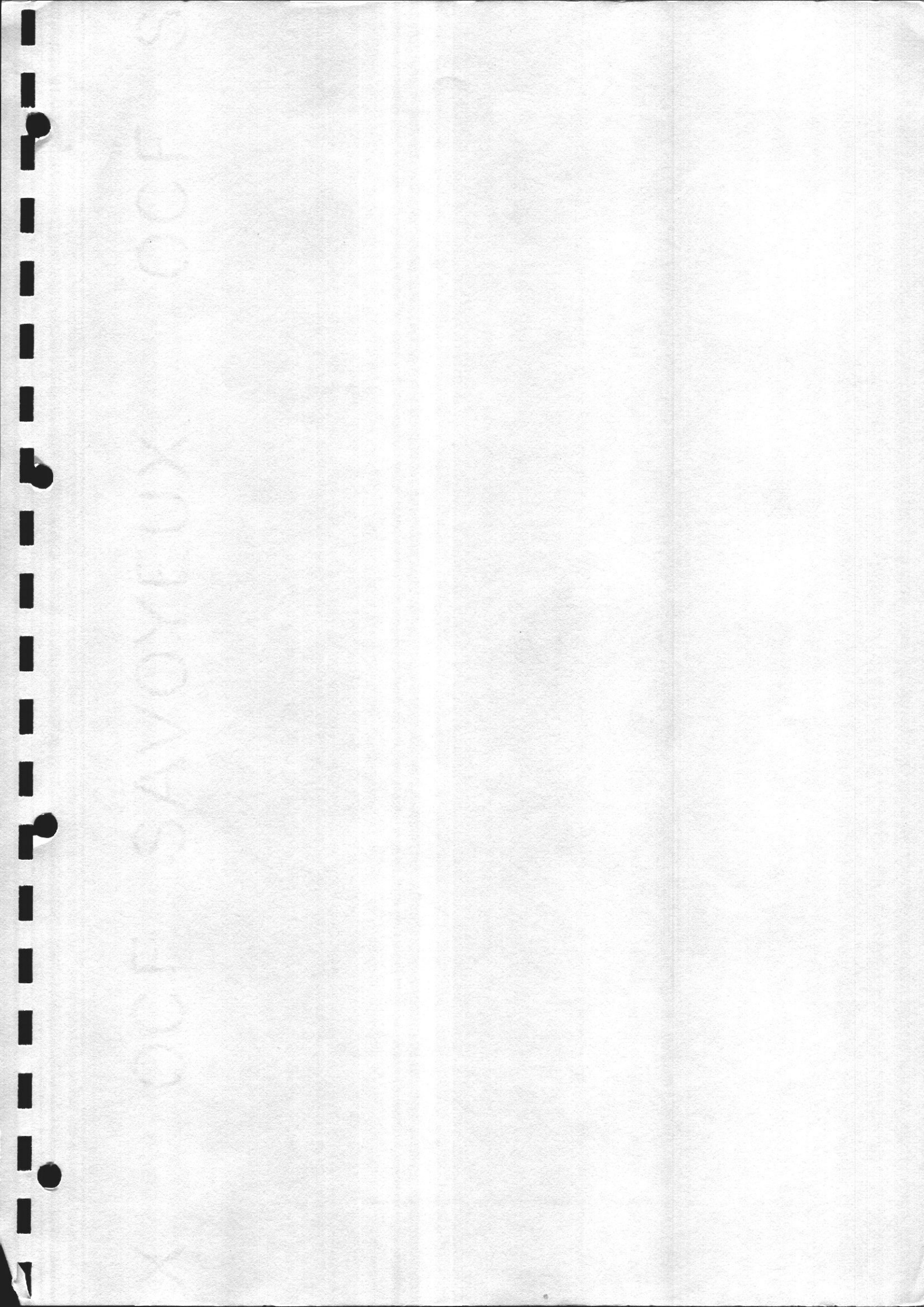
SECTION X - PROGRAMMES

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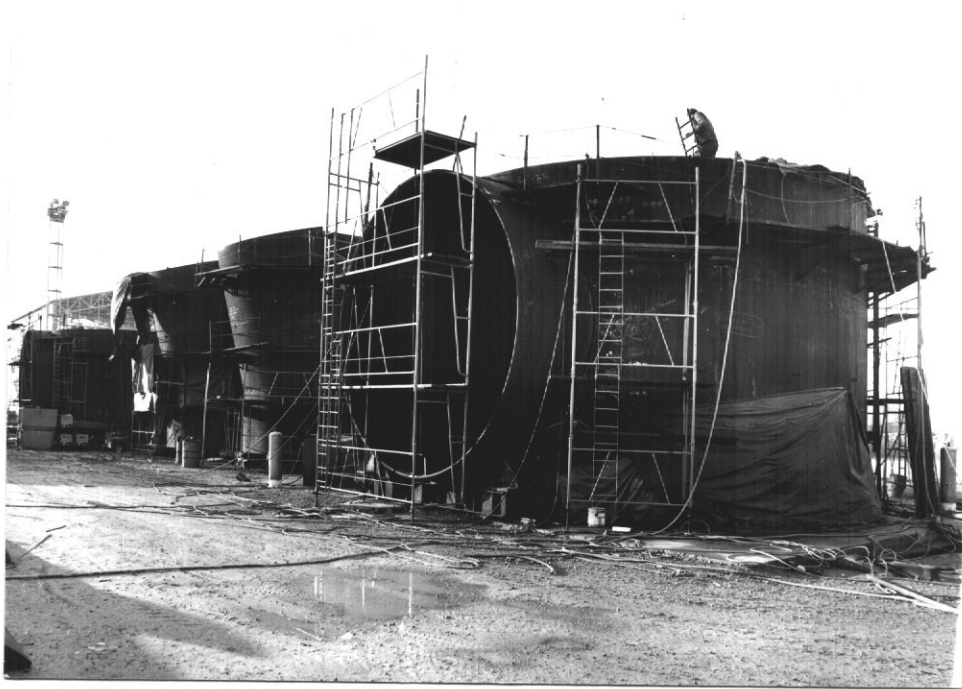
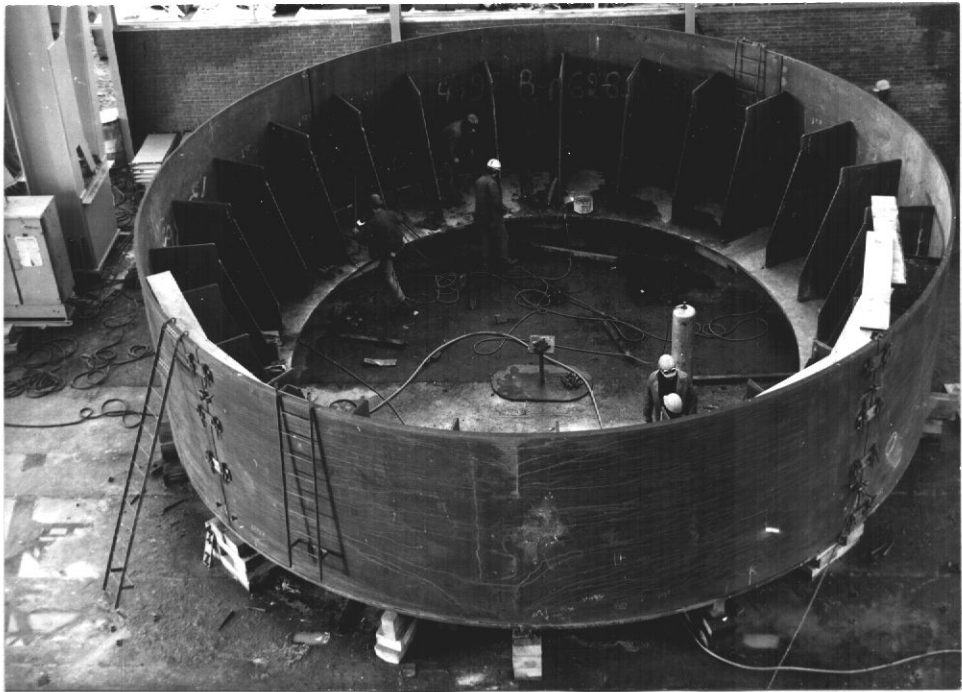
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PROGRAMMES

Although preliminary sequences were given for the roof's construction a comprehensive programme has to be finalized by all parties, backed by the "tow out of basin" date.



SECTION XI - PHOTOGRAPHS



13.2.75



75/111/1

ELF BASIN

18.2 75.



75/111/14

ELF BASIN

18. 2. 75.