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Crown Agents

GOVERNMENT OF THE
FALKLAND ISLANDS

REPAIR OF STREETS ETC

BY

CROWN AGENTS WORKS UNIT

PROGRESS REPORT NO 6 TO 31 JULY 1983

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Project Management by the Crown Agents on
behalf of the Falkland Islands Government
under British Technical Co-operation
arrangements

August 1983

Ref: EC1/367/A223/3

Civil Engineering Division

Crown Agents for Overseas

Governments and Administrations

4 Millbank

LONDON SW1P 3JD

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1 GENERAL

1.1 Introduction

At the month's end, the Unit strength stood at 74, make up of seven Management Team, twelve from Grandmet International Site Services Ltd and 55 from Fairclough Internatinal Construction Ltd.

Work on the Unit's site has continued as labour availability has permitted. Further accommodation units have been placed in position and improvements made to the laundry and kitchen.

The Unit has received a number of consignments of Stores and material including the second shipment of oxygen and acetylene gases. However no major plant itmes have been landed.

Construction progress has been achieved on the remedial repairs to streets using crushed stone to fill the potholes. The reconstruction of lower Hebe Street is completed as are the repairs to Ross Road outside the Town Hall. Both these areas remain closed to traffic whilst curing. Repairs to footpaths are in hand. On Snake Hill good progress has been made on formation preparation and placing crushed rock sub-base. The regular maintenance of the Airport Road has continued throughout the month, and preparation and filling to the Islander Taxiway extension is substantially completed.

1.2 Weather

Temperatures frequently fall below zero in July but the days have generally been mild. The frequency of rain, sleet and snow diminished as the month progressed with dry conditions and fine days at the months end. Winds have been variable but generally moderate with occasional gale force conditions.

Local weather data for July is as follows:

Maximum temperature	8°C
Minimum temperature	-4°C
Mean daily maximum temperature	4.8°C
Mean daily minimum temperature	0°C
Daily maximum humidity in range 53% - 92%	(mean 77%)
Daily minimum humidity in range 86% - 100%	(mean 95%)
Maximum windspeed	42 Knots
Days of rain or snow	23

Temperature readings are taken at the Unit's base. The remaining data is obtained from the Meteorological Office, RAF Stanley.

2 PROGRESS

2.1 Camp and Accommodation

- a) Mess Hall and Recreation Room. The erection of a new Kitchen store commenced on 1 July with the cementing of the floor slab. The finished building was handed over to Grandmet for occupation on 18 July.

Following a request from the Social Club Committee a ladies toilet was constructed adjacent to the bar area.

- b) Laundry. For some time now we have been very concerned with the amount of vibration experienced in the Laundry block when the equipment was in use. In an attempt to dampen the effect a concrete base was cast and the complete laundry unit was clamped to the slab using metal-brackets and rawl-bolts. It is still too early to say how successful this action will be.

A second foundation was cast on 27 July and the construction of a laundry extension commenced. The purpose of this building is to house the hydro-extractor and industrial-press both of which arrived mid-May via "Lincolnbrook". It is anticipated the Units will be commissioned early next month.

- c) Accommodation Units. All Phase II Units now in position and connection to essential services in progress.
- d) Offices. Second Office block in position and awaiting connection to power supply.
- e) Power House. No further developments.
- f) Workshop. Tool store now in operation. Work benches have now been assembled and are now in use.
- g) Water Supply. No further developments.

h) Sewerage System. The installation of the septic tanks has proved to be quite a major operation. By virtue of their shape it has proved very difficult to anchor the modules in the ground. On several occasions they have either blown over in the strong winds or floated onto their sides. Each time such an occurrence happened the seals were broken and eventually it was found necessary to transport the modules to the workshop for drilling and jointing. The excavation is now ready to receive the four units and hopefully they will be re-positioned and ballasted with water within the next few days.

2.2 Repairs to Stanley Roads (Phase I)

The Unit has now reverted to emergency patching only, which involves the filling of pot-holes with dry-stone and allowing the traffic to compact. Where considerable areas of failure occur, the unsuitable material is removed to a depth of approximately 600 mm and reinstated with hardcore laid on "terram".

2.3 Reconstruction of Stanley Roads (Phase II)

2.3.1 Hebe Street

The laying of new concrete road slabs continued with 7 No bays being cast between 2 July and 20 July, when the new pavement was completed. Upper Hebe Street was closed to traffic on 12 July to facilitate construction of Hebe-Fitzroy junction. 150mm diameter PVC ducting was laid across each arm of the junction for future service needs. In addition 1 No 300 mm diameter PVC duct was laid across Hebe Street adjacent to the existing water main.

Advantage was also taken of the road closure to renew areas of broken pavement and damaged kerbing.

2.3.2 Snake Hill

Filling has been completed to sub-base level on approximately 50% of the new alignment, and it is anticipated that concrete works will commence in the next few weeks.

Adequate supplies of crusher-run have been available from Pony's Pass but due to the high clay content this material tends to deform under load, and coupled with the generally wet conditions has proven quite

difficult to compact.

Adequate drainage has not yet been installed because of the occurrence of rock outcrops which will require drilling and blasting.

2.3.3. Ross Road

The last slab was poured in Ross Road on 29 July 1983 making a total of 12 No or 126m³ of concrete approx. This particular section in front of the Town Hall will remain closed to vehicles until 22 August for completion of joints and curing purposes. Broken footpaths and kerbs were also repaired. Provision was made for existing and future service lines and existing manhole covers, frames and gully tops were cleaned and repositioned.

It is interesting to note that the effect of closing the road to all vehicles meant a considerable reduction in the time required to complete the work.

2.4 Repairs to Airport Road (Phase II)

Routine maintenance involving the Unit's Grader continued throughout the month. On the 26 July, however, the D6, grader and vibro roller commenced ripping, shaping and compacting the remaining areas of bitumen seal which had deteriorated into pot-holes. To coincide with the above operation, secondary crusher run was imported from Pony's Pass quarry to supplement the existing road base material.

We await the arrival of new JCB 807 to recommence ditch clearing and improvements to road drainage.

2.5 Pony's Pass Quarry

Throughout the month there have been numerous problems, mainly of a mechanical nature, most serious being the recurring problem with the secondary timing belt and also the down-time recorded against the drilling rig.

Stone stocks, however, were generally maintained at a reasonable level throughout the reporting period. The high percentage of clay in the stone is still causing problems although better results were achieved by recycling 40mm plus material.

2.6 Additional Activities

The following additional activities were carried out during the month.

2.6.1 The Islander Taxiway was substantially completed on the 25 July. All that remains is to give the surface a final roll, and carry out the bitumen re-sealing.

The Unit's tippers hauled the bulk of the fill material from the military quarry at Mary Hill. Fine crusher dust for dressing off the surface was not available from above location and had to be imported from Pony's Pass.

2.6.2 As a result of discussions held with Mr Webster, Director of Public Works, the Unit was instructed to assist the Public Works Department by constructing site roads on the new proposed Brewster housing site at Callaghan Road and by rebuilding Callaghan Road and adjacent streets to improve access to the site. Final details of specification etc are awaited, however it is anticipated that a considerable proportion of the Unit's work force and equipment will shortly be deployed on the above works.

The Unit continues to supply the above housing contractor on a regular basis with concrete aggregates.

3 PLANT AND MAINTENANCE

3.1 Plant Landed in Falkland Islands

- a) From "A.E.S."
6 cases of crusher spares.

- b) From "Liecesterbrook"
1 case ether aerosols
2 cases kitchen equipment
26 cylinders Acetylene
14 cylinders Oxygen
7 cases workshop equipment

- c) From "Avalona Star"
16 Pallets of foodstuffs.

3.2 Plant Maintenance and Repair

Major breakdowns have occurred to the new Terex loading shovel and one of the hired Ford tippers. The former has thrown a connecting rod through the wall of its engine block and the latter has suffered a seized engine. Both incidents are the subjects of warranty claims. Fairclough have a spare engine at the site and this unit is being fitted.

The landrover which awaited repair, has been stripped of many major components by thieves. The vehicle had been parked outside the workshop to await the spares already ordered but its rebuilding is now a major undertaking and probably not economic to do. Falkland Islands Government Insurance does not cover vehicles for such damage.

In addition to the landrover the mini mustang and a Wellis roller had their windows smashed by vandals.

The lack of suitable storage space, previously reported, has not lessened.

Problems with the repair of punctures are still acute. A tyreman is expected shortly and should help the situation but proper equipment, particularly for large tubeless tyres is sorely needed.

3.3 Supplies of Fuel and Oils

Supplies of fuel have been adequate and efficient.

Some grades of lubricating oils and special oils for hydraulic machinery etc are difficult to obtain locally. Consequently some compromise is often necessary to maintain plant and vehicles in working order.

3.4 Supplies of Industrial Gases

A shipment of oxygen and acetylene has now arrived.

4 MATERIALS

4.1 Imported Materials

No imported construction materials were received by the Unit during the month.

4.2 Locally Obtained Materials

i) Concrete Aggregates

The supplies from Pony's Pass quarry have been sufficient for the Unit's concrete works during July.

Problems are still experienced due to contamination of the aggregates. However in drier conditions towards the end of the month a marked improvement in the aggregates was noted.

The road to the quarry, although still a cause for concern, has been maintained in an adequate condition for haulage purposes.

ii) Sand

No problems have been experienced with the supply of sand from the MOD pit at Yorke Bay. Minor delays are experienced when further mine clearance becomes a necessity to allow extension of the pit.

iii) Crusher Run Stone

Again supplies have been hauled out to Snake Hill and as sub-base to concrete road under reconstruction as they have become available. The Unit's tipper fleet is under-utilised so more stone could have been transported had it been available.

Crusher run fill to the Islander Taxiway at Stanley Airport was provided from the Mary Hill Quarry.

4.3 Materials Testing and Quality Control

The results of laboratory tests carried out in July are summarised in Appendix E to this report.

5 LABOUR

5.1 Crown Agents Management Team

At the end of July, the Management Team was as follows:-

R G Whorlow	Resident Project Manager	arr	26 February	1983
J R Cahoon	DPM Filed Engineer	arr	2 April	1983
I A M Nunn	Office Manager	arr	2 March	1983
A G Smith	Civil Construction Supervisor	arr	2 March	1983
J Donne	Elec/Mech Supervisor	arr	2 March	1983
J Parry	Quarry Master	arr	2 March	1983
R Stansfield	Uniflote Operator	arr	20 April	1983

John Parry remained on leave throughout the month.

Ian Nunn departed on UK leave on 16 July 1983.

5.2 Works Unit Labour (Fairclough International)

At the end of July, the labour strength totalled 55 as follows:-

P J Filipczyk	General Foreman	arr	5 March	1983
D Lynch	Plant Foreman	arr	5 March	1983
2 No Electricians		arr	5 March	1983
1 No Mechanic		arr	18 May	1983
1 No Mechanic		arr	11 June	1983
2 No Carpenters		arr	5 March	1983
1 No Concretor/Bricklayer		arr	5 March	1983
1 No Plumber/Pipefitter		arr	5 March	1983
1 No Stores Clerk		arr	5 March	1983
1 No Lighterman		arr	5 March	1983
1 No Lighterman		arr	27 April	1983
5 No Plant Operators		arr	5 March	1983
1 No Plant Operator		arr	4 June	1983
1 No Plant Operator		arr	9 June	1983
1 No Plant Operator		arr	11 June	1983
2 No Drivers		arr	5 March	1983
1 No Driver		arr	27 April	1983
3 No Drivers		arr	6 May	1983
1 No Driver		arr	7 May	1983

5 No Drivers	arr	5 June	1983
2 No Drivers	arr	9 June	1983
2 No Drivers	arr	11 June	1983
3 No Labourers	arr	5 March	1983
8 No Labourers	arr	27 April	1983
7 No Labourers	arr	6 May	1983

J Gill returned to the Unit after compassionate leave and J Moreland left and returned from compassionate leave.

The following have left the Unit during July:-

K Roberts	Welder	dep	4 July	1983
J Lea	Plant Operator	dep	16 July	1983

During July a total of 12 personnel travelled to UK on leave.

5.3 Catering and Camp Management Personnel (Grandmet)

At the end of July, the Camp Management contingent was 12 strong as follows:-

A Smith	Chef/Manager	arr	5 March	1983
K Donaldson	Asst/Chef Manager	arr	5 March	1983
B Maclellan	2nd Chef	arr	25 June	1983
2 No General Assistants		arr	11 March	1983
1 No General Assistant		arr	11 June	1983
4 No General Assistants		arr	25 June	1983
1 No Laundryman		arr	25 June	1983
1 No General Assistant		arr	17 July	1983

The following person left the Unit in July:-

M Peters	General Assistant	dep	17 July	1983
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5.4 Local Labour

Some office work and typing has been done by a local lady on a casual basis.

6 FINANCE

6.1 Local Account

The arrangements for this account remain as described in the March report. The working of the account has proceeded without any problems this month.

6.2 Local Expenditure

A complete record of all monies spent or committed in the Falkland Islands is being maintained and a statement of this account is presented at Appendix C to this Report.

The statement is analysed to show cost heads for expenditure for project purposes and also sums which have been disbursed on behalf of contractors but which will be recovered from their subsequent payment certificates. The statement is laid out to show the allocation of expenditure between Phase I and Phase II and total expenditure.

6.3 Offshore and Total Expenditure

Details of plant and material on order offshore and total expenditure together with cash flow requirements have been prepared in the UK and will form Appendices A - D of the final report.

7 VISITORS

The following persons have made official visits to the Works Unit in July:-

Mr G Webster - Director, Public Works Department F I G
Mr D Robson - Asst Director, Public Works Department F I G
Mr M Donaldson - Roads Superintendent, Public Works Department
Mr J Rowley - Director, Crown Agents, London
Mr T Peck - Councillor, Falkland Islands Government
Mr T Betts - Chairman, Government Workers Union

8 MISCELLANEOUS

Nothing to report.

This Report Prepared by:

R G WHORLOW

Crown Agents Resident Project Manager

APPENDIX A

PLANT AND MATERIALS ORDERED DURING MONTH

PHASE I ODA

Order No	Description	Cost £	Ship	ETA
402827/14	Road Signs	893	Ida Smits	End September
/15	Reinforcement, 30 tons	7,350	Leicesterbrook	5 November
/16	Crusher belt	670	By Hand	Gone
	TOTAL	8,913		

PHASE 2

402835/12	2.000 gal fuel tanker	20,830	Celtic Crusader	Mid October
/19	Welding set	3,810	" "	" "
/28	Bed Springs	6	By Hand	Gone
/29	Crimper and glands	204	Posted	
/30	Misc Spares	1,839	Herman Bodwes	Late September
/31	Electric conduit set	287	(" "(Part) (By Hand	Gone
/32	J C B Steering axle	86	By Hand	Gone
/33	Lister cover assembly	46	"	"
/34	Petter collet valve		Posted	
/35	Twist drills	99	By hand	Gone
/36	Dolmar suction line	2	"	"
/37	Roller starting handle	14	"	"
/38	Oils	2,140	Celtic Crusader	Mid October
/39	Grease	142	" "	"
/40 & 45	Cat Spares	1,800	Leicesterbrook	5 November
/41	Washing machine spares	480	By Hand	Gone
/42	Camp Lighting	1,011		
/43	Cable	177	Ida Smits	End September
/44	60 amp switch fuses	40	By Hand {Part by Hand	Gone Gone
/46	Tyre changer and tubes	3,774	(Part Leicesterbrook	
/47	Haulamatic rim	160	Celtic Crusader	Mid October
		36,947		

APPENDIX B

ISLANDS REPAIRS TO STREETS

EXPENDITURES, CASH FLOW AND BUDGET FORECAST AS AT 31 JULY 1983

	Cost to Date	Budget to Date	FORECAST			Revised Budget to 31.12.83	Original Budget to 31.10.83	
			Aug	Sept	Oct			
Part I								
Materials	990,400	1,014,000	10,000	10,000	25,000	1,086,000	1,028,000	
Weight	336,000)	470,00	3,000	5,000	12,000	390,000	350,000	
Insurance	5,500)							
Measurement Fees	60,000)	43,000	6,000	5,000	5,000	110,000	45,000	
Inspection Fees	22,000)							
Light	14,000	10,000	4,000	4,000	4,000	34,000	14,000	
Management Fees	140,000	153,000	16,000	20,000	20,000	236,000	230,000	
Macalough/Grandmet	514,000	525,000	104,000	100,000	100,000	1,018,000	739,000	
Labour element	8,300	6,000	1,700	2,000	2,000	18,000	14,000	
Miscellaneous		NIL				NIL	NIL	These items become re-allocated in later statements
Initial Costs	2,000	NIL	1,000	1,000	1,000	NIL	NIL	
Emergencies						NIL	60,000	
TOTAL	2,092,600	2,221,000	145,700	147,000	169,000	2,892,000	2,480,000	Original est of add. requirement to Asphalt Airport Road
Part II							TO 31 AUG	
Materials	1,289,000	1,654,000	35,000	20,000	20,000	1,404,000	1,654,000	480,000
Weight	269,000)	500,000	100,000	15,000	6,000	420,000	500,000	100,000
Insurance	7,600)							
Measurement Fees	53,000)	46,000	25,000	5,000	3,000	110,000	135,000	75,000
Inspection Fees	20,000)							
Light	12,000	30,000	5,000	5,000	10,000	50,000	45,000	75,000
Management Fees	39,500	69,000	9,000	10,000	12,000	96,000	Included in (4) above	
Macalough/Grandmet	215,200	216,000	60,000	70,000	70,000	555,000	432,000	432,000
Labour element	3,000	4,000	1,000	1,000	1,000	9,000		8,000
Miscellaneous								
Initial Costs								
Emergencies						356,000	225,000	225,000
TOTAL	1,908,700	2,519,000	235,000	126,000	122,000	3,000,000	2,991,000	1,395,000
							3,000,000	
				Sum approved to 31.8.83				

Cost Head	Phase I			Phase II			Total Exp To Date	Commitment	Total Inc Commitment
	This Month	Previous	Total	This Month	Previous	Total			
CONTRACT LABOUR	5203	9654	14857	2230	4751	6981	21838	-	21838
CATERING LABOUR	433	1329	1762	432	955	1387	3149	-	3149
CATERING MATERIALS	1316	586	1902	1316	551	1867	3769	3811	7580
UNIFLOTE		225	225	-	-	-	225	-	225
PLANT	175	590	765	175	166	341	1106	-	1106
MATERIALS	77	395	472	77	165	242	714	488	1202
FUEL & OILS	-	1419	1419	-	1420	1420	2839	7282	10121
ACCOMMODATION	140	3012	3152	140	762	902	4054	220	4274
SHIPPING	-	10	10	-	-	-	10	495	505
PROCUREMENT									
CA FEES									
2% ON 1 & 2									
CONTINGENCY									
OFFICE EXPENSES	80	785	865	80	264	344	1209	14	1223
COMMUNICATIONS	284	239	523	284	182	466	989	710	1699
TOTALS	7708	18244	25952	4734	9216	13950	39902	13020	52922
CASH DRAWN FROM TREASURY							43450		
TOTAL EXPENDITURE							40879		
CASH IN HAND							2571		

FALKLAND ISLANDS REPAIRS TO STREETS

APPENDIX D

MILLION
£

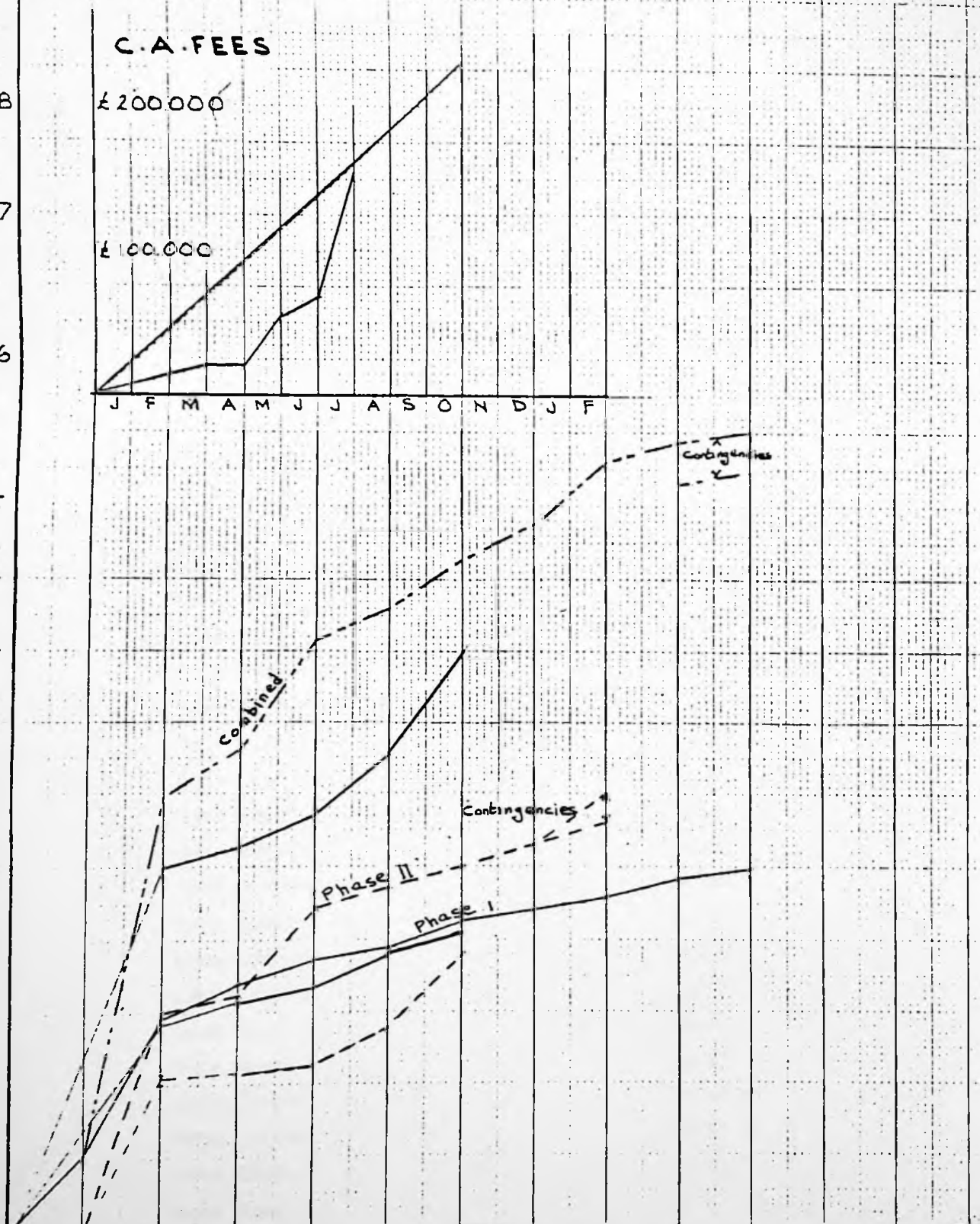
C.A. FEES

8
7
6
5
4
3
2
1

£200,000
£100,000

J F M A M J J A S O N D J F

FEB MARCH APRIL MAY JUNE JULY AUG SEPT OCT NOV DEC JAN FEB
1983 1984



APPENDIX E

MATERIALS TEST RESULTS

TABLE 1

CONCRETE CUBE

CRUSHING TEST RESULTS

Cube Marking	Location	Age (days)	Strength N/mm ²
PWD 36	Hebe Street	28	26.8
PWD 42	Hebe Street	28	31.4
PWD 58	Hebe Street	7	10.82 *
PWD 59	Hebe Street	7	9.43 *
PWD 61	Ross Road	7	27.7
PWD 62	Ross Road	7	29.4
PWD 64	Hebe Street	7	24.4
PWD 65	Hebe Street	7	24.88
PWD 39	Hebe Street	28	28.0
PWD 67	Ross Road	7	23.8
PWD 68	Ross Road	7	23.41
PWD 45	Ross Road	28	26.26
PWD 48	Hebe Street	30	20.47
PWD 51	Ross Road	28	31.59
PWD 70	Hebe Street	7	21.59
PWD 71	Hebe Street	7	22.59
PWD 54	Hebe Street	28	12.50
PWD 73	Ross Road	7	16.27
PWD 74	Ross Road	7	16.14
PWD 76	Hebe Street	7	13.24
PWD 77	Hebe Street	7	13.46
PWD 57	Hebe Street	28	32.88
PWD 79	Hebe Street	9	20.86
PWD 80	Hebe Street	9	20.77
PWD 82	Ross Road	7	23.41
PWD 83	Ross Road	7	23.37
PWD 85	Hebe Street	7	13.24 **
PWD 86	Hebe Street	7	9.86 **
PWD 88	Ross Road	7	15.6
PWD 89	Ross Road	7	15.4
PWD 60	Hebe Street	28	15.58 *

Notes

- * Concrete aggregate found badly contaminated with clay, mix was changed to use coarser grades.
- ** Weight of these cubes, significantly below average, preparation of sample suspect.

The facilities for making curing and testing cubes are very primitive and it is likely that some cubes have suffered frost damage, from which the road slabs themselves have been protected. A high level of reliability cannot be placed on the results obtained.

It is intended to carry out further comparative tests using a Schmidt hammer to supplement the cube results given here.

