SOFTWARE CONCEPTS

FEATURES & MODULES

ENG. AHMED AWAD

الحاسب الآلى و دوره فى عمليات التخطيط و المتابعة لمشروعات التشييد

تتوافر العديد من البرامج التى تستخدم مع الحاسب الآلى و المصنعة خصيصا لادارة المشروعات و معظمها مناسبا يستخدم فى ادارة مشروعات التشييد و تسهل هذه البرامج وضع الخطة الزمنية للتنفيذ كما تسهل الكثير من العمليات الحسابية و التى يصعب اجراؤها يدويا و بالاضافة لذلك فان استعمال الحاسب الآلى يسهل عمليات متابعة و تحديث خطط المشروعات و الرقابة على تكلفتها.

و تتكون أى من تلك البرامج من الوحدات الاربعة الاتية :

١ - وحدة حسابات الجدولة الزمنية و مدة تنفيذ المشروع .
NETWORK PROCESSING MODULE

٢ - وحدة توزيع الموارد (مواد - عمالة - معدات - مقاولى باطن) .
RESOURCE MODULE

٣ - وحدة محاسبة التكاليف .
COST MODULE

٤ - وحدة التقارير .
REPORTING MODULE

و الصفحات القليلة التالية توضح البيانات اللازم ادخالها (Inputs) لكل وحدة من الوحدات ووظيفة كل وحدة (Processing) و نتائج عملها (Outputs) .

EPM CONSULTANCY

INPUT DATA

1. Activities No., discription and duration
2. Successors to the activities (logic)
3. Time Constraints.
4. Project Calenders and Holidays.

NETWORK PROCESSING MODULE

1. Open ends and loop detecting (errors).
2. Forward pass Calculations.
3. Backward pass Calculations.
4. Float Calculations.
5. Calender dating.

OUTPUT

1. Project duration.
2. Critical path identifications
3. Activity times and float.
4. Transefering Activity times to report Generation module.

unlimited

INPUT

* Resource Codes, Availability limits forevery resource.
* Allocating up to six Resources, for every activity.
* Budgeted Quantity of resources to complete the activity.
* Activity Codes: responsibility, supervision, subcont..etc

RESOURCE MODULE

* Resource leveling analysis.
* Resource Smoothing.
* Computing the Earned Value based on the percent complete.
* Computing the variance between the budgeted and actual quantities.

OUTPUT

* Earned Value based on percent Complete (Units).
* Variance between budgeted and actual quantites.
* Resource Leveling report atumatically produced. Showing the effect of leveling on activity time.
* Transferning Resources data to report generation module.

INPUT

1. Cost accountant codes, Resources price rates.
2. Budgeted cost of the resources, previously allocated in resource module.
3. Cost account Categories (labour material...)

COST MODULE

1. Computing the earned value based on percent complete.
2. Computing the variance between the budgeted cost and actual costs.

OUTPUT

1. Earned value based on percent.(cost)
2. Variance between budgeted and actual costs.
3. Transefaring cost data to report generation module

INPUT

Report specifications:-

* Selection of Activities or/and resourced to be reported.
* Order the sorted data.
* Design of report contents.
* Design of report format.
* Design of report time Scale.

Input from Resource module

Input from Cost Module

Reporting Module

Executing reports

As: * Indevidals
* Standard batches
* Extended baches

Input from network module

Schedule Reports

* Tabular Schedule reports
* Bar Charts
* Network Logic diagrams.

Resource reports

1. Resource profiles
2. Cumiative resource Profiles
3. Resource Control reports.
4. Earned value reports
5. Productivity reports
6. Tabular resource reports.

Cost reports

1. Cost Profile.
2. Comulative cost profile.
3. Cost Control reports.
4. Earned value Reports
5. Price rates reports.
6. Tabular cost reports

أستخدام الحاسب الآلى فى الجدولة الزمنية

المحتويات

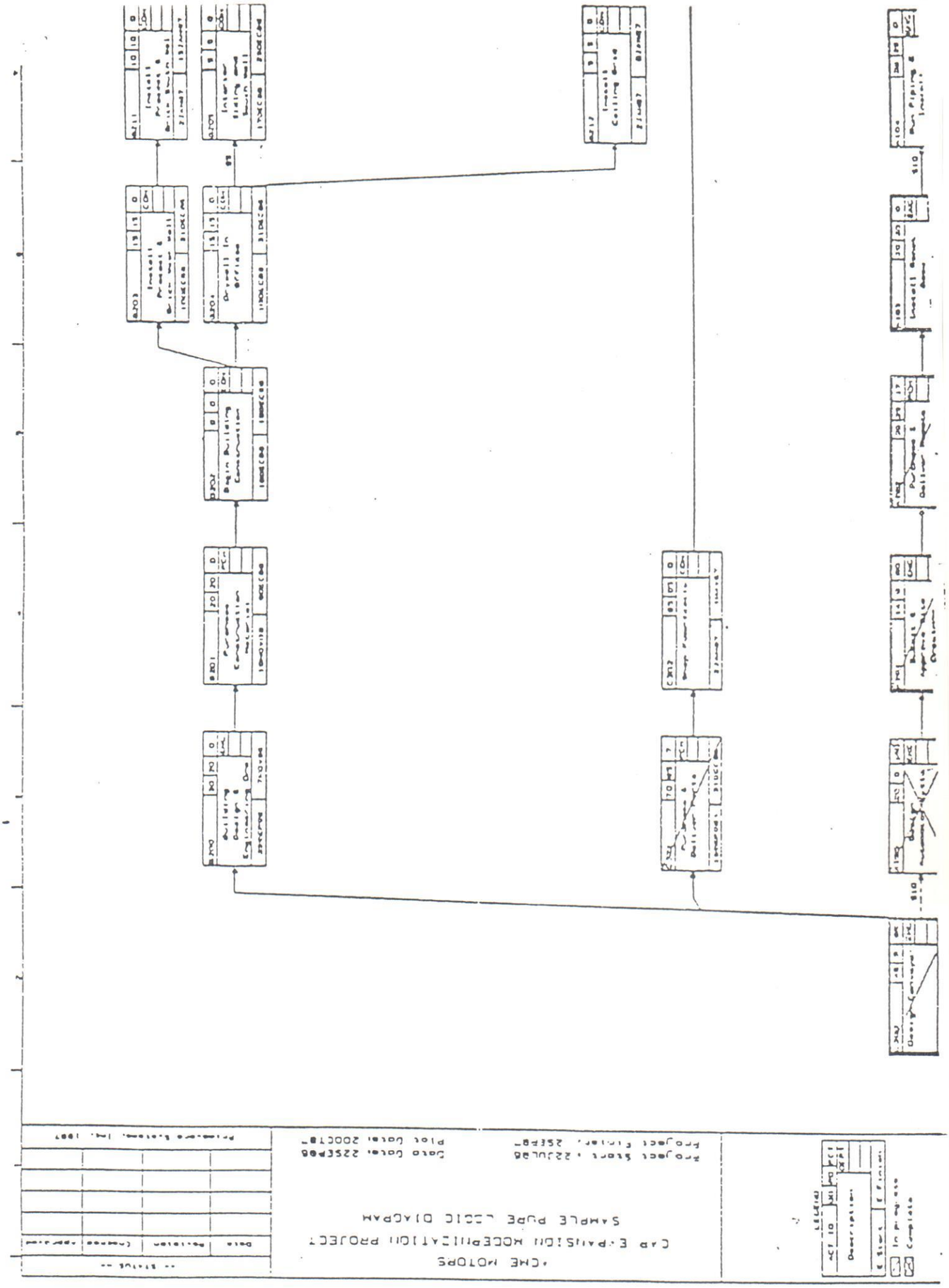
١- طريقة المسار الحرج (C.P.M)
المسار الحرج بمقياس رسم زمنى Time Scaled Network

٢- الجدول الزمنى لأنشطة التنفيذ Tabular Time Schedule

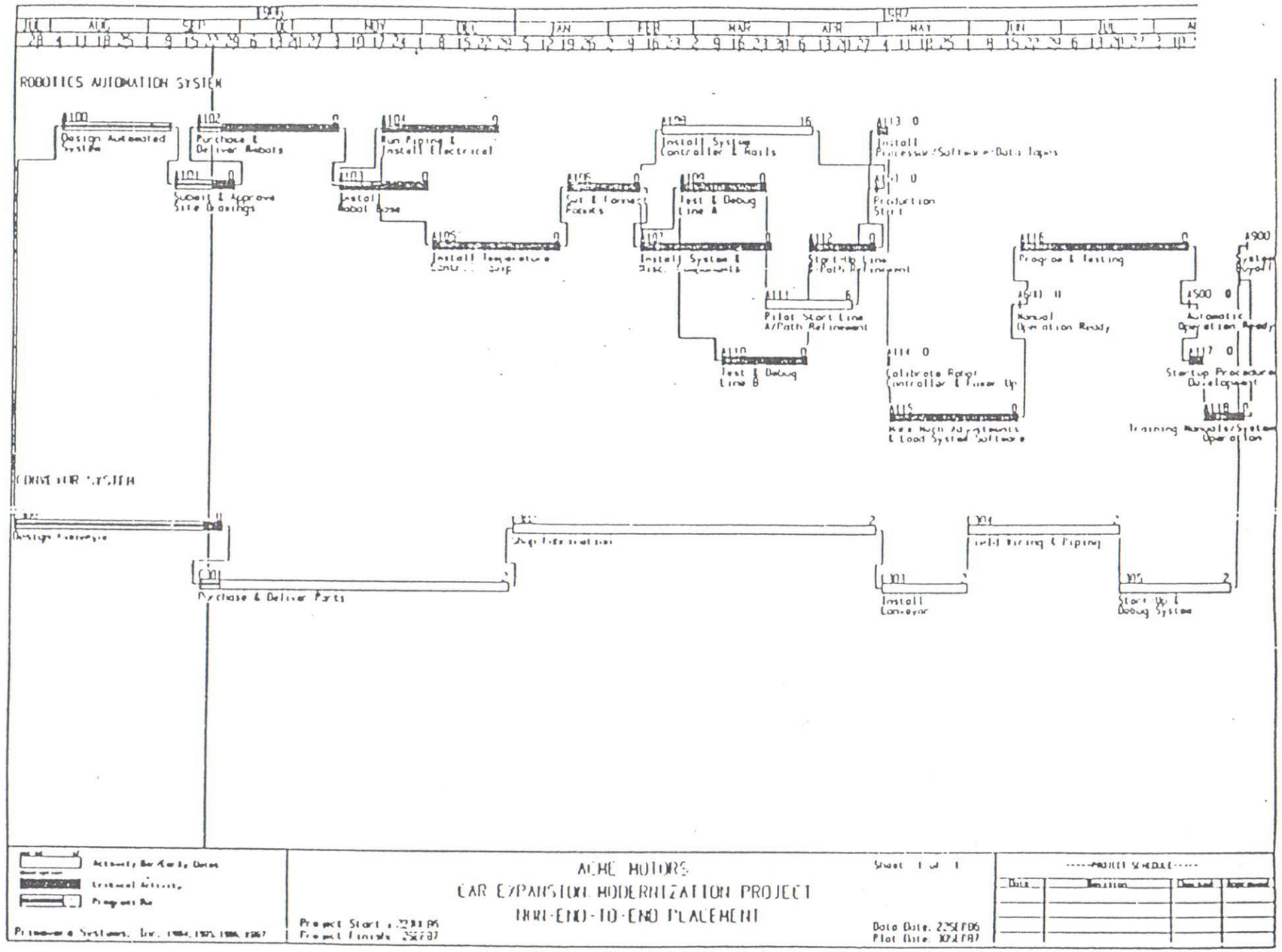
٣- البرنامج الزمنى بواسطة القضبان (Bar Chart)

٤- المتابعة الزمنية باستخدام Bar Chart

٥- الجدولة الزمنية للموارد Resource Schedule
* هيستوجرام - وجداول Tabular ,Profile
* تسوية وتحسين توزيع Levelling , Smoothing
* منحنيات تجميعية Cumulative
* متابعة الموارد (كميات،تكلفة) Resource Control
* حجوم الأعمال الشهرية والتجميعية.
Mounthly Work Value- Cumulative



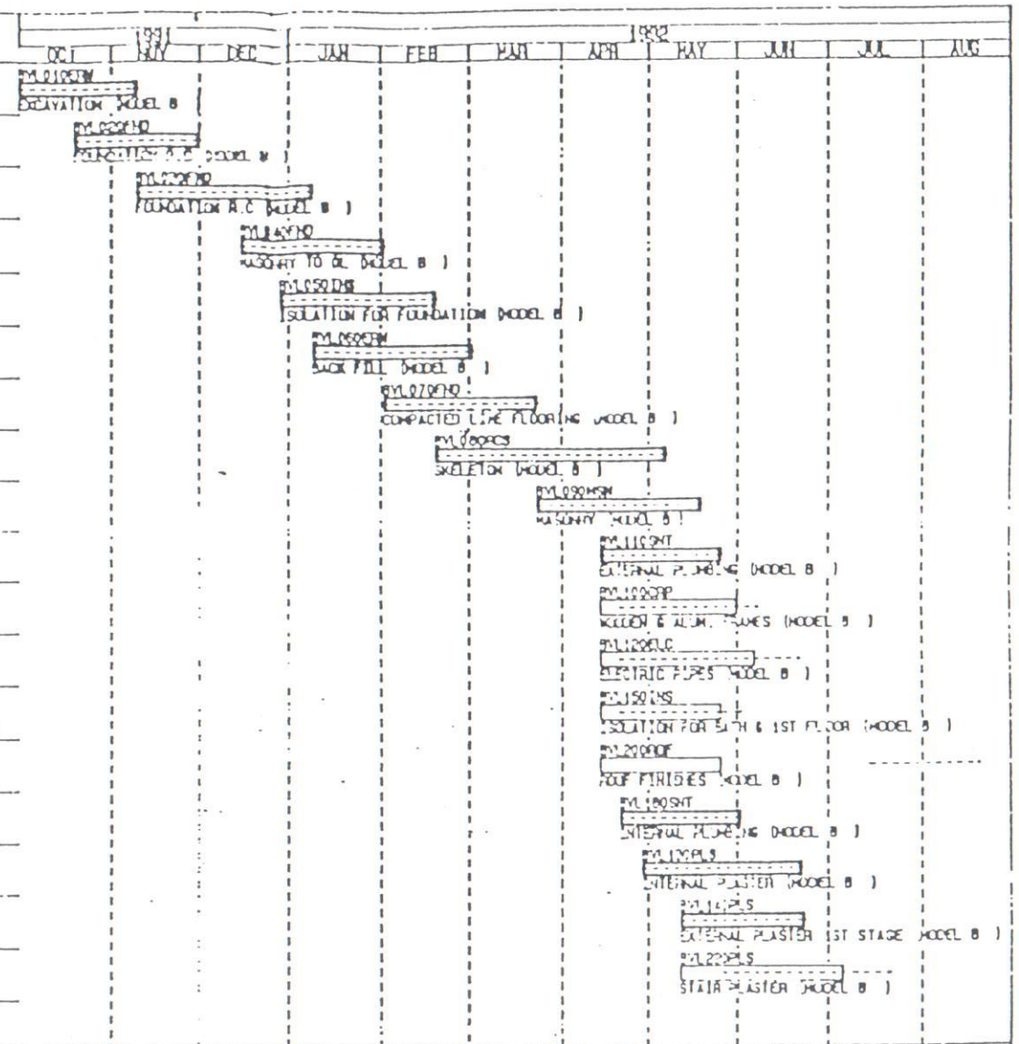
Sample Pure Logic Diagram—PDM



Non-End-To-End Placement

ACTIVITY ID	ORIG DUR	REM DUR	CAL	%	CODE	ACTIVITY DESCRIPTION	EARLY START	EARLY FINISH	LATE START	LATE FINISH	TOTAL FLOAT
YSH030FND	60	60	1	0		FOUNDATION R.C (MODEL Y)	19AUG91	5NOV91	7NOV91	16FEB92	61
FVL080RCS	100	100	1	0		SKELETON (MODEL F)	22AUG91	8JAN92	11SEP91	15FEB92	17
EVL080RCS	132	132	1	0		SKELETON (MODEL E)	25AUG91	5MAR92	25AUG91	5MAR92	0
KSH080RCS	80	80	1	0		SKELETON (MODEL K)	25AUG91	16DEC91	24SEP91	26JAN92	25
ZSH080RCS	80	80	1	0		SKELETON (MODEL Z)	25AUG91	16DEC91	25SEP91	27JAN92	26
TSH010ERW	30	30	1	0		EXCAVATION (MODEL T)	25AUG91	2OCT91	31OCT91	16DEC91	50
CVL020FND	25	25	1	0		FOUNDATION R.C (MODEL C)	25AUG91	23SEP91	3NOV91	4DEC91	52
BVL030FND	30	30	1	0		FOUNDATION R.C (MODEL B)	25AUG91	2OCT91	6NOV91	24DEC91	55
DVL030FND	15	15	1	0		FOUNDATION R.C (MODEL D)	25AUG91	10SEP91	19FEB92	7MAR92	118
AVL010ERW	15	15	1	0		EXCAVATION (MODEL A)	31AUG91	16SEP91	15FEB92	2MAR92	109
HSH040FND	25	25	1	0		MASONRY TO OL (MODEL H)	5SEP91	9OCT91	18NOV91	30DEC91	55
YSH040FND	50	50	1	0		MASONRY TO OL (MODEL Y)	5SEP91	11NOV91	25NOV91	22FEB92	61
DVL040FND	12	12	1	0		MASONRY TO OL (MODEL D)	5SEP91	18SEP91	2MAR92	31MAR92	118
CVL030FND	30	30	1	0		FOUNDATION R.C (MODEL C)	8SEP91	17OCT91	17NOV91	4JAN92	52
BVL040FND	25	25	1	0		MASONRY TO OL (MODEL B)	11SEP91	15OCT91	24NOV91	5JAN92	55
AVL020FND	12	12	1	0		FOUNDATION R.C (MODEL A)	11SEP91	25SEP91	26FEB92	18MAR92	109
DVL050INS	12	12	1	0		ISOLATION FOR FOUNDATION (MODEL D)	12SEP91	30SEP91	9MAR92	15APR92	118
FVL090MSN	90	90	1	0		MASONRY (MODEL F)	15SEP91	15FEB92	13OCT91	29FEB92	19
KSH090MSN	72	72	1	0		MASONRY (MODEL K)	17SEP91	11JAN92	26OCT91	17FEB92	25
ZSH090MSN	70	70	1	0		MASONRY (MODEL Z)	17SEP91	20DEC91	27OCT91	16FEB92	26
TSH020FND	25	25	1	0		FOUNDATION R.C (MODEL T)	17SEP91	24OCT91	24NOV91	5JAN92	50
YSH050INS	50	50	1	0		ISOLATION FOR FOUNDATION (MODEL Y)	17SEP91	29OCT91	13NOV91	4MAR92	61
DVL060ERW	12	12	1	0		BACK FILL (MODEL D)	19SEP91	30OCT91	1APR92	22APR92	112
HSH050INS	25	25	1	0		ISOLATION FOR FOUNDATION (MODEL H)	24SEP91	30OCT91	17DEC91	26JAN92	55
KSH100CRP	72	72	1	0		WOODEN & ALUM. FRAMES (MODEL K)	25SEP91	8JAN92	2NOV91	24FEB92	25
KSH120ELC	72	72	1	0		ELECTRIC PIPES (MODEL K)	25SEP91	8JAN92	2NOV91	24FEB92	25
ZSH110SNT	70	70	1	0		EXTERNAL PLUMBING (MODEL Z)	25SEP91	6JAN92	3NOV91	23FEB92	26
KSH110SNT	72	72	1	0		EXTERNAL PLUMBING (MODEL K)	25SEP91	8JAN92	4NOV91	26FEB92	27
ZSH100CRP	70	70	1	0		WOODEN & ALUM. FRAMES (MODEL Z)	25SEP91	6JAN92	10NOV91	1MAR92	32
ZSH120ELC	60	60	1	0		ELECTRIC PIPES (MODEL Z)	25SEP91	2[illegible]JAN92	10NOV91	18FEB92	29
ZSH150INS	70	70	1	0		ISOLATION FOR BATH & 1ST FLOOR (MODEL Z)	25SEP91	6JAN92	10NOV91	1MAR92	32
KSH150INS	72	72	1	0		ISOLATION FOR BATH & 1ST FLOOR (MODEL K)	25SEP91	[illegible]	11NOV91	4MAR92	33
KSH200ROF	60	60	1	0		ROOF FINISHES (MODEL K)	25SEP91	25DEC91	25NOV92	3SEP92	167
ZSH200ROF	60	60	1	0		ROOF FINISHES (MODEL Z)	25SEP91	25DEC91	25NOV92	3SEP92	167
DVL070FND	12	12	1	0		COMPACTED LIME FLOORING (MODEL D)	15OCT91	15OCT91	16APR92	6MAY92	115
FVL100CRP	90	90	1	0		WOODEN & ALUM. FRAMES (MODEL F)	[illegible]	20FEB92	[illegible]	[illegible]	19
FVL120ELC	90	90	1	0		ELECTRIC PIPES (MODEL F)	[illegible]	20FEB92	[illegible]	[illegible]	[illegible]
FVL110SNT	70	70	1	0		EXTERNAL PLUMBING (MODEL F)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FVL150INS	90	90	1	[illegible]							

ACTIVITY ID	ACTIVITY DESCRIPTION	ORIG DUR	TOTL FLT
BVL010ERW	EXCAVATION (MODEL B)	30	0
BVL020FND	FOUNDATION P.C (MODEL B)	30	0
BVL030FND	FOUNDATION R.C (MODEL B)	40	0
BVL040FND	MASONRY TO OL (MODEL B)	30	0
BVL050INS	ISOLATION FOR FOUNDATION (MODEL B)	30	0
BVL060ERW	BACK FILL (MODEL B)	30	0
BVL070FND	COMPACTED LIME FLOORING (MODEL B)	30	0
BVL080RCS	SKELETON (MODEL B)	40	0
BVL090MSN	MASONRY (MODEL B)	30	0
BVL110SNT	EXTERNAL PLUMBING (MODEL B)	30	0
BVL100CRP	WOODEN & ALUM. FRAMES (MODEL B)	35	6
BVL120ELC	ELECTRIC PIPES (MODEL B)	40	6
BVL150INS	ISOLATION FOR BATH & 1ST FLOOR (MODEL B)	30	6
BVL200ROF	ROOF FINISHES (MODEL B)	30	66
BVL180SNT	INTERNAL PLUMBING (MODEL B)	30	0
BVL130PLS	INTERNAL PLASTER (MODEL B)	35	0
BVL140PLS	EXTERNAL PLASTER 1ST STAGE (MODEL B)	30	0
BVL220PLS	STAIR PLASTER (MODEL B)	40	13



Activity Bar/Early Dates
Critical Activity
Activity Late Dates

SPECO
ALS-ROOK VLG.1ST STAGE (NORTH COAST)
========BAR CHART========

Sheet 1 of 2

Project Start : 10CT91
Project Finish: 20AUG92

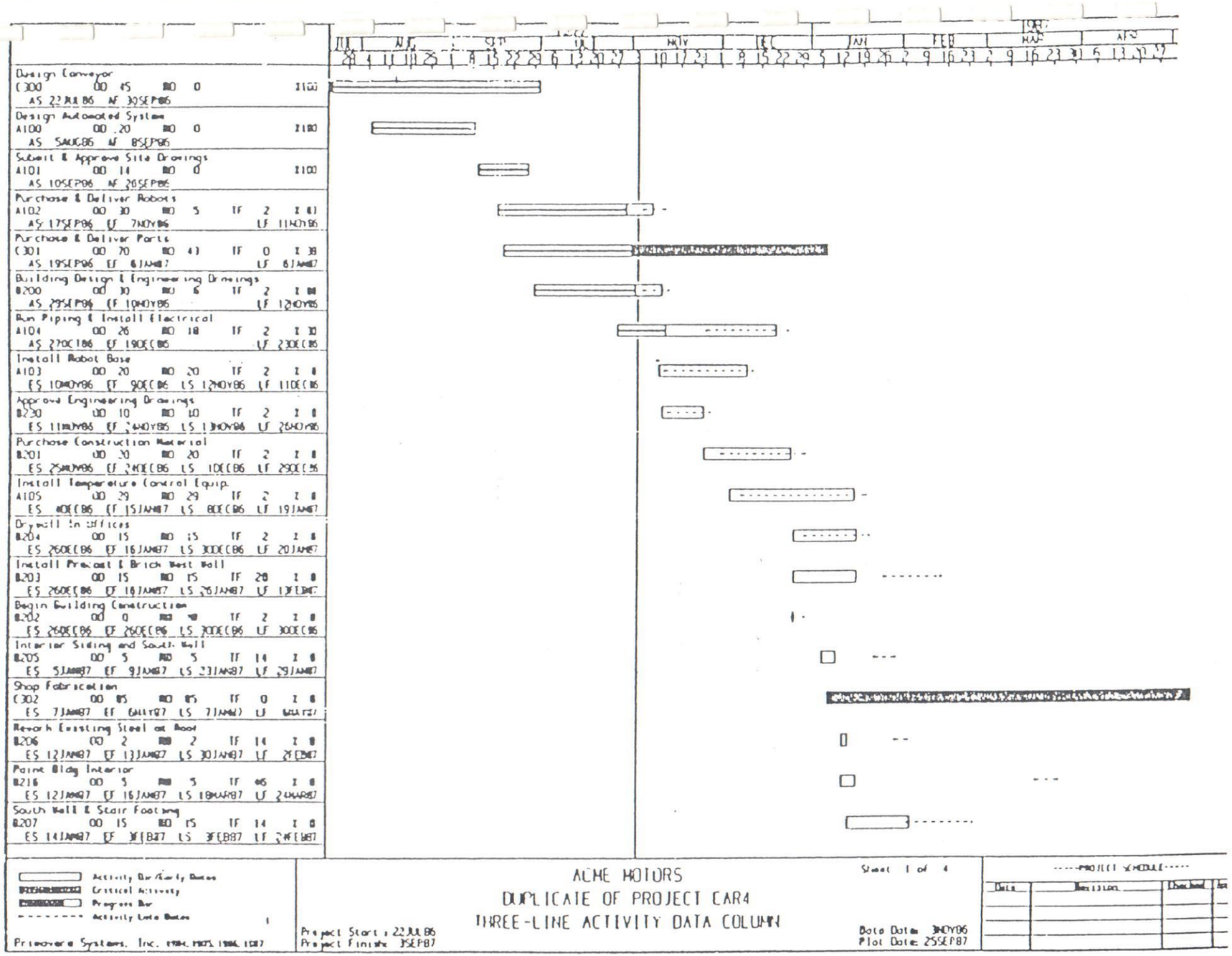
Data Date: 10CT91
Plot Date: 16JAN91

E.P.M CONSULTANCY

Date	Revision	Checked	Approved

Primavera Systems, Inc. 1984-1988

Three-Line Activity Data Column



PRIMAVERA PROJECT PLANNER

REPORT DATE 5M1391 RUN NO. 24 TABULAR RESOURCE REPORT-WEEKLY START DATE 22JUL86 FIN DATE 20AUG87
15:20
WEEKLY TABULAR USAGE REPORT - MAN POWER DATA DATE 22JUL86 PAGE NO. 1

PERIOD BEGINNING	AVAILABLE NORMAL	AVAILABLE MAXIMUM	EARLY SCHEDULE USAGE	EARLY SCHEDULE CUMULATIVE	LATE SCHEDULE USAGE	LATE SCHEDULE CUMULATIVE	EARLY/LATE AVG. USAGE	EARLY/LATE AVG. CUMULATIVE
FLD ENG - FIELD SERVICE ENGINEER					UNIT OF MEASURE = MD			
3NOV86	0	0	5	5	5	5	5	5
10NOV86	0	0	5	10	5	10	5	10
17NOV86	0	0	15	25	15	25	15	25
24NOV86	0	0	15	40	15	40	15	40
1DEC86	0	0	16	56	16	56	16	56
8DEC86	0	0	20	78	20	78	20	78
15DEC86	0	0	20	98	20	98	20	98
22DEC86	0	0	12	110	12	110	12	110
29DEC86	0	0	10	120	10	120	10	120
5JAN87	0	0	10	130	10	130	10	130

Figure 5.15 Tabular Resource Usage (Primavera)

PRIMAVERA PROJECT PLANNER

REPORT DATE 5MAR91 RUN NO. 2 RESOURCE PROFILE
9:11

PROFILE OF RESOURCE USAGE FOR FLD ENG

RESOURCE FLD ENG -FIELD SERVICE ENGINEER

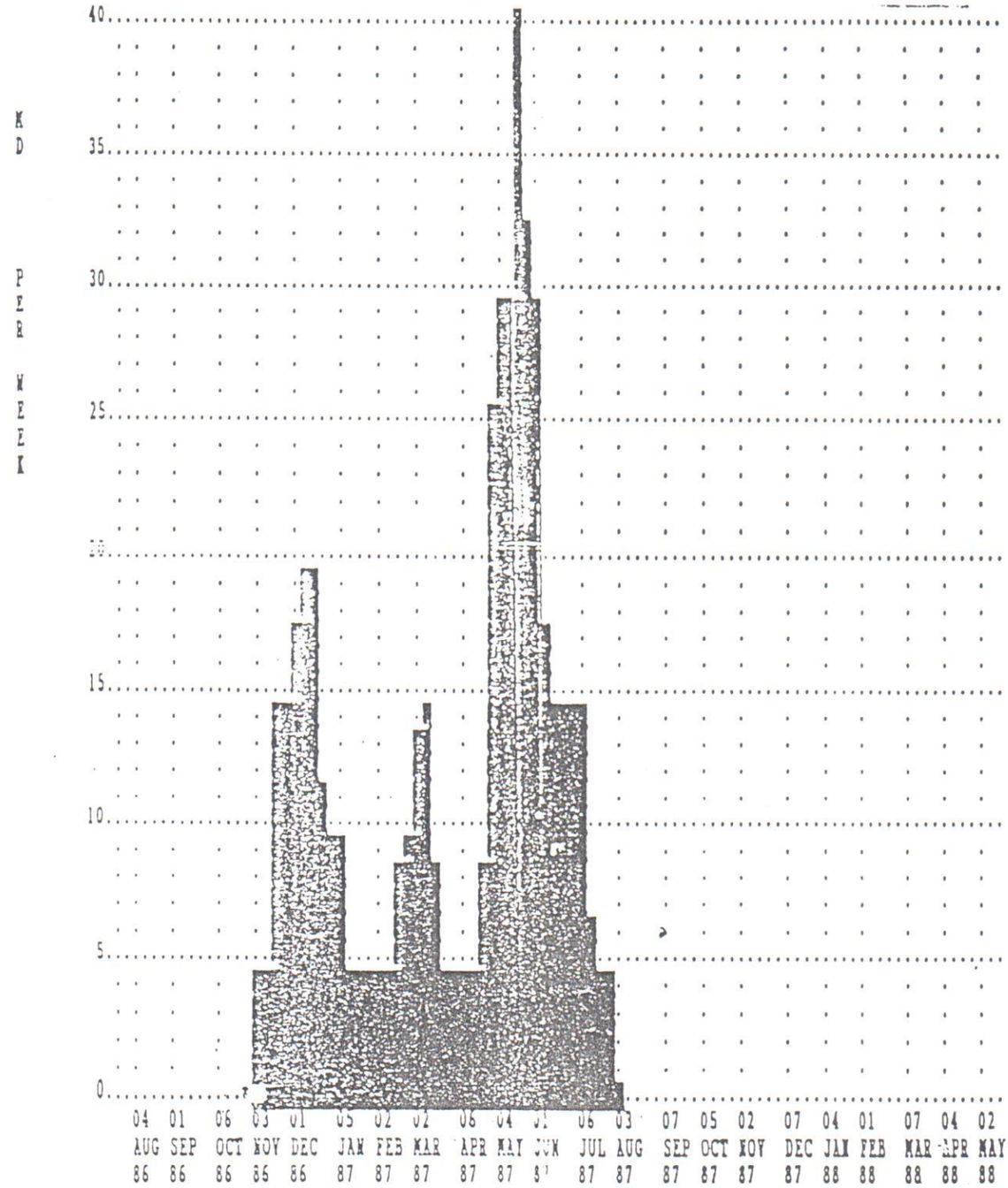
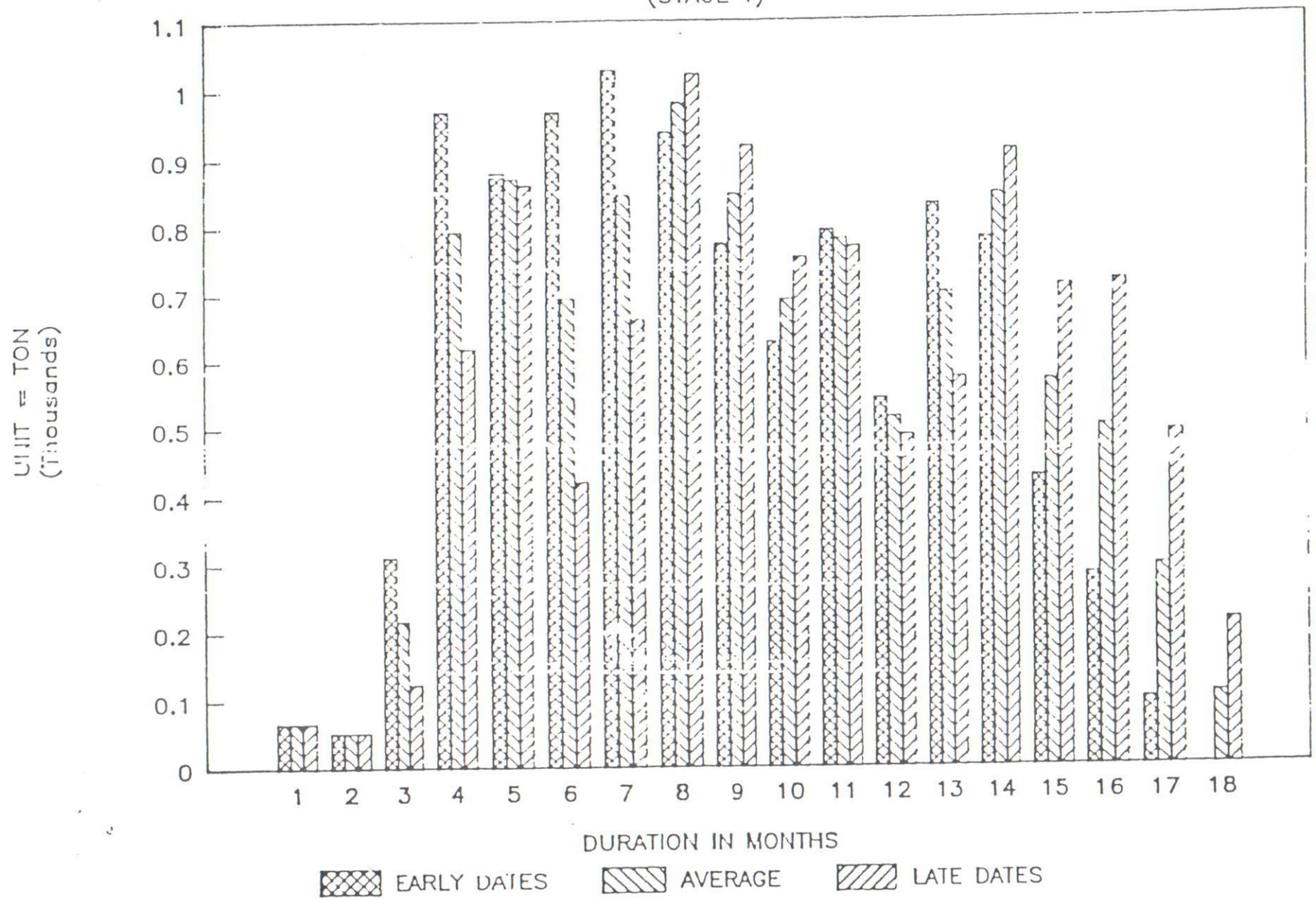


Figure 5.9 Profile of Resource Usage (primavera)

MONTHLY CEMENT USAGE

(STAGE 1)



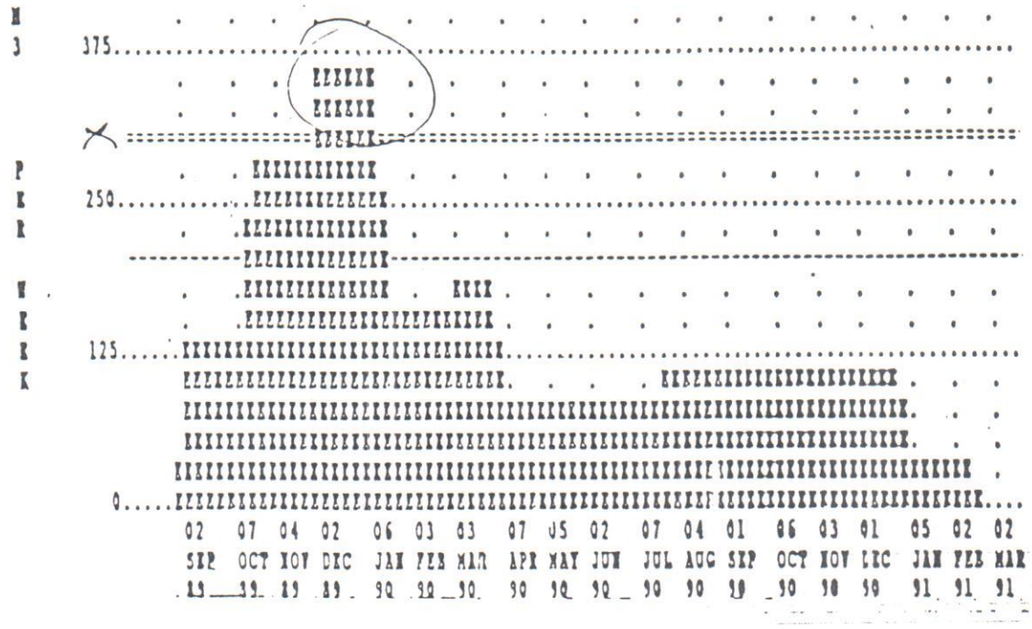


Figure 5.1 Resource Allocation

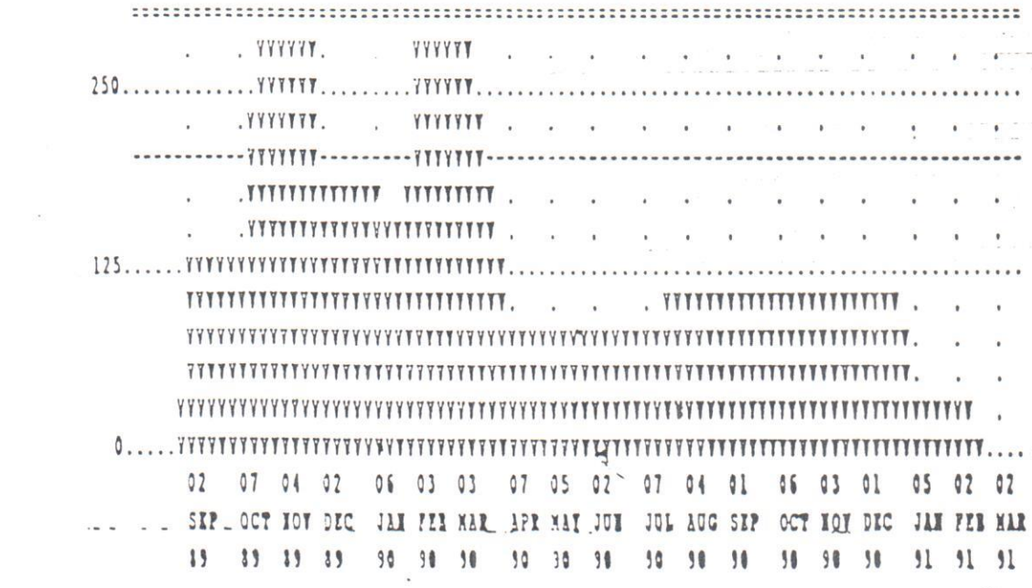


Figure 5.2 Resource Leveling

PRIMAVERA PROJECT PLANNER

REPORT DATE 5MAR91 RUN NO. 4 RESOURCE CUMULATIVE CURVE START DATE 22JUL86 FIN DATE 20AUG87
9:29
CUMULATIVE USAGE CURVE FOR FIELD ENGINEER DATA DATE 22JUL86 PAGE NO. 1

RESOURCE FLD ENG -FIELD SERVICE ENGINEER TIME SCALE-WEEKLY

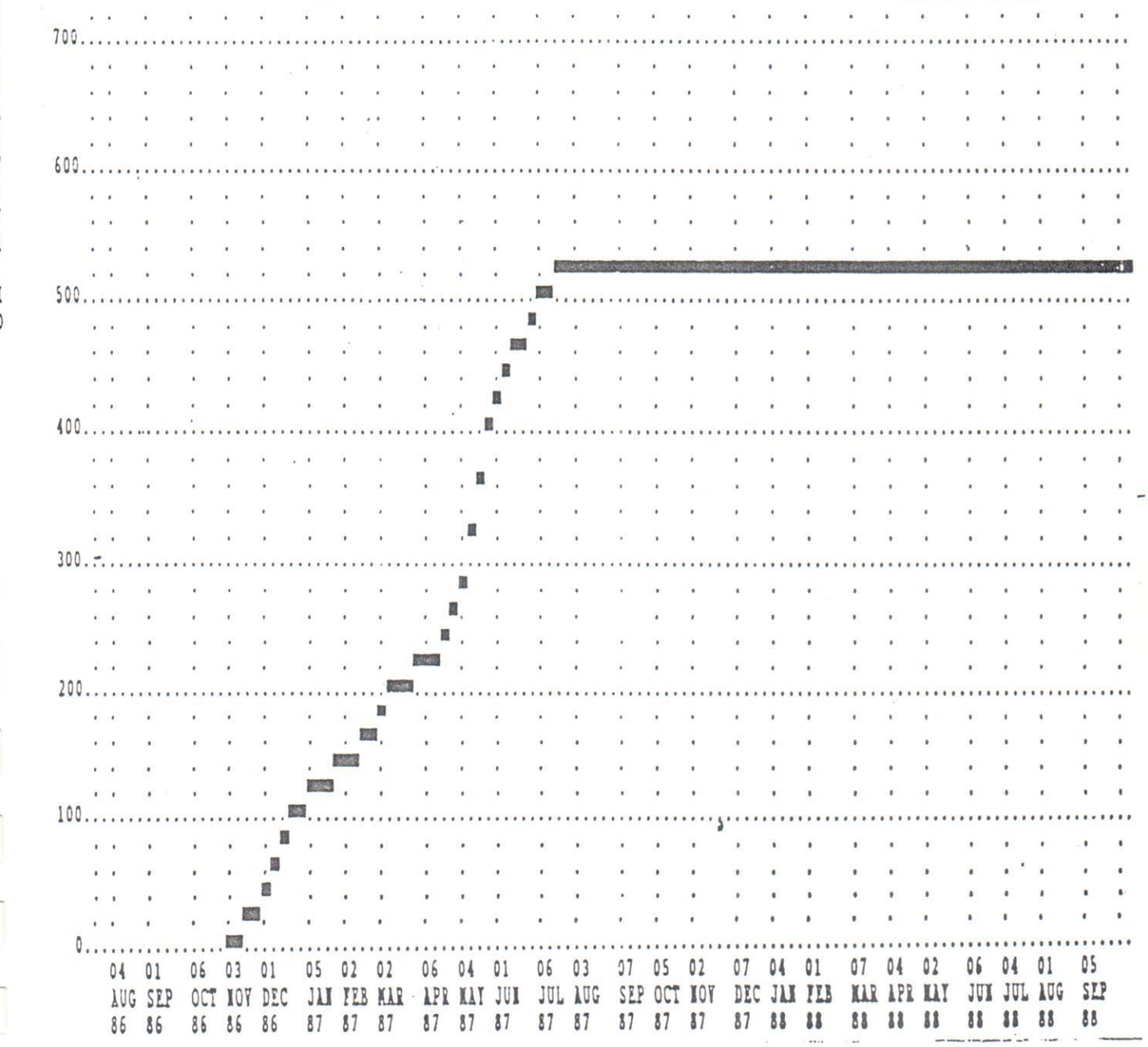


Figure 5.10 Cumulative Profile of Resource Usage (Primavera)

PRIMAVERA PROJECT PLANNER

REPORT DATE 5MAR91 RSN NO. 5 — RESOURCE CONTROL ACTIVITY REPORT — START DATE 22JUL86 FIN DATE 20AUG87

9:35

RESOURCE CONTROL REPORT ORGANIZED BY ACT — DATA DATE 22JUL86 PAGE NO. 1

ACTIVITY ID	RESOURCE	COST ACCOUNT	ACCOUNT CATEGORY	UNIT MEAS	BUDGET	PCT CMP	ACTUAL TO DATE	ACTUAL THIS PERIOD	ESTIMATE TO COMPLETE	FORECAST	VARIANCE
A100	Design Automated System										
	RD 20 ES 5AUG86 EF 1SEP86 LS 5AUG86 LF 1SEP86 TF 0										
	DES ENG	311	L	MD	60	0	0	0	60	60	0
	TOTAL :				60	0	0	0	60	60	0
A101	Submit & Approve Site Drawings										
	RD 14 ES 2SEP86 EF 19SEP86 LS 2SEP86 LF 19SEP86 TF 0										
		311	L		0	0	0	0	0	0	0
	TOTAL :				0	0	0	0	0	0	0

Figure 5.11 Resource Control (Primavera)

PRIMAVERA PROJECT PLANNER

REPORT DATE 5MAR91 15:08 RUN NO. 21 — EARNED VALUE REPORT - COST — START DATE 22JUL86 FIN DATE 20AUG87

EARNED VALUE REPORT — DATA DATE 22JUL86 PAGE NO. 1

COST ACCOUNT	RESOURCE	ACTIVITY ID	PCT CMP	CUMULATIVE TO DATE ACWP	BCWP	BCWS	VARIANCE COST	SCHEDULE	AT COMPLETION BUDGET	ESTIMATE
	CARPENTR - CARPENTER									
320	L CARPENTR	B204	0	.00	.00	.00	.00	.00	5850.00	5850.00
320	L CARPENTR	B205	0	.00	.00	.00	.00	.00	2550.00	2550.00
320	L CARPENTR	B215	0	.00	.00	.00	.00	.00	1100.00	1100.00
320	L CARPENTR	B223	0	.00	.00	.00	.00	.00	4125.00	4125.00
320	L CARPENTR	B226	0	.00	.00	.00	.00	.00	2200.00	2200.00
	CARPENTR TOTAL		0	.00	.00	.00	.00	.00	15825.00	15825.00
	CEM FIN - CEMENT FINISHER									
320	L CEM FIN	B210	0	.00	.00	.00	.00	.00	216.00	216.00
	CEM FIN TOTAL		0	.00	.00	.00	.00	.00	216.00	216.00

Figure 5.21 Earned Value (primavera)

SPEC

PRIMAVERA PROJECT PLANNER

ALSBROOK VLG.1ST STAGE (NORTH COAST)

REPORT DATE 17JAN91 RUN NO. 9
9:03

RESOURCE LOADING REPORT

START DATE 1APR91 FIN DATE 24SEP92

DATA DATE 1APR91 PAGE NO. 1

DETAILED WORK VALUE (WORK VALUE/ITEM)

TOTAL USAGE FOR MONTH

DIVISOR = 1000

WORKVALU - WORK VALUE

UNITS = L.E

ACTIVITY ID	ACTIVITY DESCRIPTION	1APR 1991	1MAY 1991	1JUN 1991	1JUL 1991	1AUG 1991	1SEP 1991	1OCT 1991	1NOV 1991	1DEC 1991	1JAN 1992	1FEB 1992	1MAR 1992	1APR 1992	1MAY 1992	1JUN 1992	1JUL 1992
AA1000000	LEVELLING WORKS (EXCAVATION)	51	63	14													
AA2000000	LEVELLING WORKS (BACK FILL FROM EXCAV. SOIL)	34	42	9													
AA3000000	LEVELLING WORKS (BACK FILL FROM THE SITE)	103	126	29													
AA4000000	LEVELLING WORKS (BACK FILL WITH CLEAN SAND)	54	66	15													
AA5000000	LEVELLING WORKS (CLADDING WITH STONES)	33	40	9													
EVL010ERW	EXCAVATION (MODEL E)		4	13	18												
FVL010ERW	EXCAVATION (MODEL F)		1	5	6												
KSH010ERW	EXCAVATION (MODEL K)		2	9	8												
ZSH010ERW	EXCAVATION (MODEL Z)		3	10	9												
FVL020FND	FOUNDATION P.C (MODEL F)			8	15	2											
EVL020FND	FOUNDATION P.C (MODEL E)			20	37	14											
KSH020FND	FOUNDATION P.C (MODEL K)			9	17												
ZSH020FND	FOUNDATION P.C (MODEL Z)			16	29												
FVL030FND	FOUNDATION R.C (MODEL F)			10	45	31											
EVL030FND	FOUNDATION R.C (MODEL E)			20	132	101											
KSH030FND	FOUNDATION R.C (MODEL K)			10	67	51											
ZSH030FND	FOUNDATION R.C (MODEL Z)			15	94	36											
FVL040FND	MASONRY TO OL (MODEL F)				7	8	1										
EVL040FND	MASONRY TO OL (MODEL E)				18	24	4										
KSH040FND	MASONRY TO OL (MODEL K)				5	6	1										
ZSH040FND	MASONRY TO OL (MODEL Z)				9	3											
FVL050INS	ISOLATION FOR FOUNDATION (MODEL F)				1	3	1										
EVL050INS	ISOLATION FOR FOUNDATION (MODEL E)				2	5	3										
KSH050INS	ISOLATION FOR FOUNDATION (MODEL K)				1	3	1										
ZSH050INS	ISOLATION FOR FOUNDATION (MODEL Z)				2	5	1										
HSH010ERW	EXCAVATION (MODEL H)				4	8											
YSH010ERW	EXCAVATION (MODEL Y)				2	6	5										
BVL010ERW	EXCAVATION (MODEL B)				1	4											
FVL060ERW	BACK FILL (MODEL F)					1	1										
EVL060ERW	BACK FILL (MODEL E)					2	2										
KSH060ERW	BACK FILL (MODEL K)					1	1										
ZSH060ERW	BACK FILL (MODEL Z)																

PRIMAVERA PROJECT PLANNER

REPORT DATE 5MAY91 RUN NO. 22 TABULAR COST REPORT - MONTHLY START DATE 22JUL86 FIN DATE 20AUG87
15:12
MONTHLY CASH FLOW REPORT FOR PROJECT DATA DATE 22JUL86 PAGE NO. 1

PERIOD BEGINNING	AVAILABLE NORMAL	AVAILABLE MAXIMUM	EARLY SCHEDULE USAGE	EARLY SCHEDULE CUMULATIVE	LATE SCHEDULE USAGE	LATE SCHEDULE CUMULATIVE	EARLY/LATE AVG. USAGE	EARLY/LATE AVG. CUMULATIVE
COST ACCOUNT = ??????????? -								
1JUL86	0	0	2176.00	2176.00	2176.00	2176.00	2176.00	2176.00
DATA DATE								
1AUG86	0	0	13464.00	15640.00	13464.00	15640.00	13464.00	15640.00
1SEP86	0	0	60303.23	75943.23	57855.23	73495.23	59079.23	74719.23
1OCT86	0	0	187360.20	263303.42	184912.20	258407.42	186136.20	260855.42
1NOV86	0	0	129096.00	392399.99	32334.57	290741.99	81715.57	341570.99
1DEC86	0	0	221728.40	614128.39	257048.00	547789.99	239388.20	580959.19
1JAN87	0	0	440308.60	1054436.98	44443.93	592233.93	242376.30	823335.45
1FEB87	0	0	37714.40	1092151.38	424643.90	1016877.80	231179.10	1054514.59
1MAR87	0	0	22875.00	1115026.38	94548.60	1111426.40	58711.80	1113226.39
1APR87	0	0	12378.00	1127404.38	15978.00	1127404.40	14178.00	1127404.39
1MAY87	0	0	14496.00	1141900.38	14496.00	1141900.40	14496.00	1141900.39
1JUN87	0	0	20380.00	1162280.38	20380.00	1162280.40	20380.00	1162280.39
1JUL87	0	0	17850.00	1180130.38	17850.00	1180130.40	17850.00	1180130.39
1AUG87	0	0	5410.00	1185540.38	5410.00	1185540.40	5410.00	1185540.39
1SEP87	0	0	.00	1185540.38	.00	1185540.40	.00	1185540.39

Figure 5.22 Tabular Resource Cost (Primavera)

PRIMAVERA PROJECT PLANNER

REPORT DATE 5MAR91 RUN NO. 19
15:01
SUMMARY COST CONTROL ACTIVITY REPORT

COST CONTROL ACTIVITY REPORT

START DATE 22JUL86 FIN DATE 20AUG87

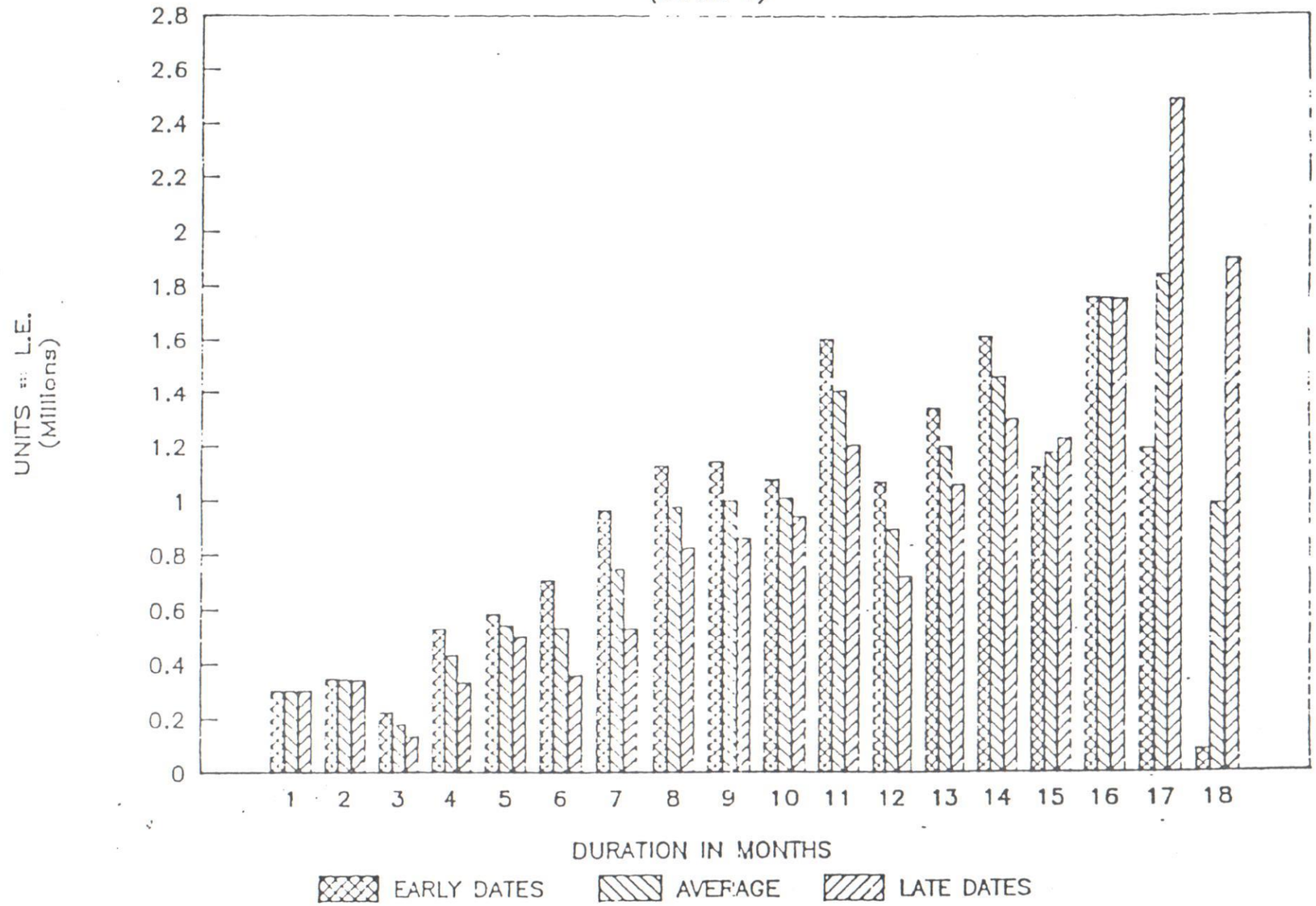
DATA DATE 22JUL86 PAGE NO. 1

ACTIVITY ID		BUDGET	PCT CMP	ACTUAL TO DATE	ACTUAL THIS PERIOD	ESTIMATE TO COMPLETE	FORECAST	VARIANCE
A100	Design Automated System RD 20 ES 5AUG86 EF 1SEP86 LS 5AUG86 LF 1SEP86 TF 0							
	TOTAL :	8160.00	0	.00	.00	8160.00	8160.00	.00
A101	Submit & Approve Site Drawings RD 14 ES 2SEP86 EF 19SEP86 LS 2SEP86 LF 19SEP86 TF 0							
	TOTAL :	.00	0	.00	.00	.00	.00	.00
A102	Purchase & Deliver Robots RD 30 ES 22SEP86 EF 31OCT86 LS 22SEP86 LF 31OCT86 TF 0							
	TOTAL :	200000.00	0	.00	.00	200000.00	200000.00	.00
A103	Install Robot Base RD 20 ES 3NOV86 EF 28NOV86 LS 3NOV86 LF 28NOV86 TF 0							
	TOTAL :	1600.00	0	.00	.00	1600.00	1600.00	.00

Figure 5.19 Cost Control (primavera)

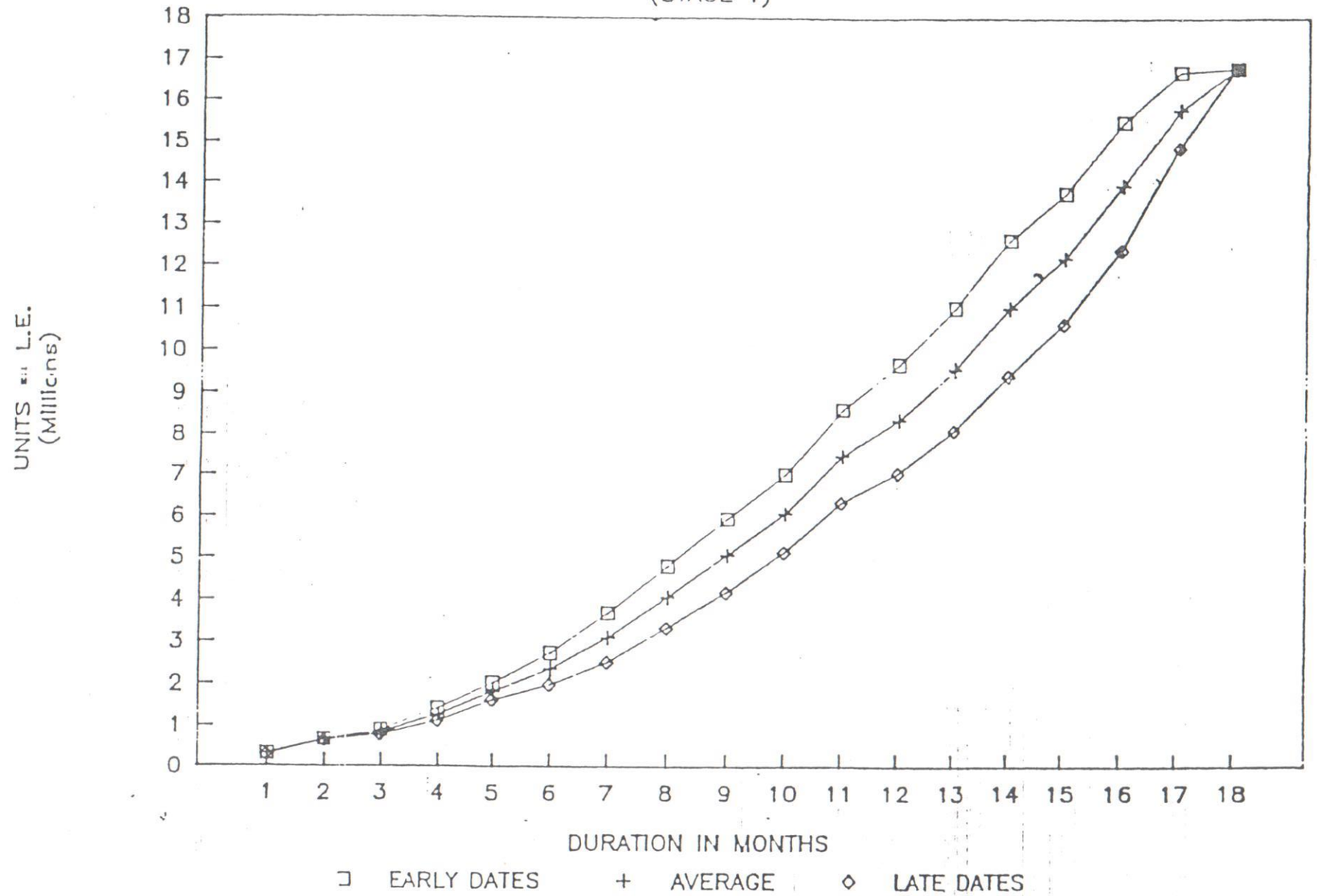
MONTHLY WORK–VALUE

(STAGE 1)



CUMULATIVE WORK–VALUE

(STAGE 1)



PROJECT : ALSHROOK VILLAGE

COMPANY : SPECO

MGT.CONS.: E.P.M CONSULTANT

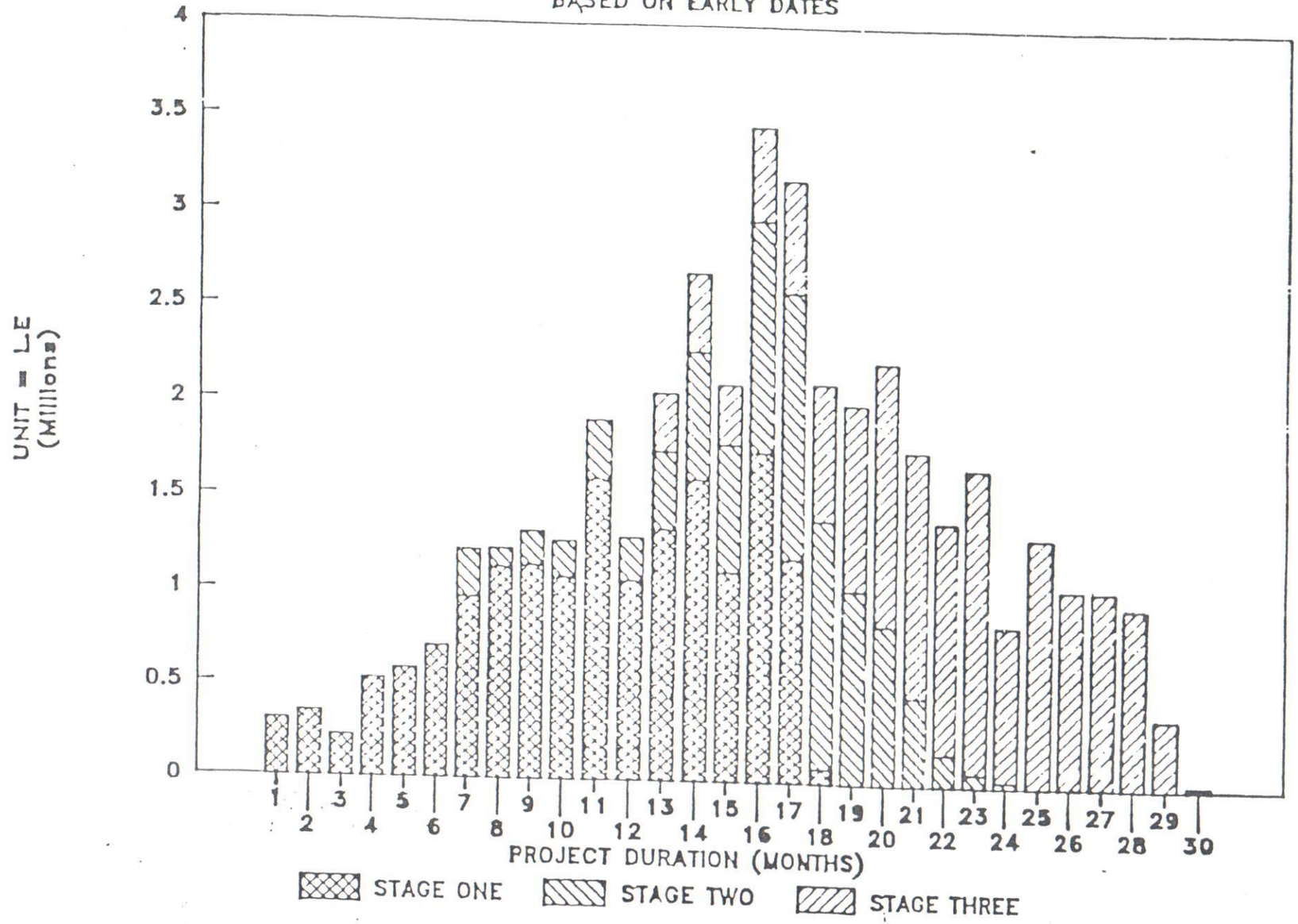
MONTHLY WORK VALUE FOR ALL STAGES

UNIT (L.E)

MONTH	PERIOD BEGINNING	MONTHLY WORK VALUE STAGE ONE	STAGE TWO	STAGE THREE	THREE STAGES
1	01-Apr-91	304,508L.E	0L.E	0L.E	304,508L.E
2	01-May-91	346,435L.E	0L.E	0L.E	346,435L.E
3	01-Jun-91	222,902L.E	0L.E	0L.E	222,902L.E
4	01-Jul-91	527,642L.E	0L.E	0L.E	527,642L.E
5	01-Aug-91	583,653L.E	0L.E	0L.E	583,653L.E
6	01-Sep-91	707,432L.E	0L.E	0L.E	707,432L.E
7	01-Oct-91	965,758L.E	253,045L.E	0L.E	1,218,803L.E
8	01-Nov-91	1,127,659L.E	97,153L.E	0L.E	1,224,812L.E
9	01-Dec-91	1,142,791L.E	177,707L.E	0L.E	1,320,498L.E
10	01-Jan-92	1,078,187L.E	191,385L.E	0L.E	1,269,572L.E
11	01-Feb-92	1,603,753L.E	309,206L.E	0L.E	1,912,959L.E
12	01-Mar-92	1,067,039L.E	227,295L.E	0L.E	1,294,334L.E
13	01-Apr-92	1,342,416L.E	412,294L.E	305,825L.E	2,060,535L.E
14	01-May-92	1,610,591L.E	674,239L.E	413,340L.E	2,698,170L.E
15	01-Jun-92	1,121,903L.E	675,230L.E	315,007L.E	2,112,140L.E
16	01-Jul-92	1,759,307L.E	1,221,317L.E	489,766L.E	3,470,390L.E
17	01-Aug-92	1,192,764L.E	1,407,423L.E	595,302L.E	3,195,489L.E
18	01-Sep-92	81,458L.E	1,318,724L.E	721,669L.E	2,121,851L.E
19	01-Oct-92	0L.E	1,031,800L.E	980,901L.E	2,012,701L.E
20	01-Nov-92	0L.E	852,124L.E	1,388,399L.E	2,240,523L.E
21	01-Dec-92	0L.E	473,462L.E	1,301,162L.E	1,774,624L.E
22	01-Jan-93	0L.E	175,923L.E	1,223,613L.E	1,399,536L.E
23	01-Feb-93	0L.E	72,825L.E	1,612,625L.E	1,685,450L.E
24	01-Mar-93	0L.E	34,364L.E	824,517L.E	858,881L.E
25	01-Apr-93	0L.E	0L.E	1,322,904L.E	1,322,904L.E
26	01-May-93	0L.E	0L.E	1,054,968L.E	1,054,968L.E
27	01-Jun-93	0L.E	0L.E	1,047,924L.E	1,047,924L.E
28	01-Jul-93	0L.E	0L.E	962,775L.E	962,775L.E
29	01-Aug-93	0L.E	0L.E	378,236L.E	378,236L.E
30	01-Sep-93	0L.E	0L.E	23,560L.E	23,560L.E

MONTHLY WORK VALUE FOR ALL STAGES

BASED ON EARLY DATES



استخدام التداخل بين برامج الحاسب الآلى
فى الجدولة الزمنية

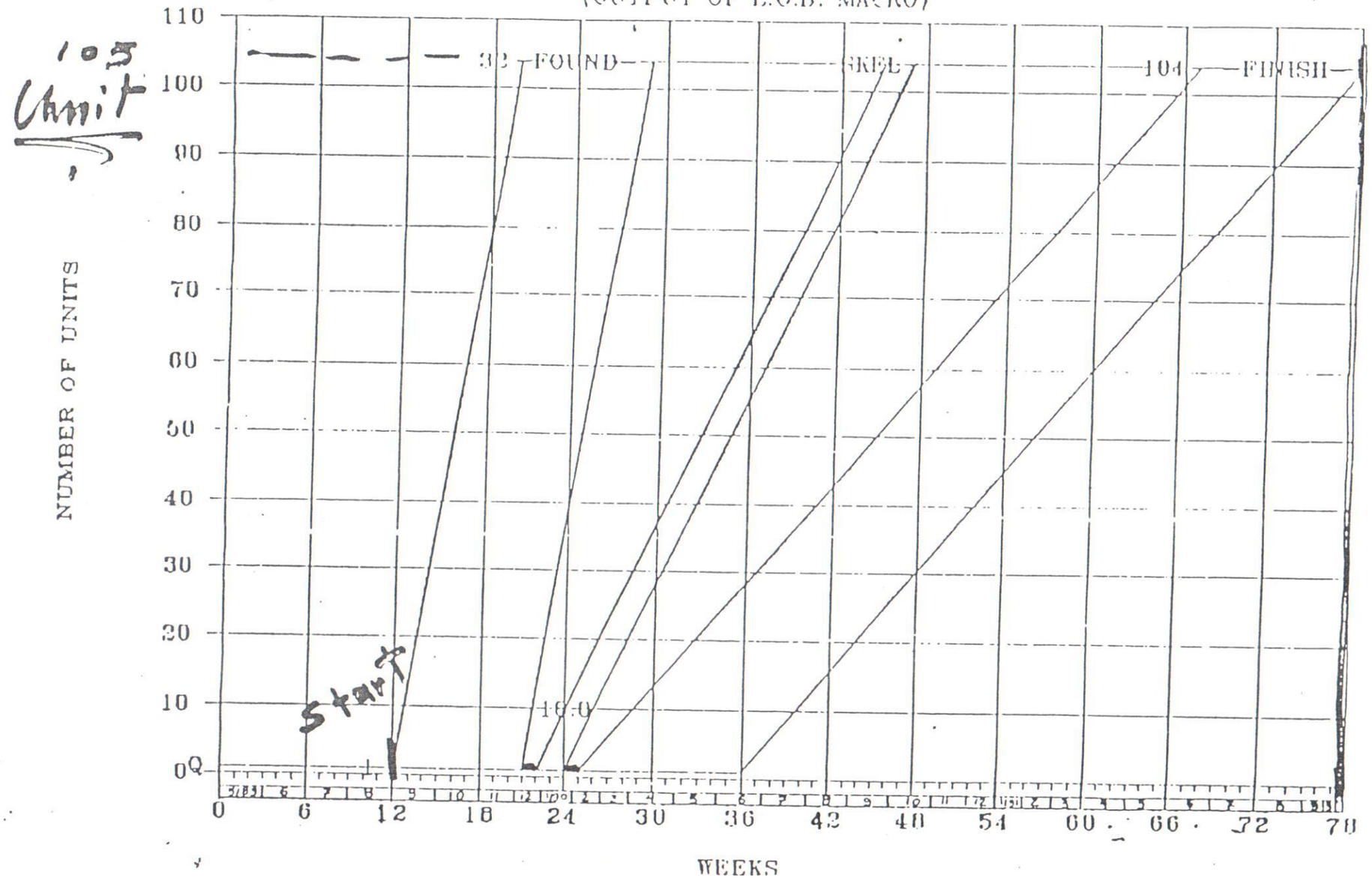
* التداخل بين برنامج Primavera وبرنامج Lotus123 فى أعمال الجدولة الزمنية بواسطة أسلوب Line Of Balance .

* التداخل بين برنامج Lotus123 و Primavera فى سهولة ادخال بيانات الجدولة الزمنية وعمل البرامج الزمنية وبرامج الموارد .

* التداخل بين برنامج Primavera وبرنامج Lotus123 فى عمل التحليل المالى للمشروعات .

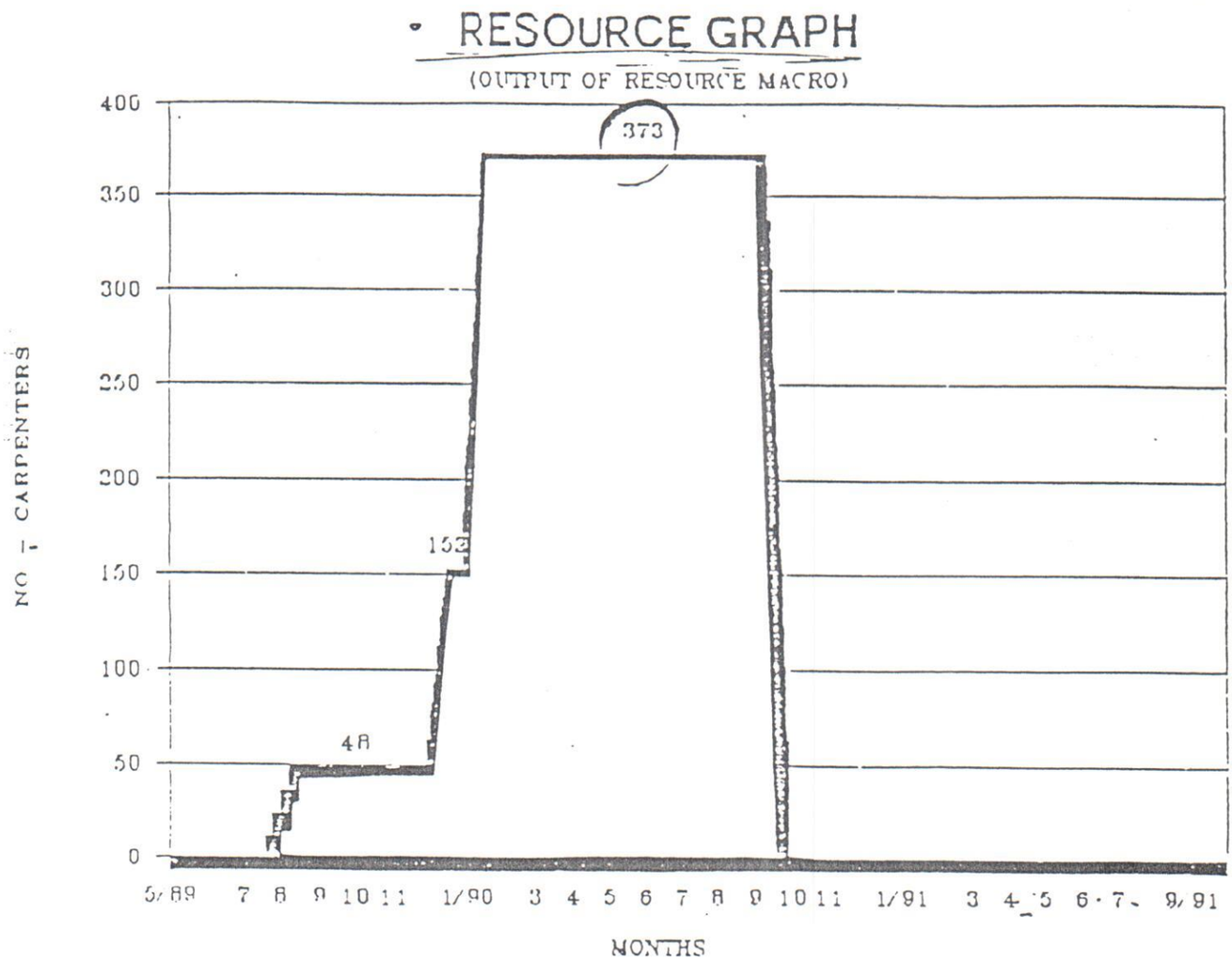
L.O.B. DIAGRAM

(OUTPUT OF L.O.B. MACRO)



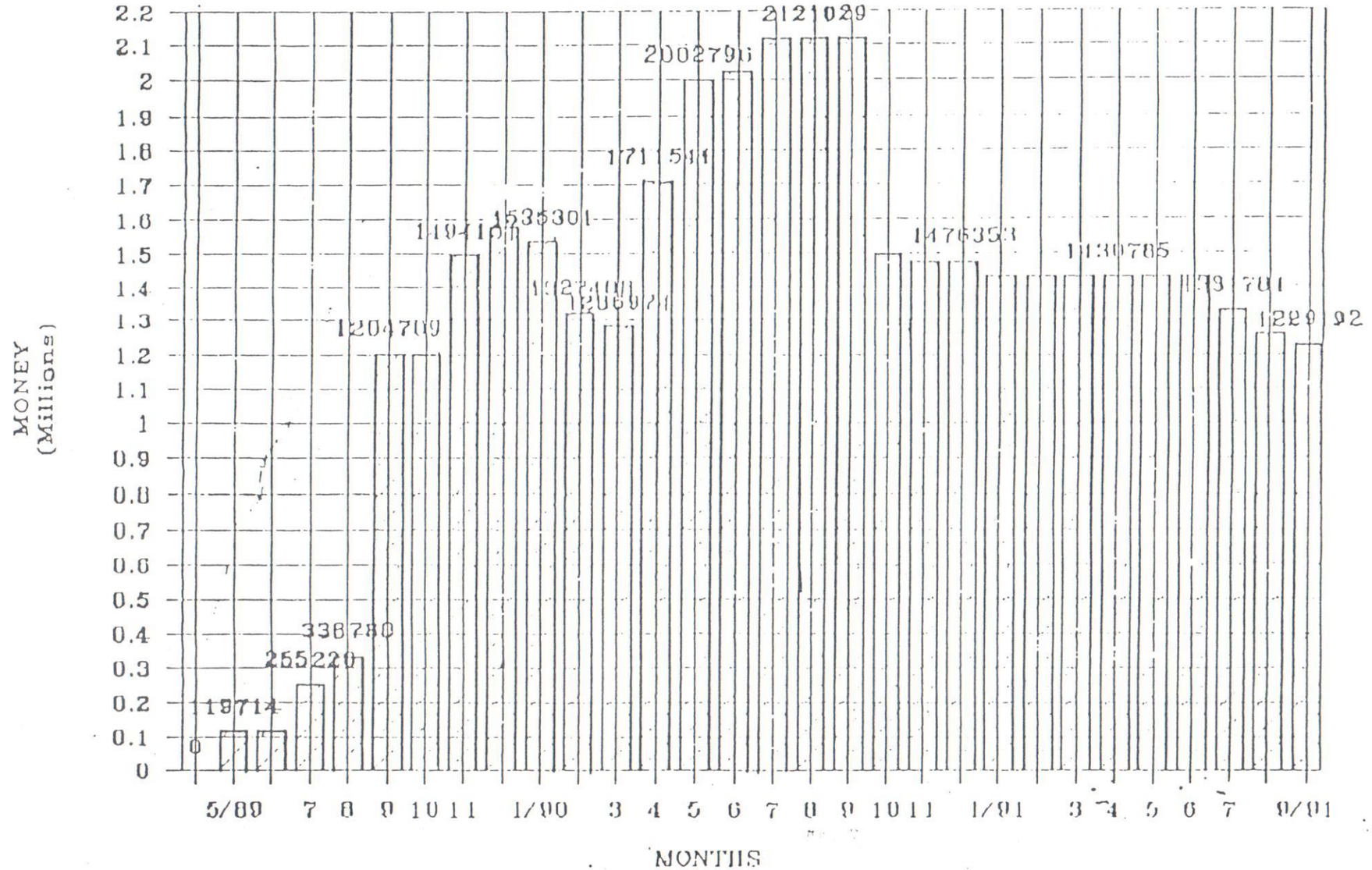
2- Resource Macro :

The programme calculates and graphically presents the different resources for the project, taking into consideration the number of units to be constructed in the same time and derived by the line of balance in order to give the monthly utilization profile. See Fig.(3).



MASTER MONTHLY MONEY PROFILE

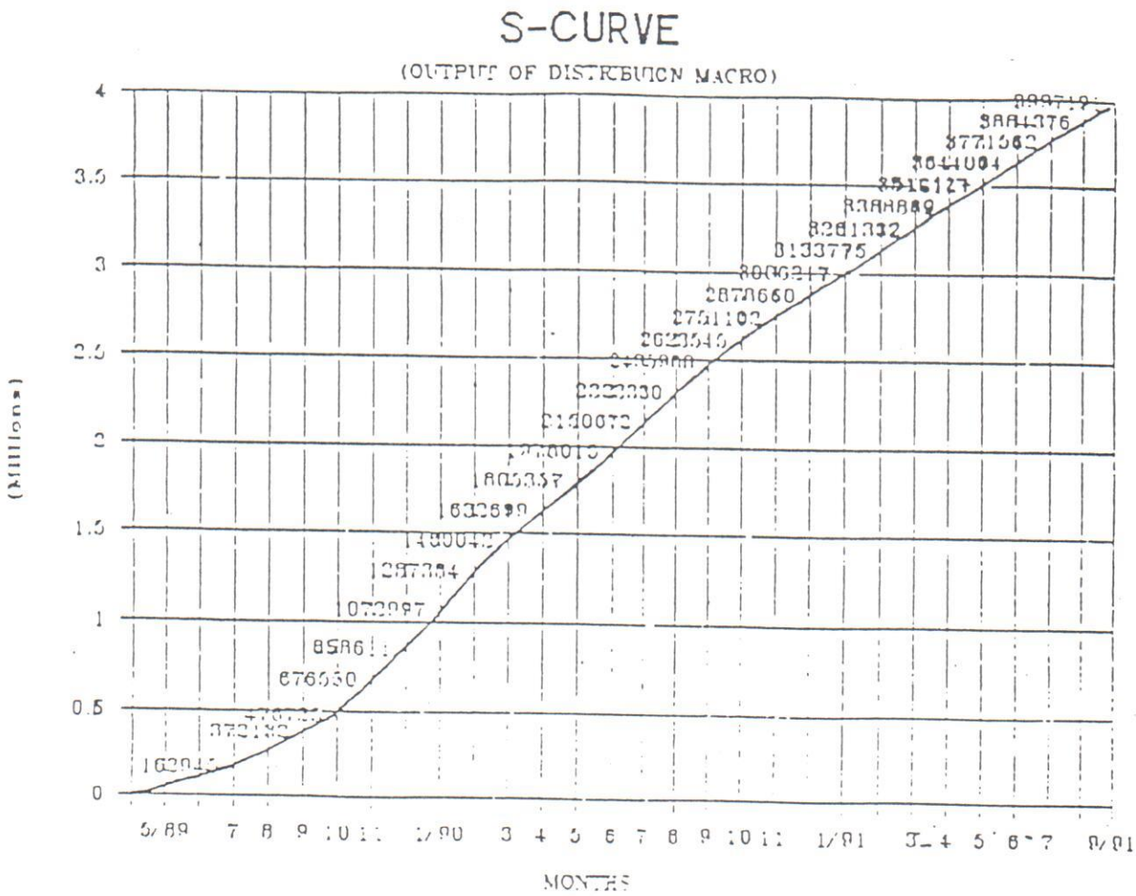
(OUTPUT OF MASTER DISTRIBUTION MACRO)



3- Distribution Macro :

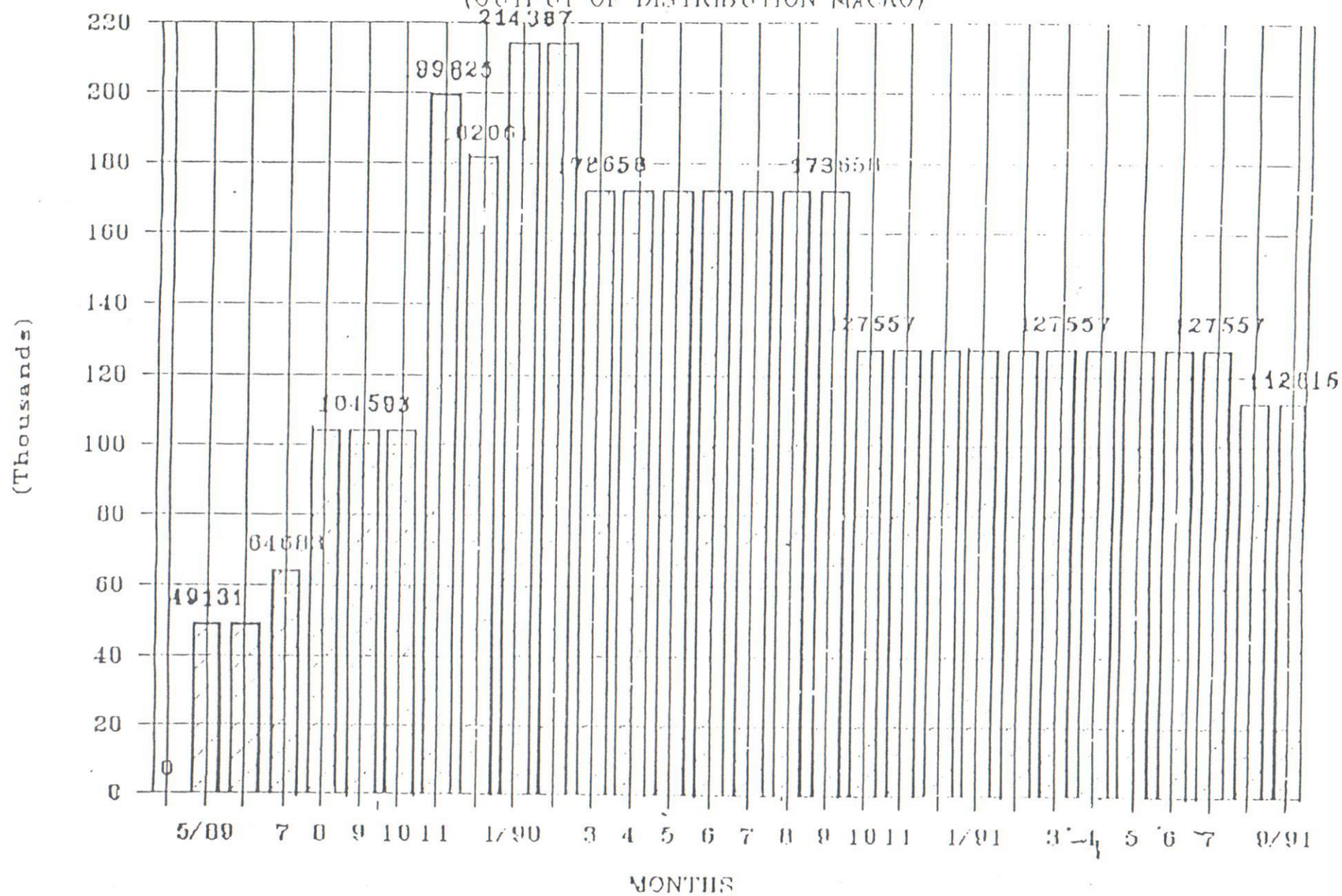
The programme distributes the monthly rates (either money or quantity) among their working months for every item of the bill of quantity. All these values are added to provide the monthly profile and cumulative S-curve till the end of the project.

The Macro draws the monthly profile and cumulative S-curve graphs. See Fig. (4 & 5).



MONTHLY MONEY PROFILE

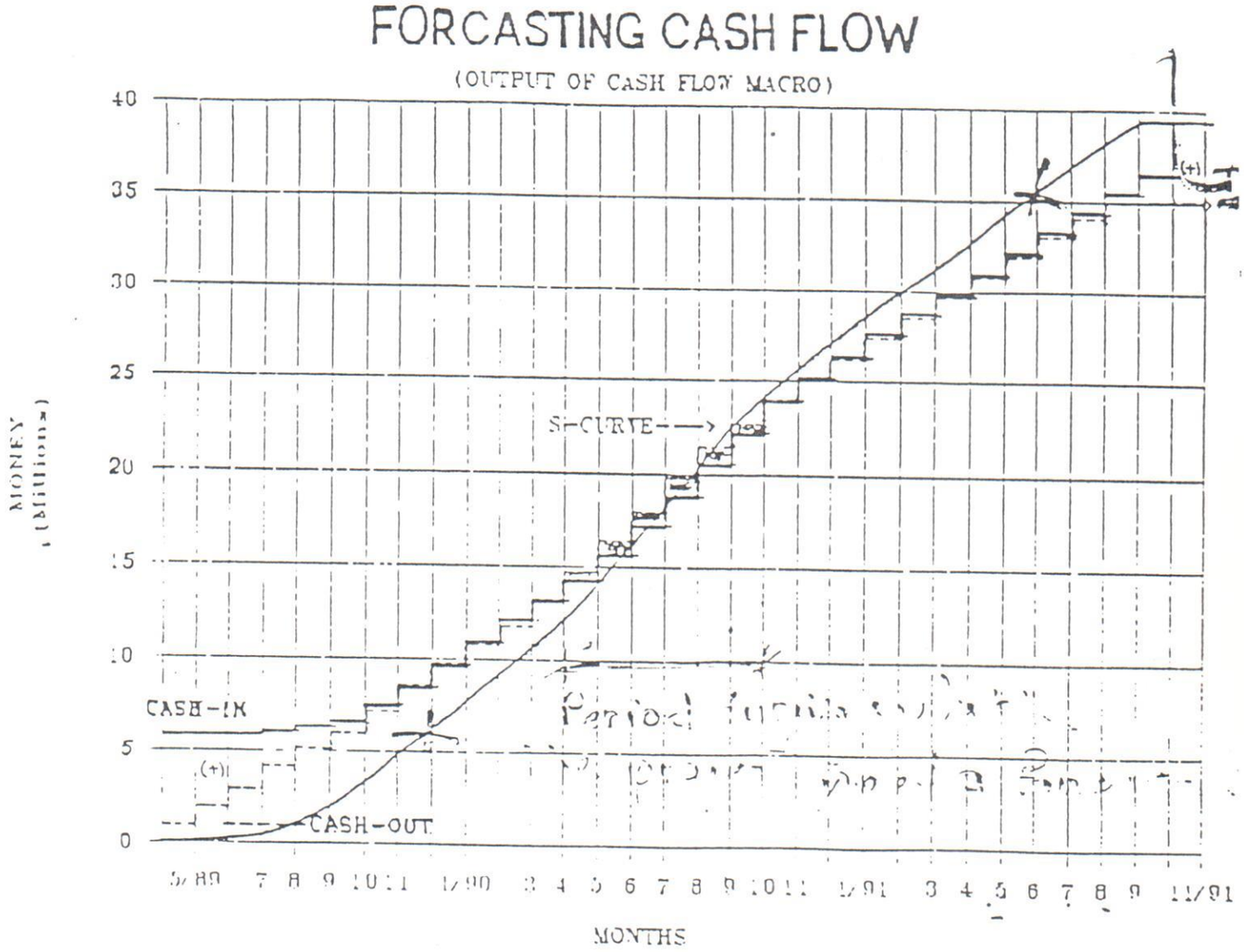
(OUTPUT OF DISTRIBUTION MACRO)



5- Cash Flow Macro :

The programme calculates the cash flow of the project taking into account the downpayment retention,..etc

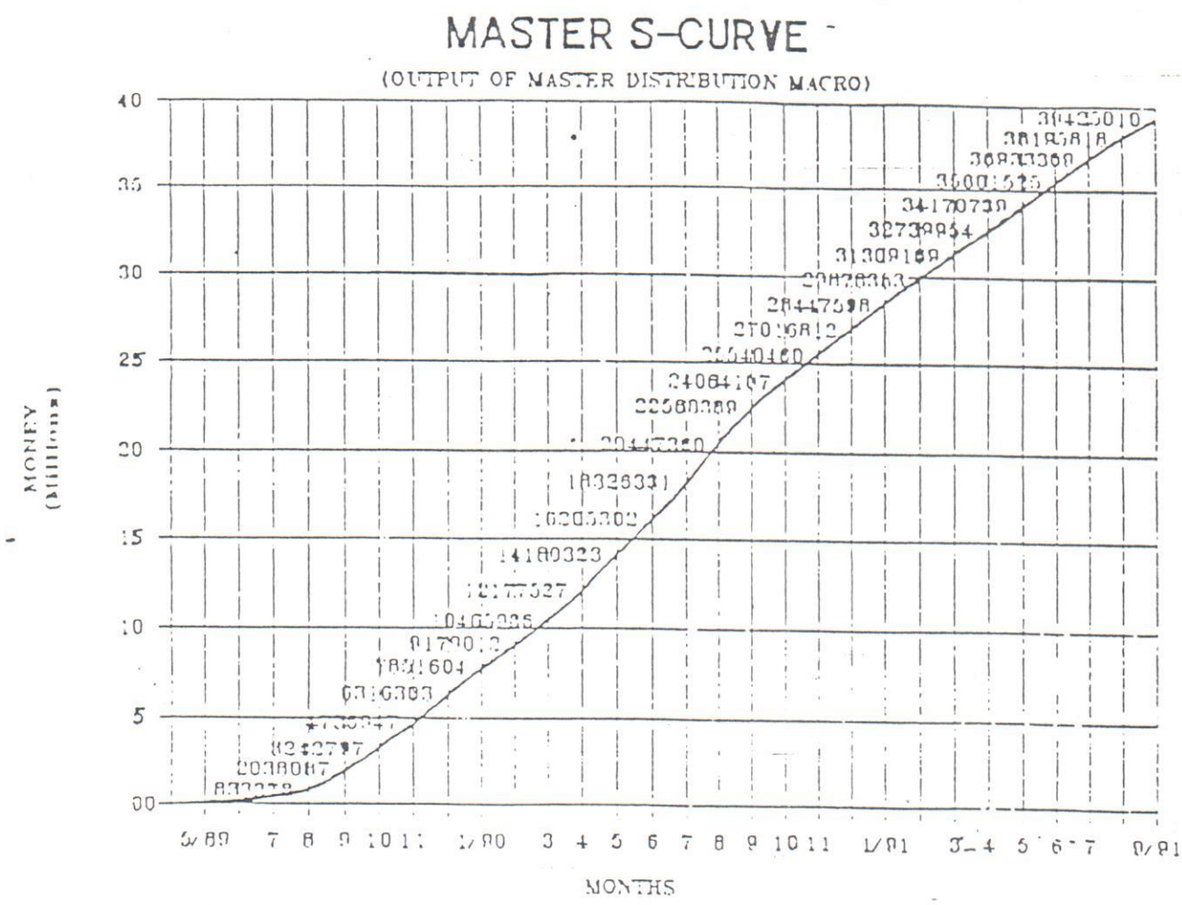
The macro draws the cash flow. the graph shows the cash-in and cash-out values to give the estimated values of profit or loss during the project.See Fig.(8).



4- Master Distribution Macro :

This Macro adds up the monthly profiles which were provided from the distribution Macro for each building seperateley.

Having added the monthly profiles the macro draws the global monthly profile and global cumulative S-curve .See Fig.(6 & 7).



PROJECT : ALSHROOK VILLAGE (1ST STAGE)

COMPANY : SPECO

MGT.CONSULTANT: E.P.M CONSULTANCY

MODEL	ACT	TITLE	ES	EF	LS	LF	UNIT	QUANTITY	UNIT PRICE	PRICE	TOTAL QUANT.	TOTAL PRICE	TOTAL CEMENT	TOTAL SAND	TOTAL GRAVEL	TOTAL STEEL	TOTAL BRICK
	AA1000000	LEVELLING WORKS (EXCAVATION)	01-Apr-91	05-Jun-91	01-Apr-91	05-Jun-91											
	AA2000000	LEVELLING WORKS (BACK FILL)	01-Apr-91	05-Jun-91	01-Apr-91	05-Jun-91											
	AA3000000	MODELIZATION	01-Apr-91	13-May-91	13-Apr-91	25-May-91											
A	AVL010ERW	EXCAVATION (MODEL A)	27-Jul-91	29-Aug-91	03-Oct-91	11-Nov-91	M3	80	8	600	560	4074	0	0	0	0	0
A	AVL020FND	FOUNDATION R.C (MODEL A)	13-Aug-91	10-Sep-91	26-Oct-91	23-Nov-91	M3	15	70	1050	105	7130	28	53	105	0	0
A	AVL030FND	FOUNDATION R.C (MODEL A)	25-Aug-91	02-Oct-91	05-Nov-91	24-Dec-91	M3	21	240	5040	147	34222	57	66	132	18	0
A	AVL040FND	MASONRY TO DL (MODEL A)	11-Sep-91	15-Oct-91	24-Nov-91	05-Jan-92	M3	12	90	1035	81	7028	6	24	0	0	36225
A	AVL050INS	ISOLATION FOR FOUNDATION (MODEL A)	03-Oct-91	05-Nov-91	25-Dec-91	03-Feb-92	M2	170	1	213	1193	1446	0	0	0	0	0
A	AVL060ERW	BACK FILL (MODEL A)	16-Oct-91	17-Nov-91	06-Jan-92	20-Feb-92	M3	40	2	70	280	475	0	0	0	0	0
A	AVL070FND	COMPACTED LIME FLOORING (MODEL A)	31-Oct-91	02-Dec-91	27-Jan-92	03-Mar-92	M2	185	10	1887	1295	12813	0	0	0	0	0
A	AVL080RCS	SKELETON (MODEL A)	07-Jan-92	23-Mar-92	16-Feb-92	27-Apr-92	M3	283	276	7804	1981	52907	763	891	1783	239	0
A	AVL090MSN	MASONRY (MODEL A)	17-Feb-92	18-Apr-92	18-Mar-92	14-May-92	M3	31	80	2500	219	17029	16	66	0	0	10973
A	AVL100CRP	WOODEN & ALUM. FRAMES (MODEL A)	26-Feb-92	26-Apr-92	18-Apr-92	28-May-92	LS	1	1011	1011	7	6861	0	0	0	0	0
A	AVL110SNT	EXTERNAL PLUMBING (MODEL A)	26-Feb-92	26-Apr-92	02-Apr-92	21-May-92	LS	1	1973	1973	7	13393	0	0	0	0	0
A	AVL120ELC	ELECTRIC PIPES (MODEL A)	26-Feb-92	26-Apr-92	18-Apr-92	28-May-92	LS	1	429	429	7	2914	0	0	0	0	0
A	AVL130PLS	INTERNAL PLASTER (MODEL A)	22-Mar-92	16-May-92	26-Apr-92	04-Jun-92	M2	458	4	1603	3206	10884	26	96	0	0	0
A	AVL140PLS	EXTERNAL PLASTER 1ST STAGE (MODEL A)	04-Apr-92	23-May-92	07-May-92	20-Jun-92	M2	111	7	799	777	5427	62	23	0	0	0
A	AVL150INS	ISOLATION FOR BATH & 1ST FLOOR (MODEL A)	26-Feb-92	26-Apr-92	18-Apr-92	28-May-92	M2	205	8	1700	1435	11540	14	43	72	0	0
A	AVL160FNR	FLOORING (MODEL A)	06-May-92	24-Jun-92	06-Jul-92	17-Aug-92	M2	125	17	2156	875	14641	7	88	0	0	0
A	AVL170CRP	FIXING CARPENTRY WORKS (MODEL A)	13-May-92	01-Jul-92	13-Jul-92	24-Aug-92	LS	1	2705	2705	7	18367	0	0	0	0	0
A	AVL180SNT	INTERNAL PLUMBING (MODEL A)	04-Mar-92	07-May-92	18-Apr-92	28-May-92	LS	1	2705	2705	7	18367	0	0	0	0	0
A	AVL190ELC	ELECTRIC BOARDS (MODEL A)	27-May-92	15-Jul-92	28-Jul-92	07-Sep-92	LS	1	858	858	7	5829	0	0	0	0	0
A	AVL200ROF	ROOF FINISHES (MODEL A)	26-Feb-92	26-Apr-92	15-Aug-92	17-Sep-92	M2	152	26	3929	1064	26679	23	138	64	0	0
A	AVL210STF	STAIR STEPS (MODEL A)	13-May-92	01-Jul-92	30-Jul-92	09-Sep-92	M1	25	30	750	175	5093	1	3	0	0	0
A	AVL220PLS	STAIR PLASTER (MODEL A)	04-Apr-92	03-Jun-92	04-Jul-92	17-Aug-92	M2	0	0	0	0	0	0	0	0	0	0
A	AVL230STF	STAIR HAND RAILS (MODEL A)	03-Jun-92	07-Jul-92	20-Aug-92	17-Sep-92	M1	0	0	0	0	0	0	0	0	0	0
A	AVL240GLD	GLAZING "LIME & EGYPT" (MODEL A)	06-May-92	27-Jun-92	01-Jun-92	25-Jul-92	M2	100	54	5400	700	36666	6	18	0	0	0
A	AVL250PLS	EXTERNAL PLASTER FINAL STAGE (MODEL A)	06-May-92	09-Jun-92	26-May-92	07-Jul-92	M2	111	5	533	777	3618	2	0	0	0	0
A	AVL260ALM	ALLUMINUIM WORKS (MODEL A)	30-May-92	29-Jun-92	26-Aug-92	17-Sep-92	LS	1	2661	2661	7	18065	0	0	0	0	0
A	AVL270CRP	CARPENTRY ACCESSORIES (MODEL A)	06-Jun-92	06-Jul-92	20-Aug-92	12-Sep-92	LS	1	1623	1623	7	11029	0	0	0	0	0
A	AVL280SNT	SANITARY EQUIPEMENT (MODEL A)	06-Jun-92	06-Jul-92	07-Aug-92	31-Aug-92	LS	1	3946	3946	7	26771	0	0	0	0	0
A	AVL290ELC	ELECTRICAL WIRING (MODEL A)	20-May-92	08-Jul-92	20-Jul-92	31-Aug-92	LS	1	858	858	7	5829	0	0	0	0	0
A	AVL300PNT	PAINTING-PRIMARY STAGE (MODEL A)	13-May-92	30-Jun-92	15-Jul-92	25-Aug-92	M2	533	4	2132	3731	14476	0	0	0	0	0
A	AVL310SNT	SANITARY ACCESSORIES (MODEL A)	25-Jun-92	18-Jul-92	20-Aug-92	12-Sep-92	LS	1	1969	1969	7	13370	0	0	0	0	0
A	AVL320ALC	ELECTRIC ACCESSORIES (MODEL A)	23-Jun-92	20-Jul-92	20-Aug-92	12-Sep-92	LS	1	859	859	7	5833	0	0	0	0	0
A	AVL330PNT	PAINTING-FINAL STAGE (MODEL A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					

ACT		TITLE	OD	SUC		REL	LAG
P01\0100	M	MOBILIZATION	12	P01\0400	E	SS	5
P01\0400	E	EXCAVATION (ALL PARTS)	3	P01\0000	G	FS	0
P01\0000	G	PIG (ALL PARTS)	2	P01\0811	L	SS	1
P01\0811	L	SURVEY & LEVELLING FOR P.C. FOUNDATION	4	P01\0812	F	SS	2
P01\0812	F	FORM WORKS FOR P.C. FOUNDATIONS	5	P01\0815	P	FS	-3
P01\0815	P	P.C. POURING FOR FOUNDATIONS	5	P01\0912	F	FF	1
P01\0912	F	FORM WORKS FOR R.C.FOUNDATION , GB1 & GB2 @ -0.70	3	P01\0914	S	FF	1
P01\0914	S	STEEL FIX. FOR R.C.FOUNDATION , GB1 & GB2 @ -0.70	3	P01\0915	P	FS	0
P01\0915	P	POURING FOR R.C. FOUNDATION , GB1 & GB2 @ -0.70	2	P01\0922	F	FS	0
P01\0922	F	FORM WORKS FOR SB1 @ -0.30	1	P01\0924	S	FS	0
P01\0924	S	STEEL FIXING FOR SB1 @ -0.30	1	P01\0925	P	FS	0
P01\0925	P	POURING FOR SB1 @ -0.30	1	P11\1700	P	FF	1
P01\1800	I	WATER INSULATION FOR FOUNDATIONS	5	P02\1200	M	FF	1
P02\1200	M	MASNORY FOR PROTECTION OF INSULATION	3	P01\1120	B	SS	0
P02\1200	M	MASNORY FOR PROTECTION OF INSULATION	3	P01\1110	B	SS	0
P01\1120	B	BACKFILLING & COMPACTION @ (-0.3)	3	P01\1015	P	FS	-1
P01\1015	P	P.C.POURING FOR FLOORING(7 cm)LEVEL(-0.18)PART1	2	P01\0932	F	FS	0
P01\0932	F	FORM WORKS FOR SB2,GB2 &(COL , WALL STUBS +0.60)	2	P01\0934	S	FF	1
P01\0934	S	STEEL FIX. FOR SB2,GB2 &(COL , WALL STUBS +0.60)	2	P01\0935	P	FF	1
P01\0935	P	POURING FOR SB2,GB2 &(COL , WALL STUBS +0.60)	1	P01\1110	B	FF	1
P01\1110	B	BACKFILLING & COMPACTION TO LEVEL (+0.35) PART1	3	P01\1115	P	FS	-1

ALSHIPOOK VILLAGE (STAGE 1) 14926863. 9146.035 23720.57 17883.
MODEL (A) /WIR 6.5 0.97

ACT XEL	TITLE	UNIT	QTY	UNIT PRICE	PRICE	TOTAL QUANTITY	TOTAL PRICE	CEMENT RATE(TON)	SAND RATE(M3)	GRAVEL RATE(M3)	STEEL RATE(TON)	BRICK RATE(NO.)	TOTAL CEMENT	TOTAL SAND	TOTAL GRAVEL
AVL010ERW	EXCAVATION (MODEL A)	M3	80	7.5	600	520	3783	0	0	0	0	0	0	0	
AVL020FND	FOUNDATION P.C (MODEL A)	M3	16	70	1120	104	7061.6	0.265	0.42	0.85	0	0	27.56	43.68	88.
AVL030FND	FOUNDATION R.C (MODEL A)	M3	21	240	5040	136.5	31777.2	0.385	0.45	0.9	0.117	0	52.5525	61.425	122.8
AVL040FND	MASONRY TO OL (MODEL A)	M3	7.6	90	684	49.4	4312.62	0.065	0.25	0	0	480	3.211	12.35	
AVL050INS	ISOLATION FOR FOUNDATION (MODEL A)	M2	246	1.25	307.5	1599	1938.7875	0	0	0	0	0	0	0	
AVL060ERW	BACK FILL (MODEL A)	M3	40	1.75	70	260	441.35	0	0	0	0	0	0	0	
AVL070FND	COMPACTED LIME FLOORING (MODEL A)	M2	160	10.2	1632	1040	10282.76	0	0	0	0	0	0	0	
AVL080RCS	SKELETON (MODEL A)	M3	38.	280	10780	250.2	67963.9	0.385	0.45	0.9	0.105	0	96.34625	112.6125	225.2
AVL090MSN	MASONRY (MODEL A)	M3	30	80	2400	195	1513.2	0.065	0.25	0	0	60	12.675	48.75	
AVL100CRP	WOODEN & ALUM. FRAMES (MODEL A)	LS	1	854	854	6.5	5381.47	0	0	0	0	0	0	0	
AVL110SNT	EXTERNAL PLUMBING (MODEL A)	LS	1	3972	3972	6.5	25013.16	0	0	0	0	0	0	0	
AVL120ELC	ELECTRIC PIPES (MODEL A)	LS	1	275	275	6.5	1733.875	0	0	0	0	0	0	0	
AVL130PLS	INTERNAL PLASTER (MODEL A)	M2	450	3.5	1575	2925	9930.375	0.006	0.03	0	0	0	17.55	87.75	
AVL140PLS	EXTERNAL PLASTER 1ST STAGE (MODEL A)	M2	170	5.7	969	1105	6109.545	0.006	0.03	0	0	0	6.63	33.15	
AVL150INS	ISOLATION FOR BATH & 1ST FLOOR (MODEL A)	M2	150	8.25	1237.	975	7802.1375	0.01	0.03	0.05	0	0	9.75	29.25	48.
AVL160FNR	FLOORING (MODEL A)	M2	160	14.75	2360	1040	14879.8	0.006	0.09	0	0	0	6.24	93.6	
AVL170CRP	FIXING CARPENTRY WORKS (MODEL A)	LS	1	2705	2705	6.5	17055.025	0	0	0	0	0	0	0	
AVL180SNT	INTERNAL PLUMBING (MODEL A)	LS	1	3475	3475	6.5	21909.875	0	0	0	0	0	0	0	
AVL190ELC	ELECTRIC BOARDS (MODEL A)	LS	1	519	519	6.5	3151.115	0	0	0	0	0	0	0	
AVL200ROF	ROOF FINISHES (MODEL A)	M2	152	26.25	3990	988	25156.95	0.022	0.13	0.06	0	0	21.736	128.44	59.
AVL210STF	STAIR STEPS (MODEL A)	M1	30	30	900	195	5571.5	0.004	0.015	0	0	0	0.78	2.925	
AVL220PLS	STAIR PLASTER (MODEL A)	M2	0	0	0	0	0	0.006	0.09	0	0	0	0	0	
AVL230STF	STAIR HAND RAILS (MODEL A)	M1	0	0	0	0	0	0	0	0	0	0	0	0	
AVL240GLD	LIME CLADDING (MODEL A)	M2	115	54	6210	747.5	39154.05	0.008	0.04	0	0	0	5.98	29.9	
AVL241GLD	GLASSED TILES (MODEL A)	M2	60	30	1800	390	11319	0.008	0.04	0	0	0	3.12	15.6	
AVL250PLS	EXTERNAL PLASTER-FINAL STAGE (MODEL A)	M2	170	3.8	646	1105	4073.03	0	0	0	0	0	0	0	
AVL260ALM	ALLUMINUIM WORKS (MODEL A)	LS	1	2554	2554	6.5	16102.97	0	0	0	0	0	0	0	
AVL270CRP	CARPENTRY ACCESSORIES (MODEL A)	LS	1	1623	1623	6.5	10233.015	0	0	0	0	0	0	0	
AVL280SNT	SANITARY EQUIPEMENT (MODEL A)	LS	1	1470	1470	6.5	9374.45	0	0	0	0	0	0	0	
AVL290ELC	ELECTRICAL WIRING (MODEL A)	LS	1	823	823	6.5	5187.015	0	0	0	0	0	0	0	
AVL300PNT	PAINTING-PRIMARY STAGE (MODEL A)	M2	450	1.8	810	2925	5107.05	0	0	0	0	0	0	0	
AVL310SNT	SANITARY ACCESSORIES (MODEL A)	LS	1	993	993	6.5	6260.865	0	0	0	0	0	0	0	
AVL320ALC	ELECTRIC ACCESSORIES (MODEL A)	LS	1	183	183	6.5	1153.815	0	0	0	0	0	0	0	
AVL330PNT	PAINTING-FINAL STAGE (MODEL A)	M2	450	2.7	1215	2925	7660.575	0	0	0	0	0	0	0	
AVL340CRP	FINAL TOUCHES (MODEL A)	LS	1	860	860	6.5	5422.3	0	0	0	0	0	0	0	

MONTHLY CASH IN	CUMULATIVE CASH IN	MONTHLY CASH OUT	CUMULATIVE CASH OUT	MONTHLY CASH FLOW	CUMULATIVE CASH FLOW
966226	966226	404431	404431	561,795	561,795
111194	1077420	309319	713750	(198,126)	363,669
300222	1377641	286407	1000157	13,815	377,484
277983	1655624	466534	1466690	(188,551)	188,934
452812	2108436	305422	1772112	147,390	336,324
296439	2404875	134309	1906422	162,130	498,453
130359	2535234	151443	2057865	(21,084)	477,370
146989	2682223	234664	2292528	(87,675)	389,694
227762	2909985	283347	2575875	(55,585)	334,110
275013	3184998	253793	2829668	21,220	355,330
246329	3431326	189511	3019179	56,818	412,147
183937	3615263	268217	3287396	(84,280)	327,868
260328	3875591	214822	3502218	45,506	373,373
208504	4084095	212574	3714792	(4,070)	369,303
206322	4290417	203537	3918328	2,785	372,088
197550	4487967	219193	4137521	(21,643)	350,446
212746	4700713	323647	4461168	(110,901)	239,545
314128	5014841	405090	4866259	(90,963)	148,582
393176	5408017	334163	5200422	59,013	207,595
324335	5732352	458034	5658456	(133,700)	73,896
444563	6176914	445460	6103916	(898)	72,998
432359	6609273	527516	6631432	(95,157)	(22,159)
512001	7121274	417397	7048329	94,604	72,445
405120	7526394	319450	7368279	85,671	158,115
310054	7836448	352668	7720947	(42,614)	115,501
342296	8178744	353932	8074879	(11,637)	103,864
343523	8522267	243788	8318667	99,735	203,599
236617	8758884	69959	8388626	166,658	370,258
67902	8826786	103431	8492058	(35,530)	334,728
100389	8927175	10736	8502793	89,654	424,382
300288	9227463	96623	8599416	203,665	628,046

Table 1 (case 1)

MONTHLY CASH_IN	CUMULATIVE CASH_IN	MONTHLY CASH_OUT	CUMULATIVE CASH_OUT	MONTHLY CASH_FLOW	CUMULATIVE CASH_FLOW
966226	966226	404431	404431	561,795	561,795
111194	1077420	309319	713750	(198,126)	363,669
300222	1377641	286407	1000157	13,815	377,484
277983	1655624	466534	1466690	(188,551)	188,934
452812	2108436	256017	1722708	196,795	385,728
248488	2356924	0	1722708	248,488	634,216
0	2356924	25979	1748687	(25,979)	608,236
25215	2382139	156071	1904758	(130,856)	477,380
151481	2533620	249433	2154192	(97,953)	379,428
242097	2775717	173317	2327508	68,780	448,208
168219	2943936	153992	2481500	14,227	462,435
149463	3093399	168943	2650444	(19,481)	442,955
163975	3257373	249806	2900249	(85,831)	357,124
242458	3499832	482288	3382538	(239,830)	117,294
468103	3967935	442081	3824619	26,023	143,316
429078	4397013	469592	4294210	(40,513)	102,803
455780	4852794	422436	4716646	33,345	136,148
410011	5262805	403698	5120344	6,313	142,461
391825	5654629	603549	5723893	(211,725)	(69,264)
585798	6240427	615369	6339262	(29,571)	(98,835)
597269	6837697	463516	6802778	133,753	34,919
449883	7287580	360966	7163744	88,917	123,836
350349	7637929	271407	7435151	78,943	202,778
263424	7901353	315247	7750398	(51,823)	150,955
305975	8207329	243896	7994294	62,079	213,034
236723	8444052	76679	8070974	160,044	373,078
74424	8518476	125406	8196379	(50,982)	322,096
121717	8640193	162296	8358676	(40,579)	281,517
157523	8797716	107510	8466185	50,013	331,530
104348	8902064	36609	8502794	67,739	399,269
325400	9227463	96623	8599417	228,777	628,046

Table 2 (case ~~1~~ 2

TANTA PROJECT

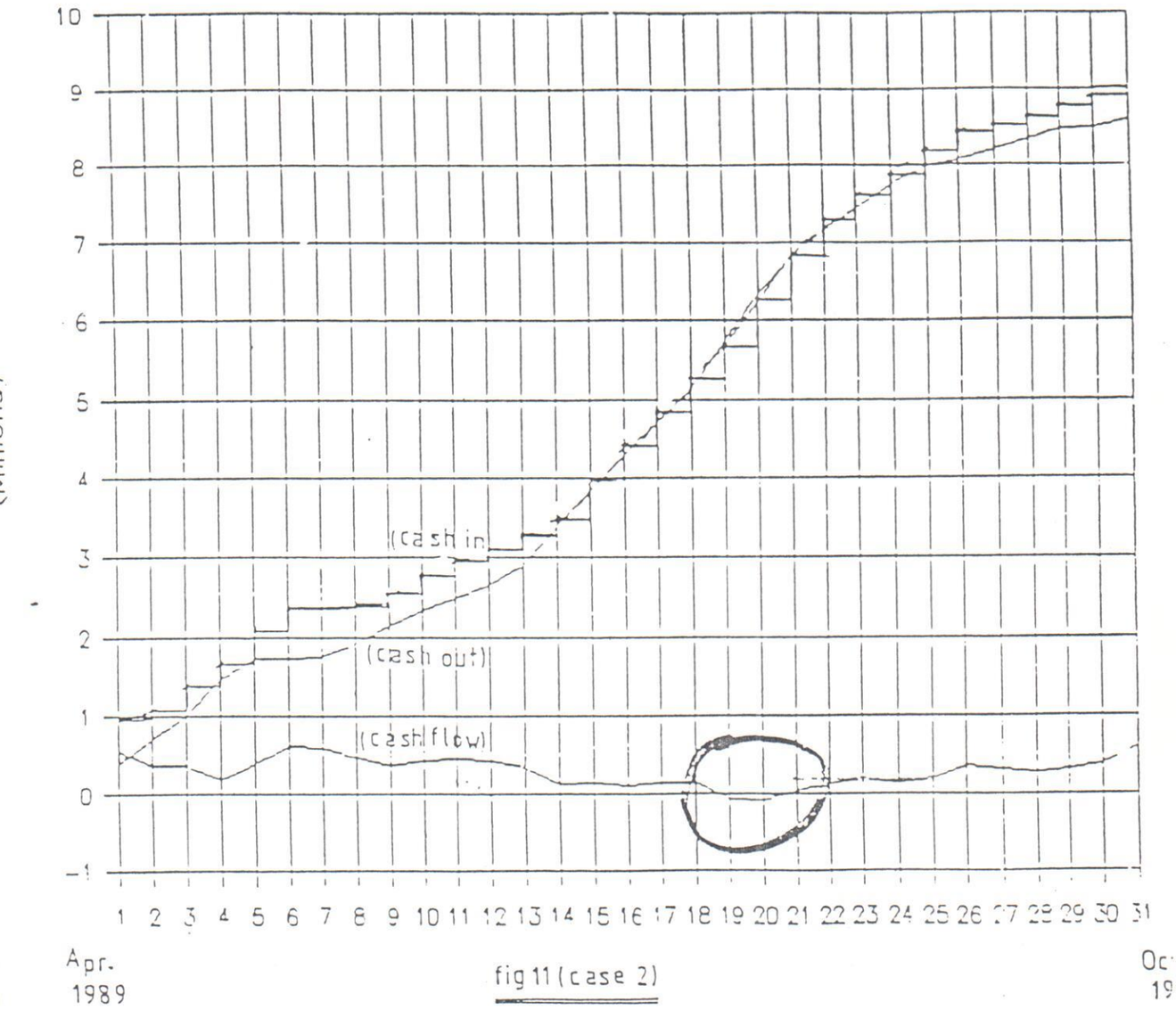


fig 11 (case 2)

TANTA PROJECT

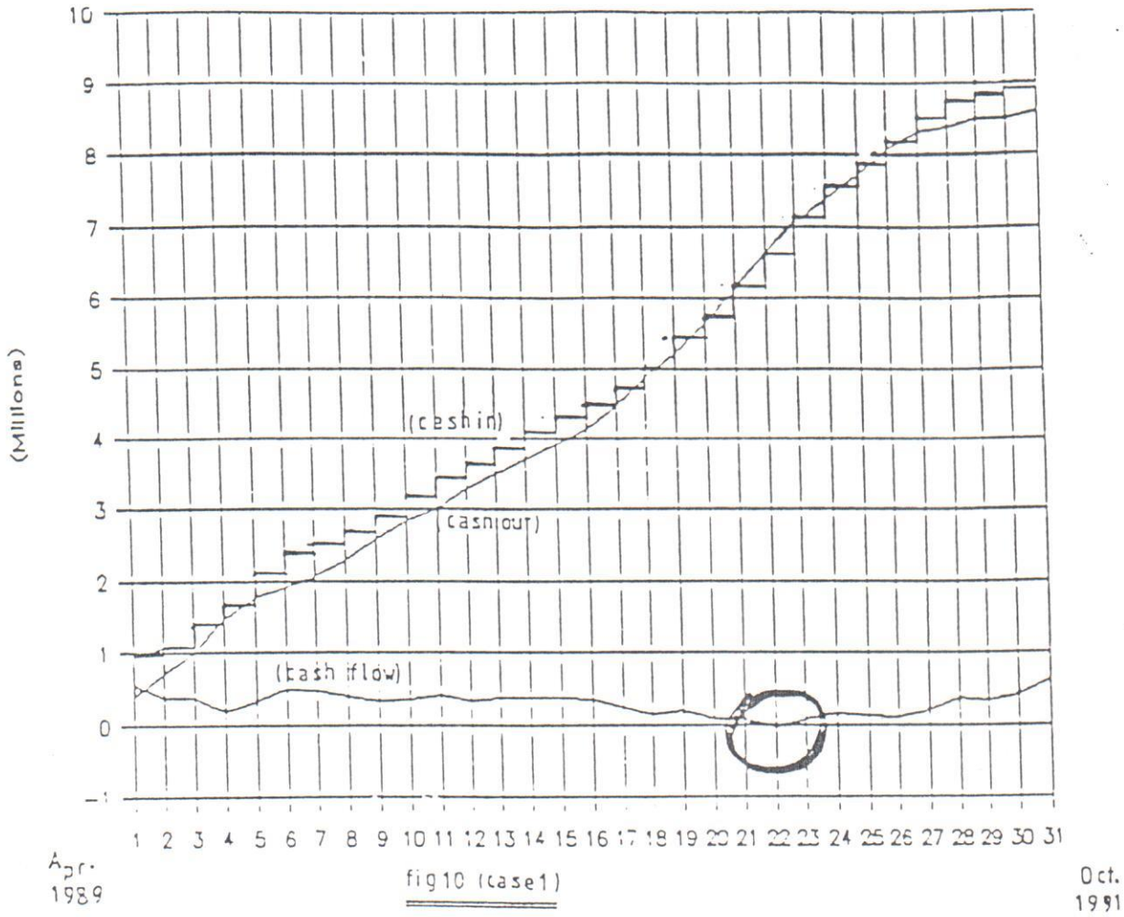


fig 10 (case1)

A RESIDENTIAL BUILDING AT HELIOPOLIS .....
FINANCIAL ANALYSIS OF THE PROJECT .....
DATE OF STUDY : OCTOBER 1985 .....

DOWN PAYMENT	5.00% OF TOTAL CONTRACT VALUE
INVOICE DISCOUNTS ITEMS	
DOWN PAYMENT	5.00% OF TOTAL CONTRACT VALUE
TAXES	1.00% OF TOTAL CONTRACT VALUE
SAFETY OF WORKS	5.00% OF TOTAL CONTRACT VALUE
TOTAL DISCOUNTS	11.00% OF TOTAL CONTRACT VALUE

CASH FLOW

MONTH	OCT 85	1 NOV 85	2 DEC 85	3 JAN 90	4 FEB 90	5 MAR 90	6 APR 90	7 MAY 90	8 JUNE 90	9 JULY 90	10 AUG 90	11 SEP 90	12 OCT 90	13 NOV 90	TOTA
ITEM															
OUT_CASH FLOW															
MATERIAL OUT_CASH		30,250	35,760	53,290	57,806	79,416	103,540	84,443	94,529	43,956	36,169	78,785			63
INFLATION FORECASTED ...			572	1,705	2,775	5,083	8,283	8,107	18,587	5,626	5,208	12,606			6
LABOUR OUT_CASH			3,836	6,297	6,585	9,500	10,150	16,878	27,573	26,268	30,820	21,559	16,805	21,336	25
SITE EXPENSES	6,000	300	300	300	300	300	300	300	300	300	300	300	300		
ASSETS	3,000	4,500													
TOTAL OUT_CASH	9,000	35,050	40,528	61,592	67,470	94,293	122,273	109,728	132,989	76,142	72,497	113,250	16,305	21,336	97
IN_CASH FLOW	D.P														
DOWN_PAYMENT	60,073														
INVOICES AFTER DISCOUNTS.			4,675	41,040	50,977	76,575	83,359	116,028	156,704	132,034	149,011	74,069	53,148	121,013	1,06
TOTAL IN_CASH	60,073		4,675	41,040	50,977	76,575	83,359	116,028	156,704	132,034	149,011	74,069	53,148	121,013	1,12

(also 5% of total contract value will be received after 12 months from project handling)

MONTHLY CASH FLOW	51,073	(35,050)	(35,853)	(17,592)	(16,493)	(17,724)	(38,914)	7,100	23,715	55,892	76,514	(38,381)	42,843	92,677	15
CUMULATIVE CASH FLOW	51,073	16,015	(19,838)	(37,430)	(53,923)	(71,648)	(110,561)	(103,454)	(79,739)	(23,847)	52,738	14,357	57,240	150,117	
GAP IN FINANCE			(19,838)	(37,430)	(53,923)	(71,648)	(110,561)	(103,454)	(79,739)	(23,847)					

MAXIMUM GAP IN FINANCING ..... (110,561) L.E.

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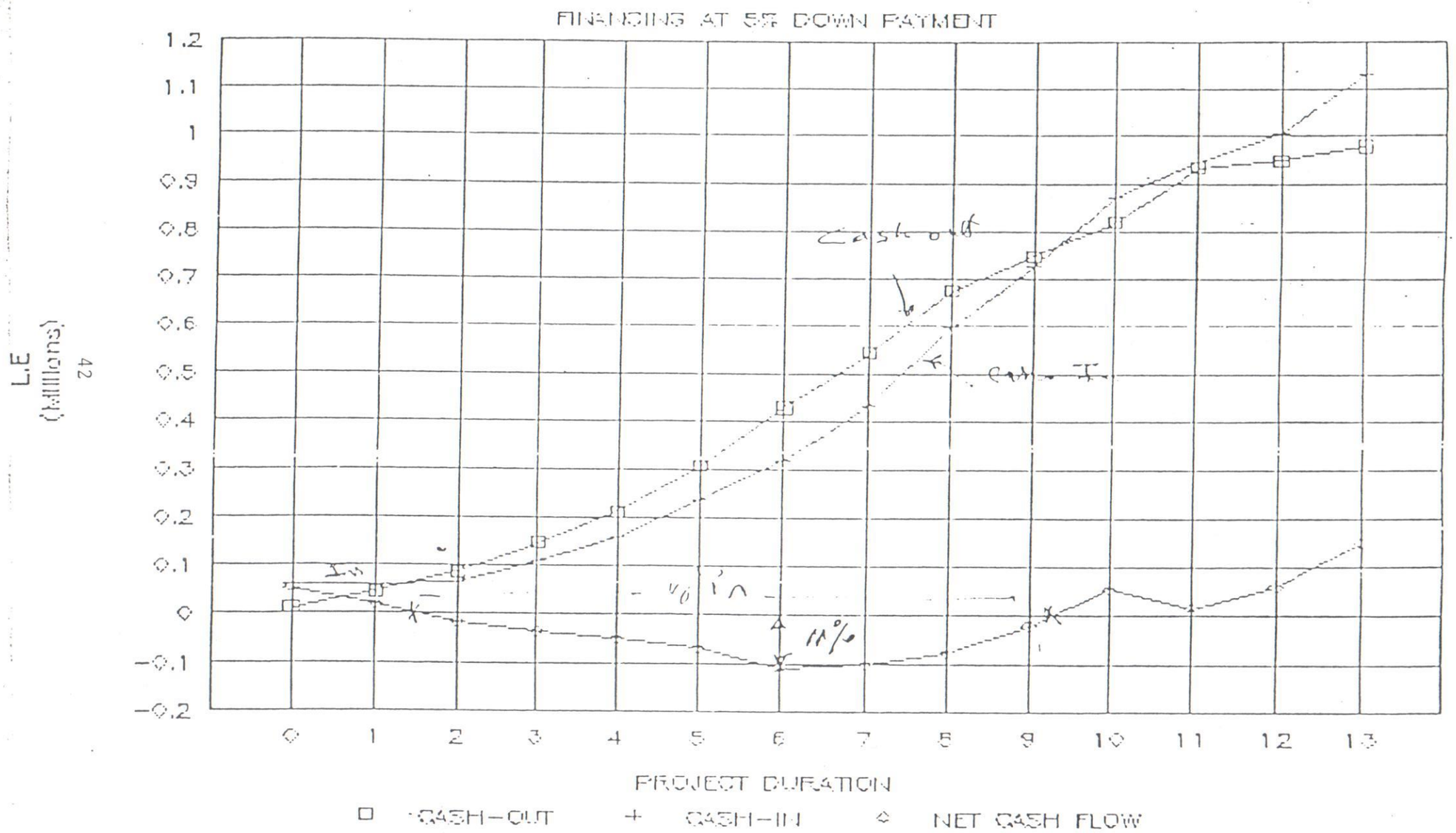
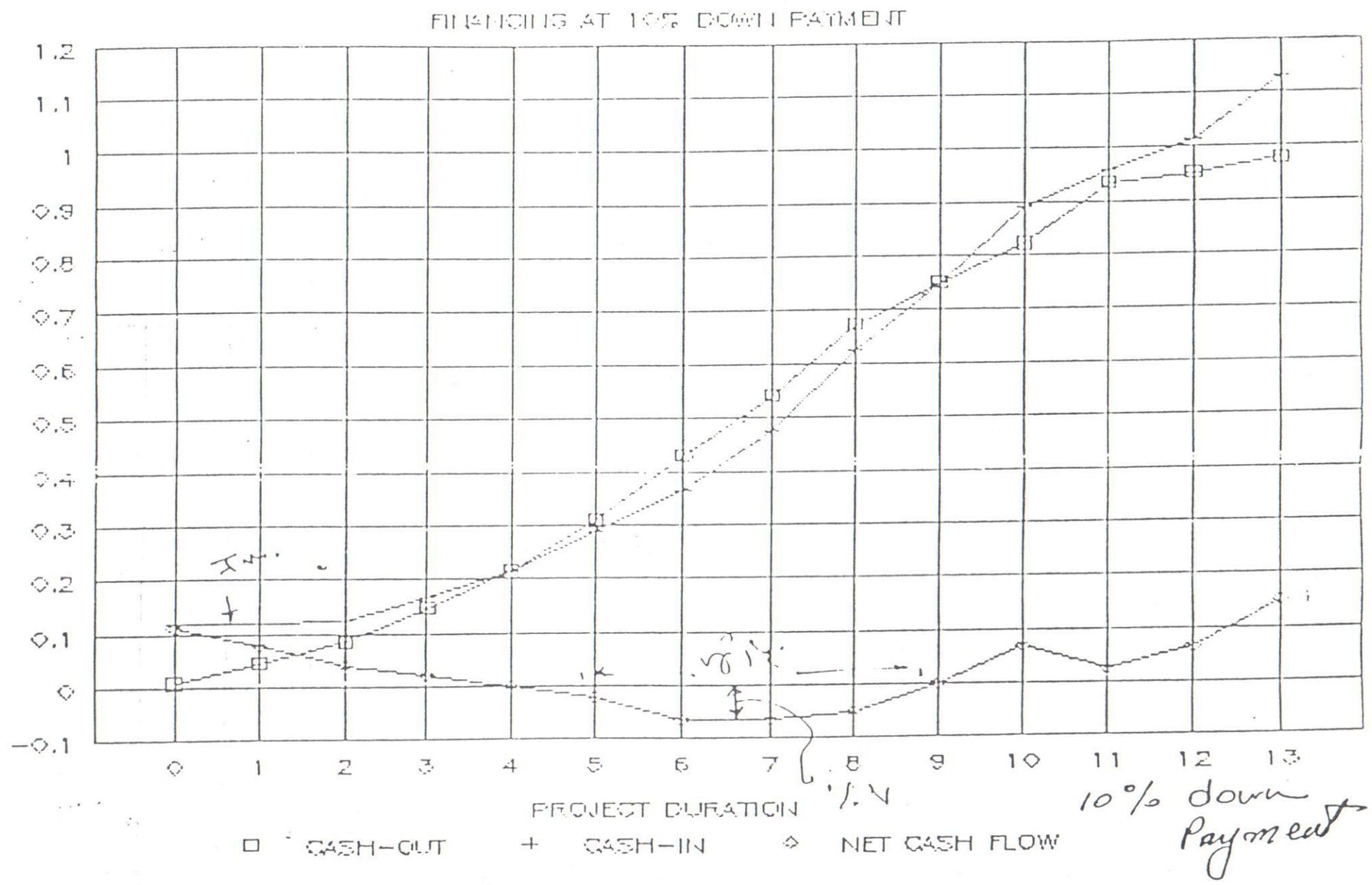
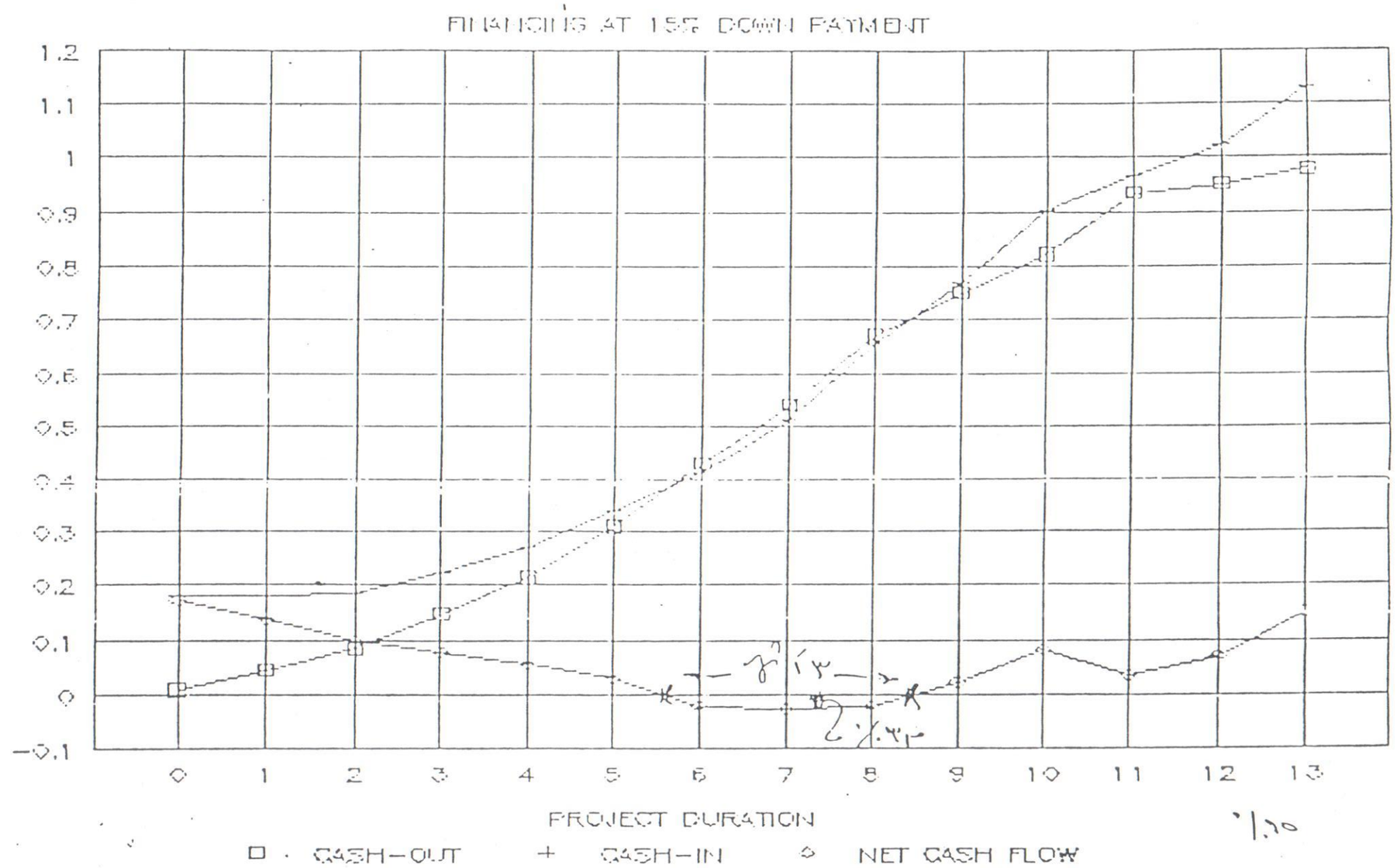
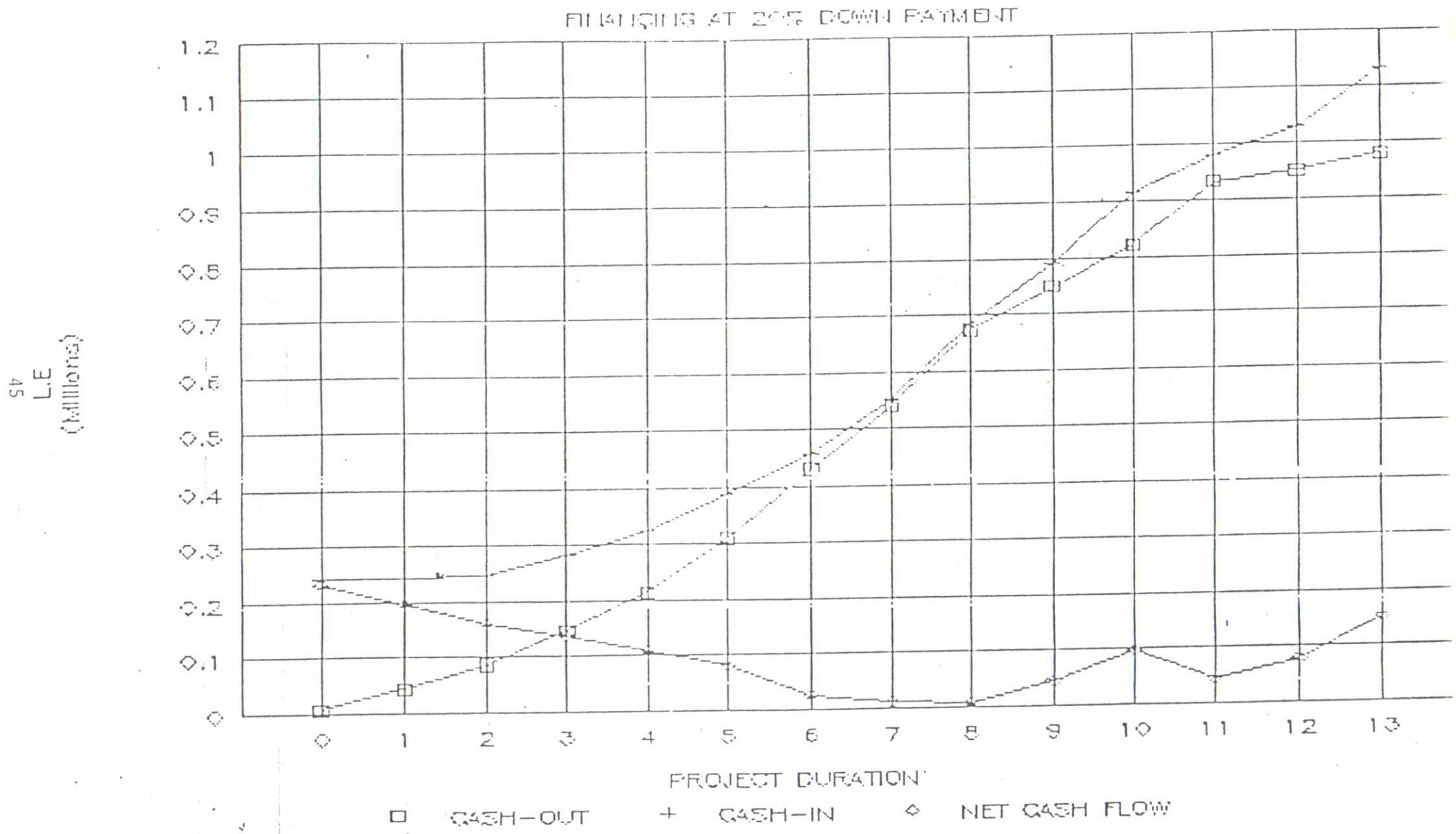

FINANCING AT 5% DOWN PAYMENT
L.E
(Millions)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
0
1
2
3
4
5
6
7
8
9
10
11
12
13
PROJECT DURATION
CASH-OUT
CASH-IN
NET CASH FLOW


FINANCING AT 10% DOWN PAYMENT
L.E
(Millions)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
0 1 2 3 4 5 6 7 8 9 10 11 12 13
PROJECT DURATION
1.4
.5
1.4
10% down Payment
□ CASH-OUT
+ CASH-IN
◇ NET CASH FLOW


FINANCING AT 15% DOWN PAYMENT
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
LE
(millions)
0 1 2 3 4 5 6 7 8 9 10 11 12 13
PROJECT DURATION
CASH-OUT
CASH-IN
NET CASH FLOW


FINANCING AT 20% DOWN PAYMENT
L.E
(Millions)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13
PROJECT DURATION
CASH-OUT
CASH-IN
NET CASH FLOW