

PROGRAM REVIEW COUNCIL AGENDA

HANDLE VIA BYEMAN SYSTEM ONLY

24 OCTOBER 1968



PROGRAM STATUS

MAJOR GENERAL BLEYMAIER

- o FINANCIAL STATUS
- o SCHEDULES
- o CONTRACTUAL STATUS
- o CONSTRUCTION STATUS
- o SUPPORT SHIP REQUIREMENT
- o LATEST HARDWARE PICTURES
- o MOL/NASA BIOASTRONAUTICS INTERFACE
- o MOL OPERATIONS INTERFACE WITH APOLLO PROGRAM
- o MOL/ADS STATUS

TECHNICAL STATUS

AEROSPACE CORPORATION

- | | |
|---------------------------------|-------------|
| o WEIGHT AND POWER SUMMARY | DR. HOWARD |
| o SPECIAL MATERIAL REQUIREMENTS | MR. MCGHEE |
| o LOADS STATUS | MR. HERNDON |
| o COMMENTS ON CONTAMINATION | MR. MOSS |

EXCLUDED FROM AUTOMATIC
REGRADING; DOD DIR 5200.10
DOES NOT APPLY

BYE-89791-68

Cy2 *Pp 5/19* *AF*

HANDLE VIA BYEMAN SYSTEM ONLY



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413-3-100 a

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FINANCIAL STATUS

**PRC BRIEFING
24 OCTOBER 1968**

HANDLE VIA BYEMAN SYSTEM ONLY

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ROUGH DRAFT

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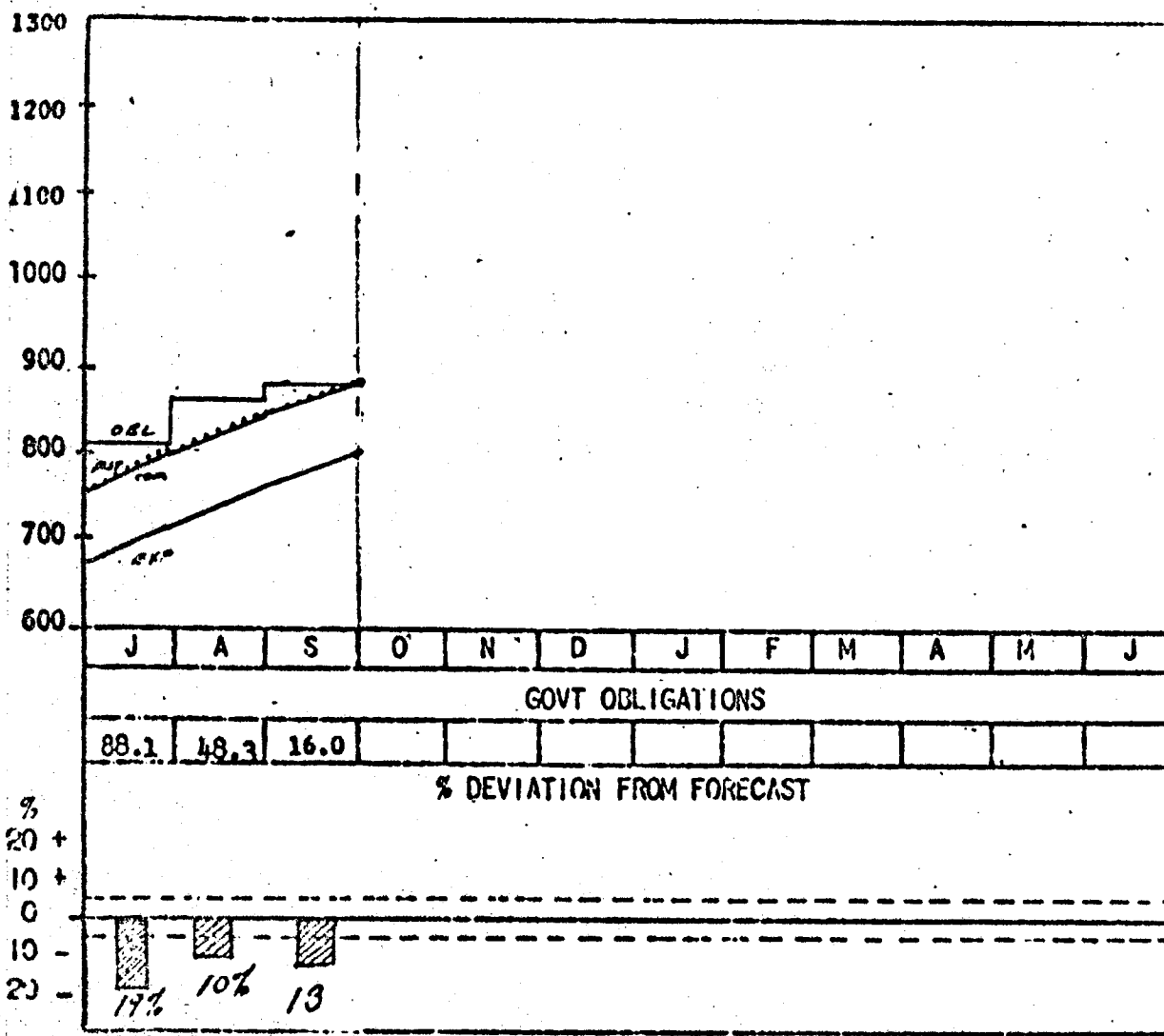
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CONTRACTOR FINANCIAL SUMMARY

	GOVT	CONTR	DIFF
END FY 68	722.6	749.6	27.0
END FY 69	1237.6	1330.6	92.6

APPROVED PROGRAM
LEVEL \$515.0
FUNDS
\$(M) RELEASED \$154.5

TOTAL MOL



ANALYSIS	NEW

CURRENT STATUS (CUM)	
FORECAST CUM	\$ 1,330.248
ACTUAL CUM	\$ 878.998
OBLIGATIONS	\$ 874.036
CONTR EXPEND	\$ 799.975
LATEST RATE PER MONTH	
COMMITMENTS	\$ 44.115
EXPENDITURES	\$ 43.855
LATEST TOTAL FY FORECAST	
COMMITMENTS	\$ 580.595
EXPENDITURES	\$ 585.721

DATA AS OF: 30 SEPT 1968
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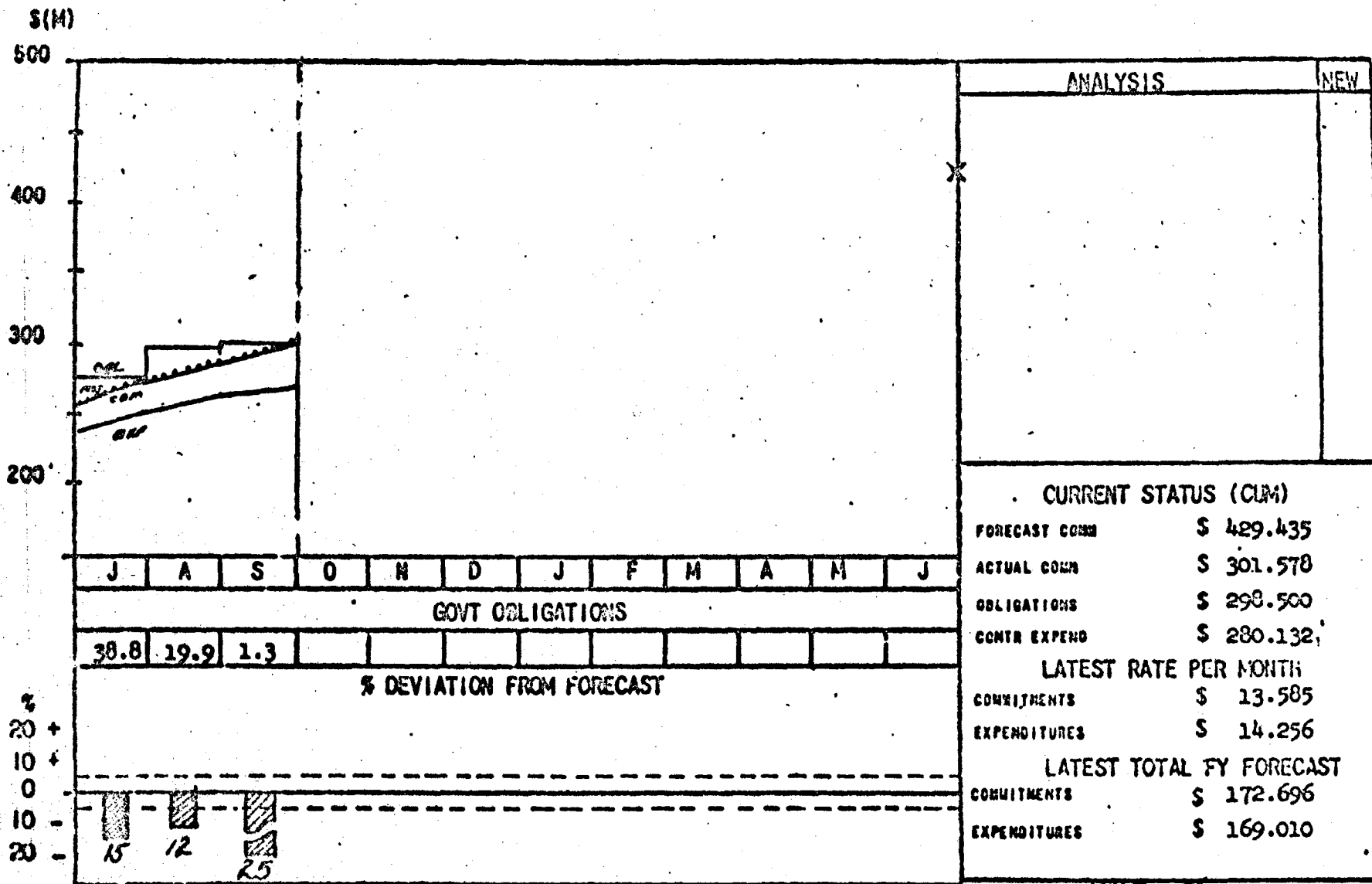
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BYE - 89791 - 68
ROUGH DRAFT

DNIFAX

CONTRACTOR FINANCIAL SUMMARY

LAB VEHICLE SYSTEM SEGMENT



DATA AS OF: 30 SEP 68

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HANDLE VIA BYEMAN

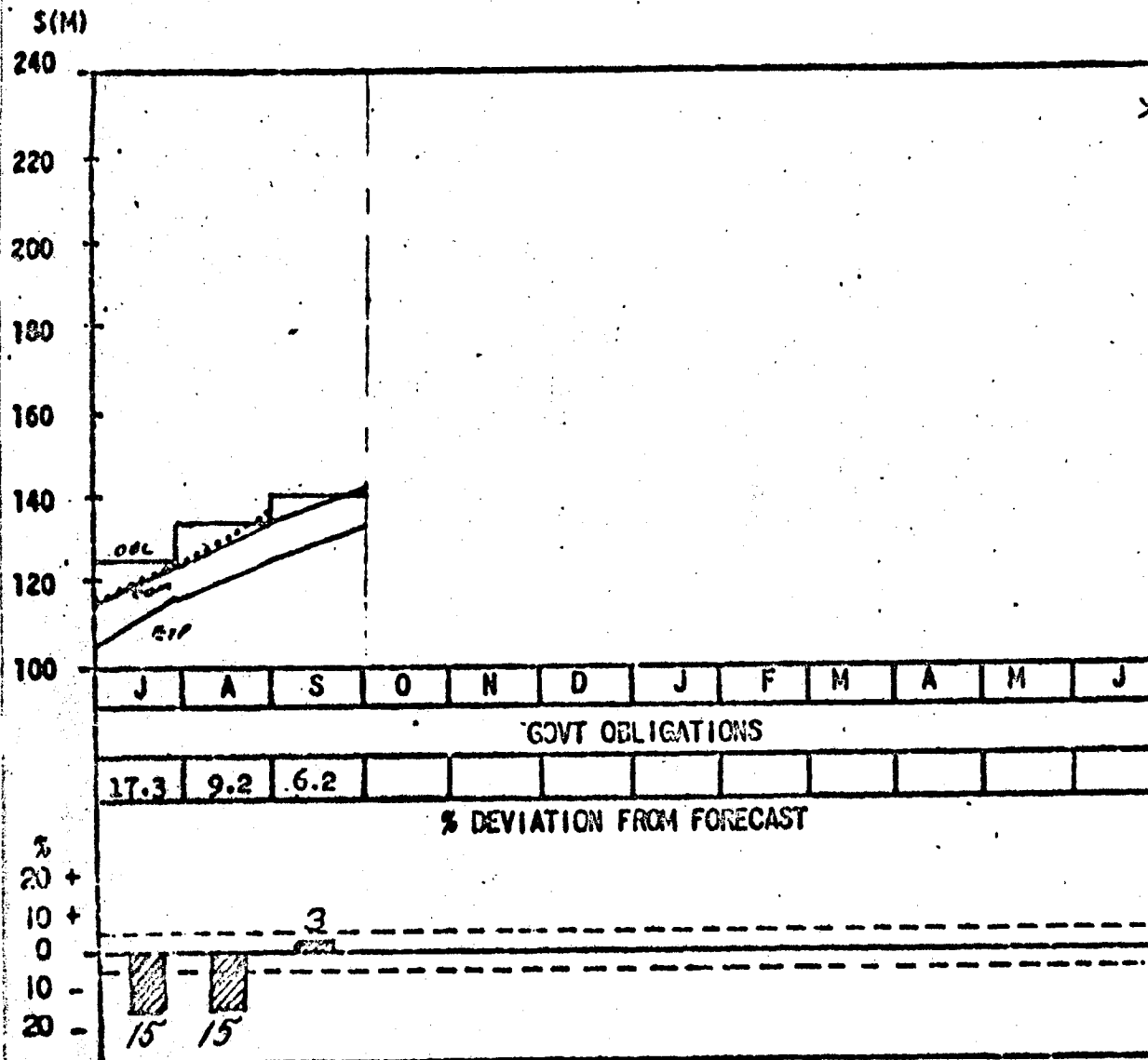
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CHIFAX

ROUGH DRAFT

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CONTRACTOR FINANCIAL SUMMARY
MISSION MODULE SYSTEM SEGMENT

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ANALYSIS	VIEW

CURRENT STATUS (CUM)	
FORECAST COMM	\$ 233.666
ACTUAL COMM	\$ 143.555
OBLIGATIONS	\$ 140.855
CONTR EXPEND	\$ 130.582
LATEST RATE PER MONTH	
COMMITMENTS	\$ 9.154
EXPENDITURES	\$ 9.167
LATEST TOTAL FY FORECAST	
COMMITMENTS	\$ 116.578
EXPENDITURES	\$ 118.254

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DATA AS OF: 30 SEP 68

HANDLE VIA BYEMAN
CONTROL SYSTEM ONLY

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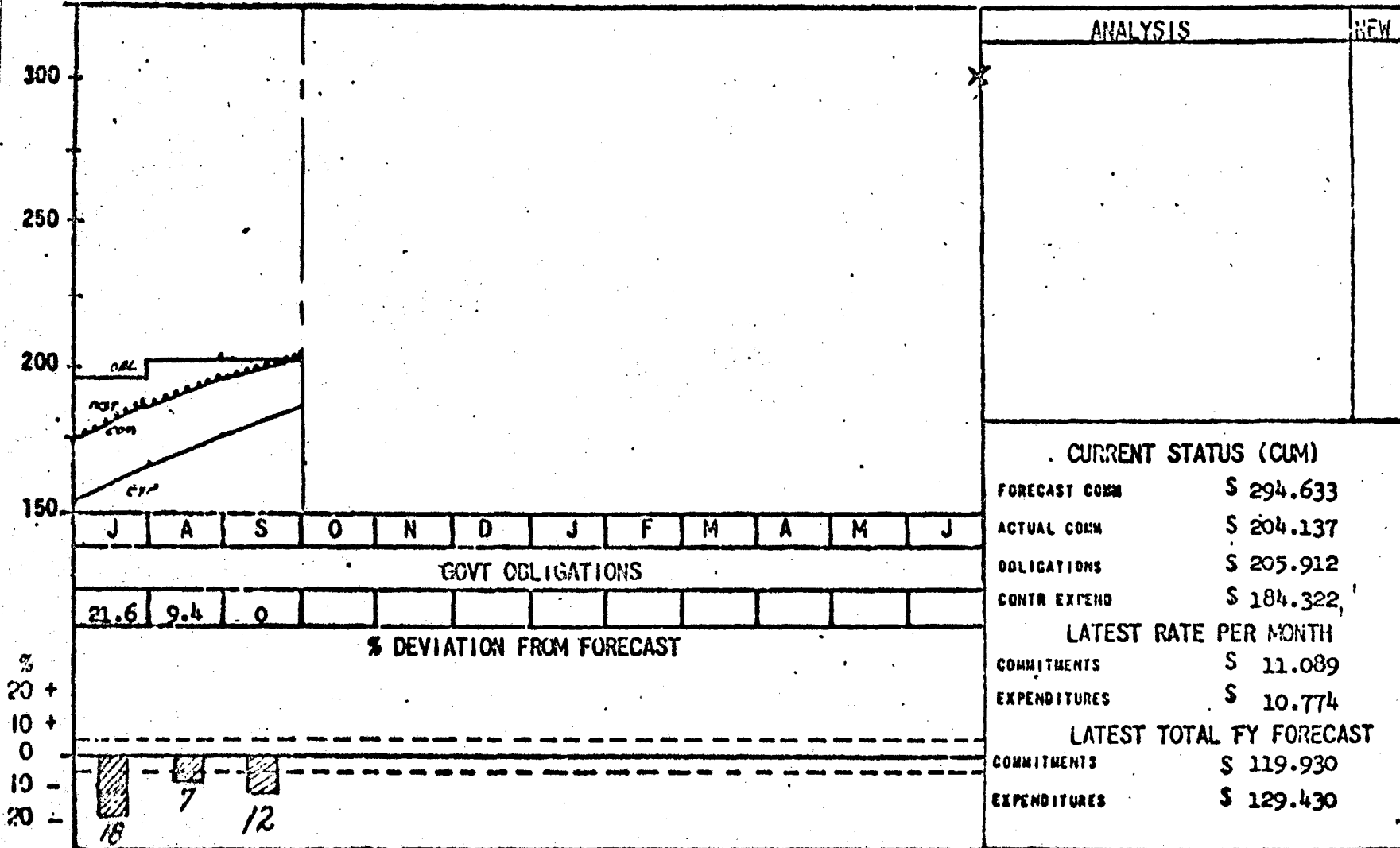
ROUGH DRAFT

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CONTRACTOR FINANCIAL SUMMARY

PHOTOGRAPHIC SYSTEM SEGMENT

S(M)



DATA AS OF: 30 SEP 68

HANDLE VIA BYEMAN
CONTROL SYSTEM ONLY

HANDLE VIA BYEMAN SYSTEM ONLY

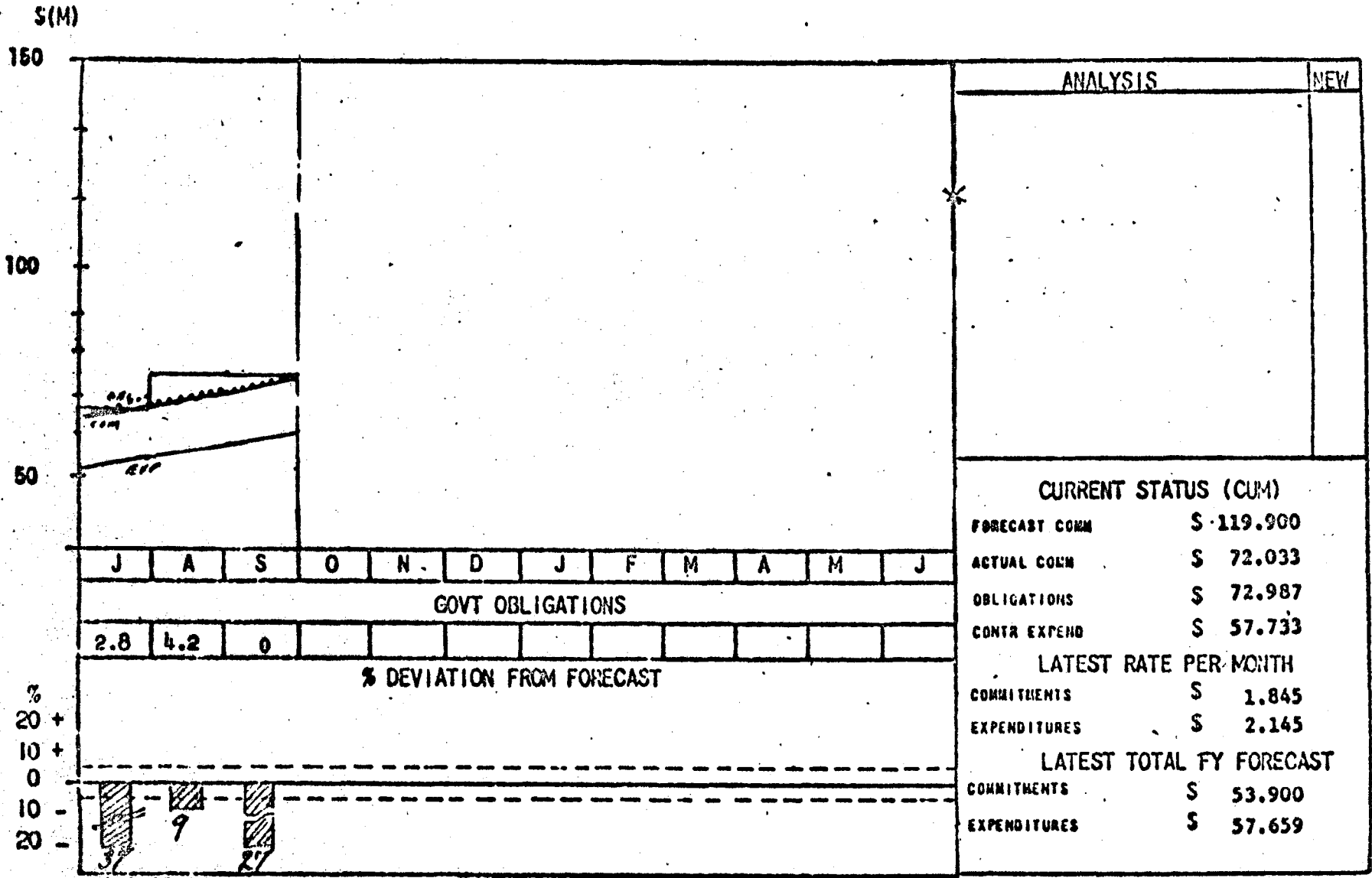
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CONTRACTOR FINANCIAL SUMMARY

GEMINI B SYSTEM SEGMENT



DATA AS OF: 30 SEPT 1968

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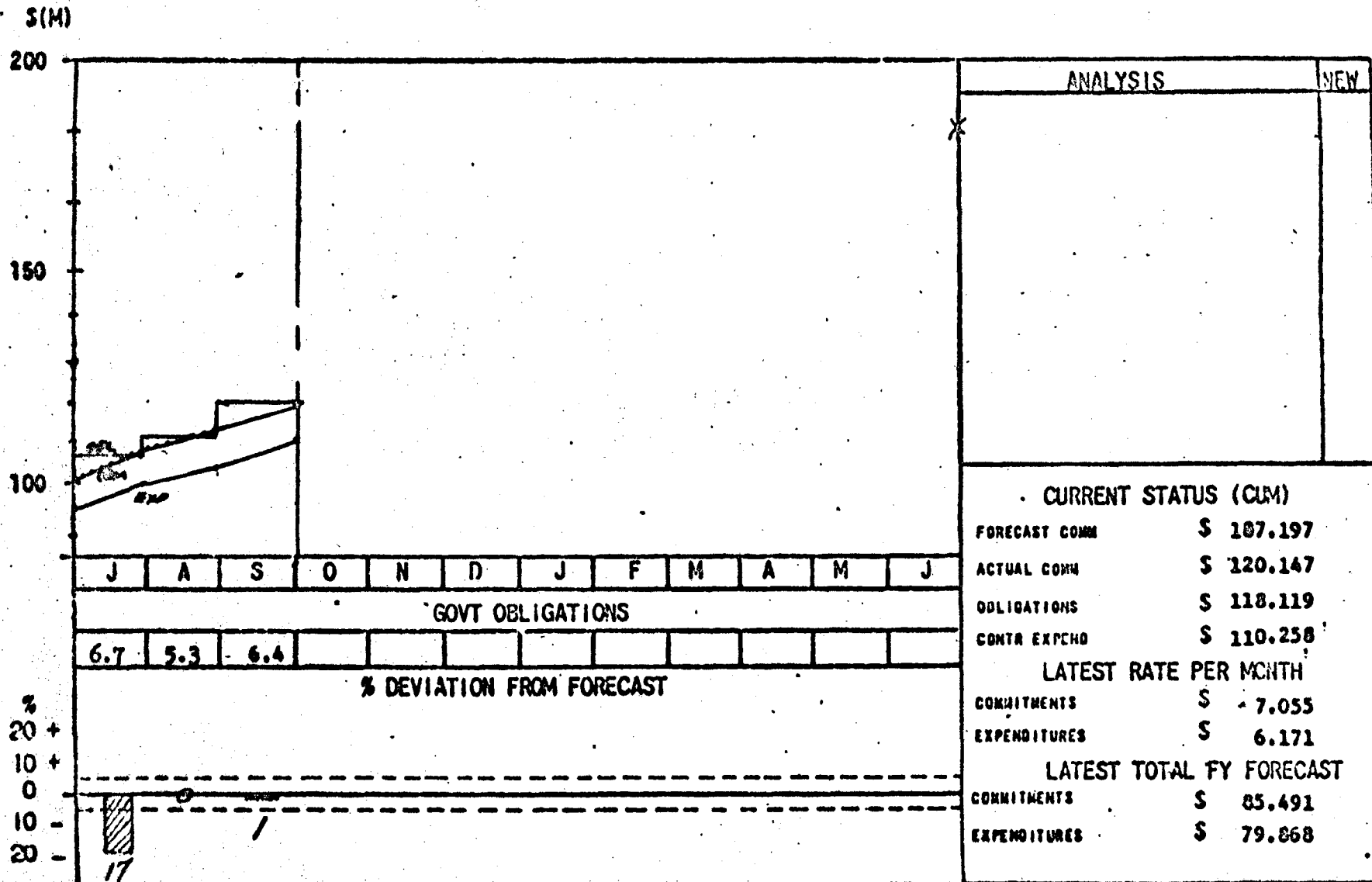
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ECNIFAX

TECHNICAL FILEABLE TRANSPARENCY MOUNT

CONTRACTOR FINANCIAL SUMMARY

TOTAL T-111M SYSTEM SEGMENT



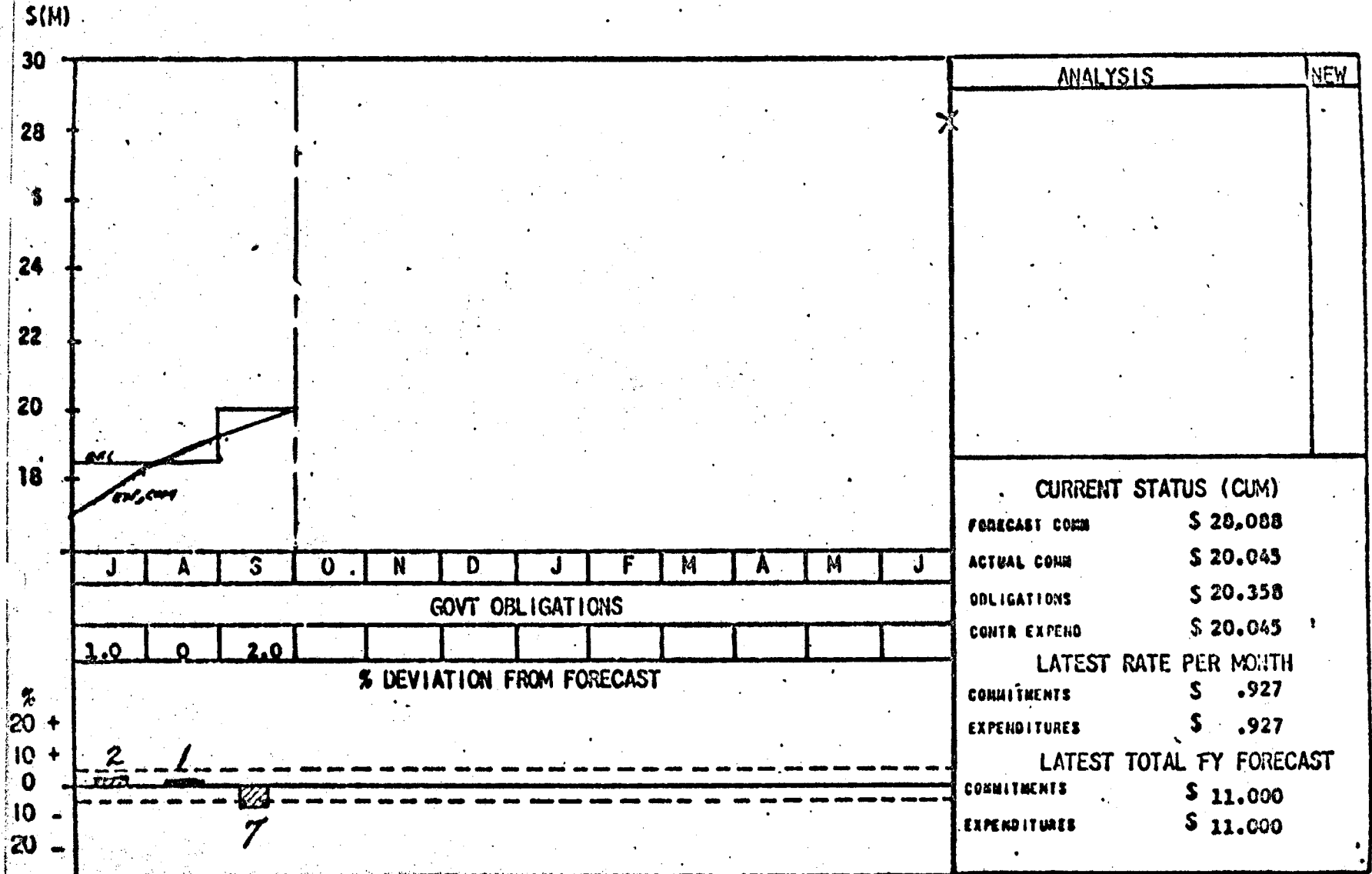
ANALYSIS		NEW
CURRENT STATUS (CUM)		
FORECAST COMM	\$	107.197
ACTUAL COMM	\$	120.147
OBLIGATIONS	\$	118.119
CONTR EXPCHO	\$	110.258
LATEST RATE PER MONTH		
COMMITMENTS	\$	7.055
EXPENDITURES	\$	6.171
LATEST TOTAL FY FORECAST		
COMMITMENTS	\$	85.491
EXPENDITURES	\$	79.868

DATA AS OF: 30 SEPT 1968

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CONTRACTOR FINANCIAL SUMMARY

GSE & TD, AEROSPACE



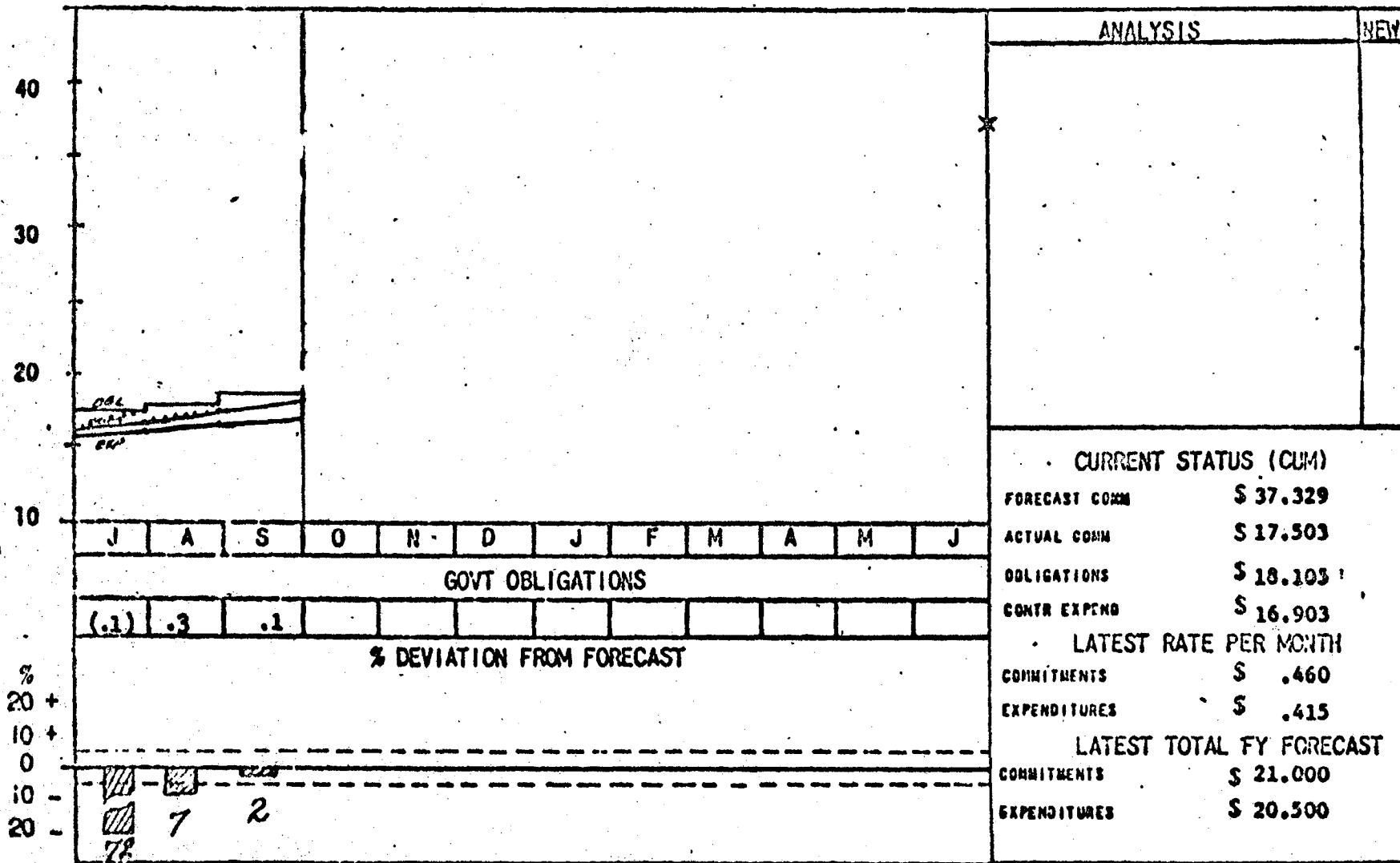
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CONTRACTOR FINANCIAL SUMMARY

OTHER

\$(M)



DATA AS OF: 30 SEPT 1968

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CHIFAX

ROUGH DRAFT

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COMPARATIVE ESTIMATES

HANDLE VIA BYEMAN SYSTEM ONLY
CONTROL SYSTEM ONLY
HANDLE VIA BYEMAN SYSTEM ONLY

(CUMULATIVE ALL YEARS)

THROUGH FY 69

TOTAL MOL PROGRAM

CONTRACTORS	COMMITMENTS		PLANNED PROGRAM	DIFFERENCE SPO/PROGRAM	CONTR/PRGM	ANALYSIS	NEW
	CONTRACTOR ESTIMATE	SPO ESTIMATE					
LAB VEHICLE	429.4	421.2	402.5	18.7	26.9		
MISSION MODULE	233.7	226.8	204.1	22.7	29.6		
PHOTOGRAPHIC SYSTEM	294.6	292.6	276.9	12.7	17.7		
GEMINI B	119.9	119.2	119.0	.2	.9		
T-IIIIM TOTAL	187.2	184.2	168.0	16.2	19.2		
MARTIN MARIETTA	80.6	79.6	72.5	7.1	8.1		
AC ELECTRONICS DIV	16.7	16.7	15.8	.9	.9		
AEROJET GENERAL	27.6	27.1	24.1	3.0	3.5		
UNITED TECH. CENTER	49.6	48.1	42.2	5.9	7.4		
T-III MISC.	12.7	12.7	13.4	(.7)	(.7)		
AEROSPACE	28.1	28.1	28.4	(.3)	(.3)		
OTHERS	37.3	37.3	39.7	(1.4)	(1.4)		
TOTAL	1330.2	1306.4	1237.6	68.8	92.6		

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CURRENT STATUS	
CONTRACTOR COMMITMENTS	\$ 878.9
AIR FORCE OBLIGATIONS	\$ 874.8

~~ROUGH DRAFT~~

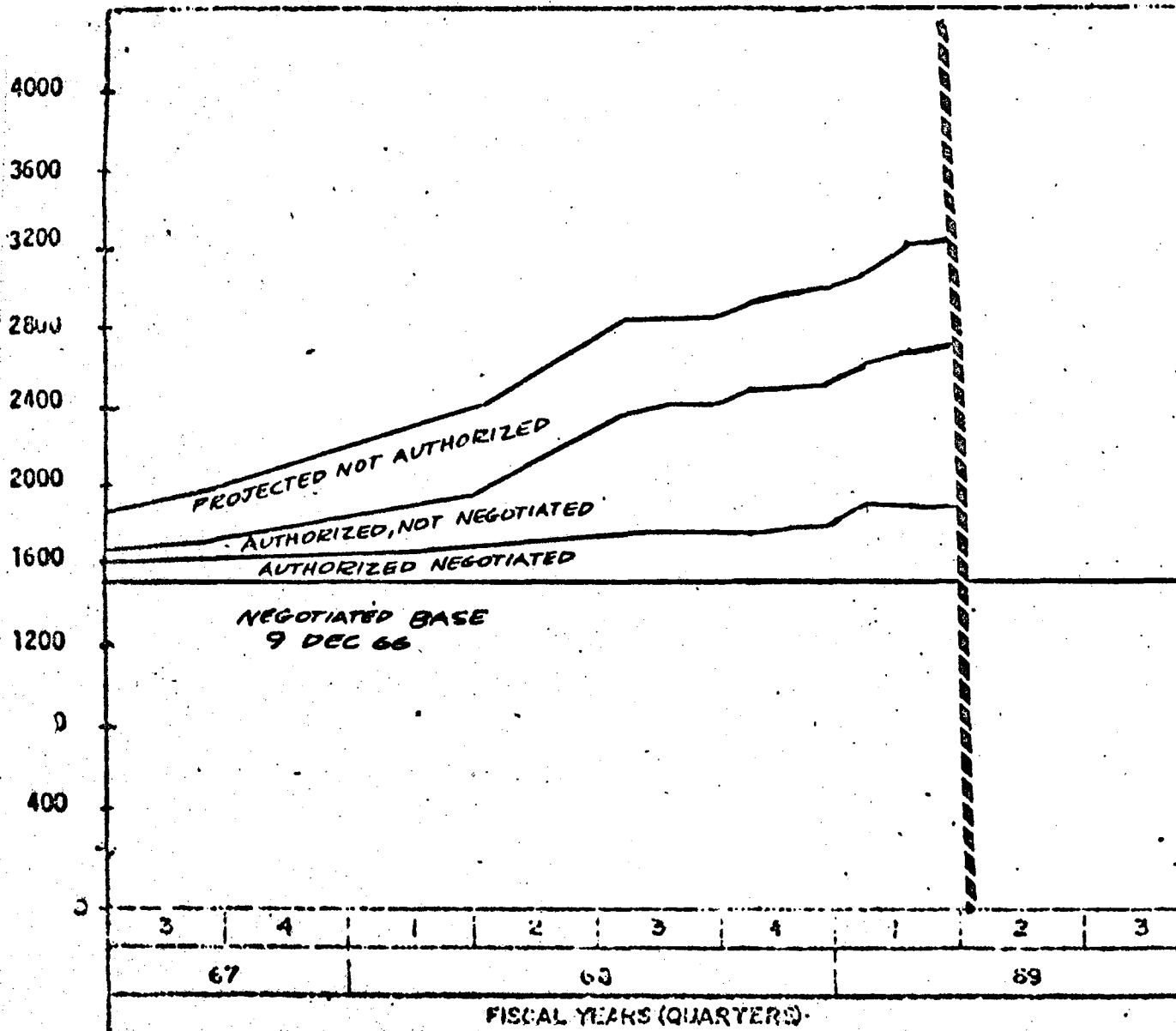
DATA AS OF: 30 SEPT 1968

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PROGRAM FORECAST SUMMARY

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TOTAL MOL



ANALYSIS		REV
CURRENT STATUS		
NEGOTIATED BASE	\$ 1522.468	
AUTH. NEGOTIATED	\$ 328.953	
AUTH. NOT NEG	\$ 882.441	
TOTAL AUTHORIZED	\$ 2733.862	
FORECASTED GROWTH		
PROJ. NOT AUTH	\$ 553.880	
TOTAL PROJ FCST	\$ 3287.742	

DATA AS OF: 30 SEPT 1968

SECRET SPECIAL HANDLING (ROUGH DRAFT)

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ROUGH DRAFT

MANPOWER FY 1969

JULY 69 BASELINE

ALL CONTRACTORS

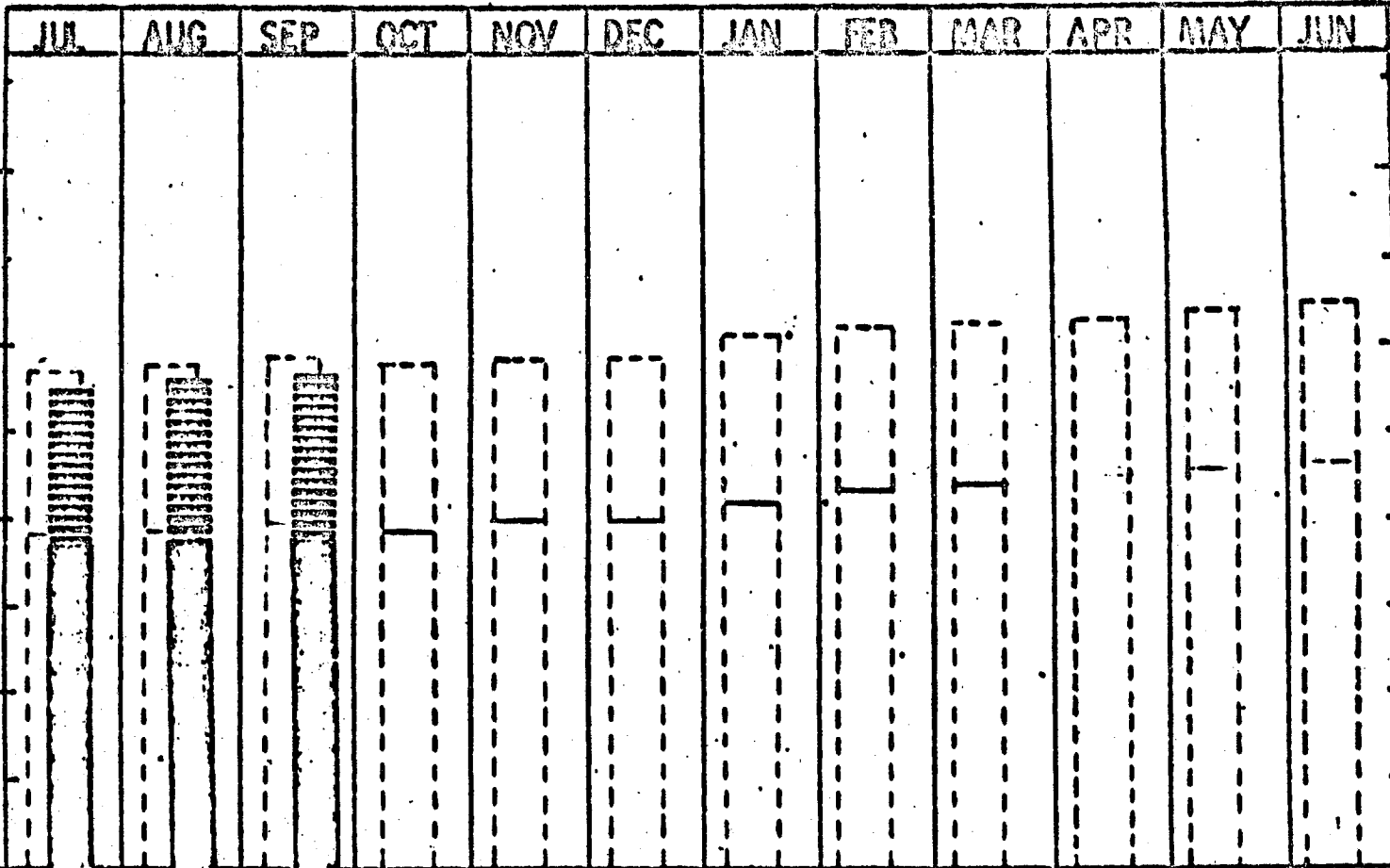
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16000

12000

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4000



		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
DIRECT	F	7609	7800	7934	7890	7944	7947	8206	8267	8407	8726	8836	8944
	A	7115	7505	7734									
INDIRECT	F	3789	3802	3932	3897	3921	3925	4100	4141	4200	4347	4422	4485
	A	3716	3717	3804									
TOTAL	F	11398	11682	11866	11787	11865	11872	12306	12408	12607	13073	13258	13429
	A	11131	11222	11538									

HANDLE VIA BYEMAN

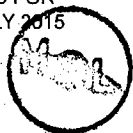
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ROUGH DRAFT

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FAX



NEW LABOR RATES

AVERAGE RATE INCREASE (¢ / HOUR)

	<u>1969</u>	<u>1970</u>
DIRECT WAGE RATE	16.4 ¢/HR	29.7 ¢/HR
INDIRECT WAGE RATE	13.0	26.0
FRINGE BENEFITS	31.0	39.0
	<hr/>	<hr/>
	60.4 ¢/HR	94.7 ¢/HR



MOL SAFETY CHANGES

DAC	SPEC 10010	8.760
	DUAL GAS	.440
GE	SPEC 10010	5.000
EKC	SPEC 10010	6.000
MAC	SPEC 10010	4.250
	KAPTON WIRING	1.668
	O ₂ SAFETY STUDY	.019
	INDEP O ₂ SUPPLY	.088
	DUAL GAS	2.097
	COOLANT FLAM. STUDY	.129
	COOLANT FLAM. TEST	.018
		<hr/>
		28.469



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TREND

CONTRACTOR MONTHLY ACTUALS

	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>
DAC	17.301	13.934	13.585
GE	9.596	7.717	9.154
EKC	9.433	8.912	11.039
MAC	1.759	2.429	1.845
T-111M	5.078	6.303	7.055
AEROSPACE	1.017	1.013	.927
OTHER	.424	.552	.460
	<hr/>	<hr/>	<hr/>
	44.608	40.885	44.115

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END OF 1ST QUARTER / FY 69 POSITION

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	<u>GOVT FUNDING</u>	<u>CONTR ACTUALS</u>	<u>DIFFERENCE</u>
DAC	298.5	301.6	- 3.1
GE	140.9	143.6	- 2.7
EKC	205.9	204.1	+ 1.8
MAC	73.0	72.0	+ 1.0
T-IIIM	118.4	120.1	- 1.7
AEROSPACE	20.4	20.0	+ .4
OTHER	20.0	17.5	+ 2.5
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	877.1	878.9	-1.8

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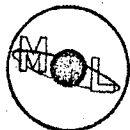


TREND
CONTRACTOR FORECAST VARIANCE (VS CUM FY 69 PLAN)

	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>
DAC	24.5	24.7	26.9
GE	26.2	23.7	29.6
EKC	15.4	17.9	17.7
MAC	.2	.2	.9
T-111M	18.5	20.2	19.2
AEROSPACE	-.3	-.3	-.3
OTHER	-1.4	-1.3	-1.4
	<u>83.1</u>	<u>85.1</u>	<u>92.6</u>

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CONTRACTOR'S FY 1970 FORECAST
(AS OF 30 SEPT 69 CFR)

DAC	235.6
GE	138.7
EKC	99.1
MAC	79.1
T-IIIM	111.2
AEROSPACE	11.0
OTHER	43.0
TOTAL	<u>717.7</u>

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FY 69

BASELINE MASTER SCHEDULE

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		MASTER SUMMARY SCHEDULE														
FISCAL YEAR		1968			1969			1970			1971			1972		
CALENDAR YEAR		1968			1969			1970			1971			1972		
MONTHS FROM EDP ATP		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	C/C & TAC CONSTR															
2	SUPPORT FAC CONSTR															
3	SIG & EQUIP ASS'N															
4	GROUND SYSTEM TEST															
10	OVER THE AIR MISSION SIMULATOR															
11																
12																
13	LABOR VEH DEL AT VAFB															
14																
16	LAB VEH DEL AT VAFB															
17																
18																
19	S/C DEL AT VAFB															
20																
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23	VEHICLE T&C															
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CHG OFF DATE 6 OCT 68

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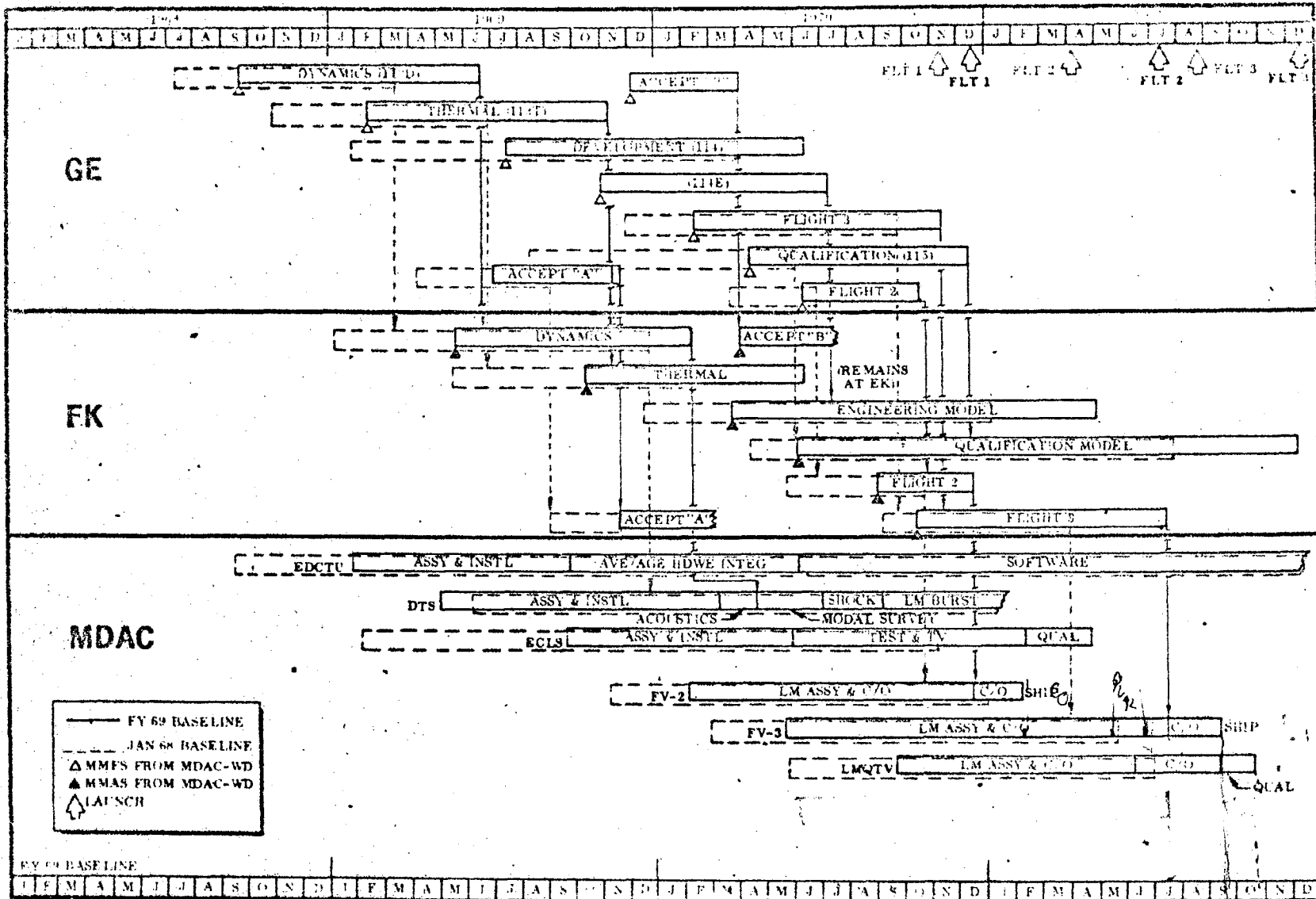
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INTEGRATED TEST FLOW (FY 69 BASELINE)



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NRO APPROVED FOR
RELEASE 1 JULY 2015

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90-DAY WINDOW

JUL, AUG, SEP

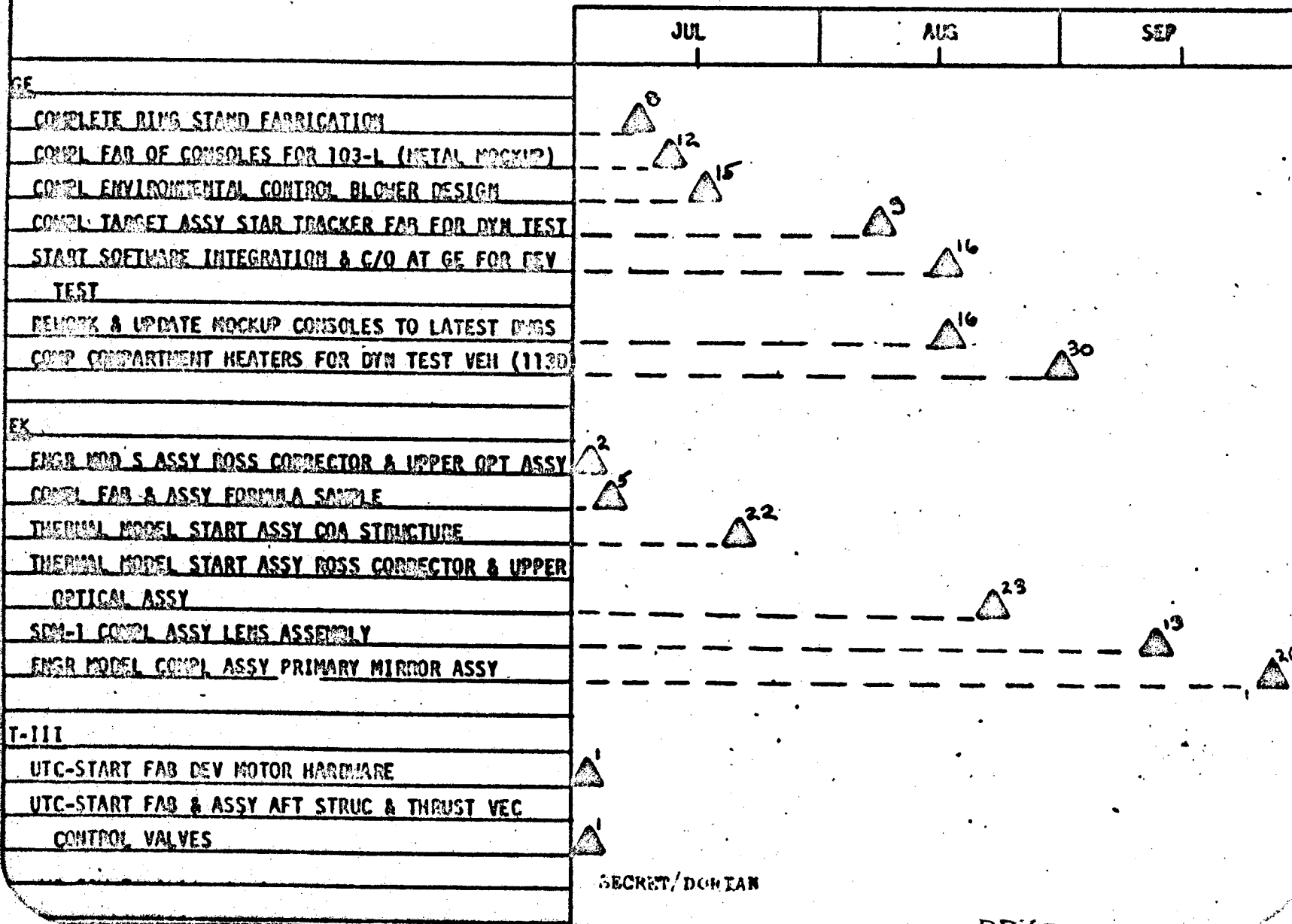
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1-8-1

SECRET/DO NOTAN
90-DAY WINDOW

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SECRET/DO NOTAN

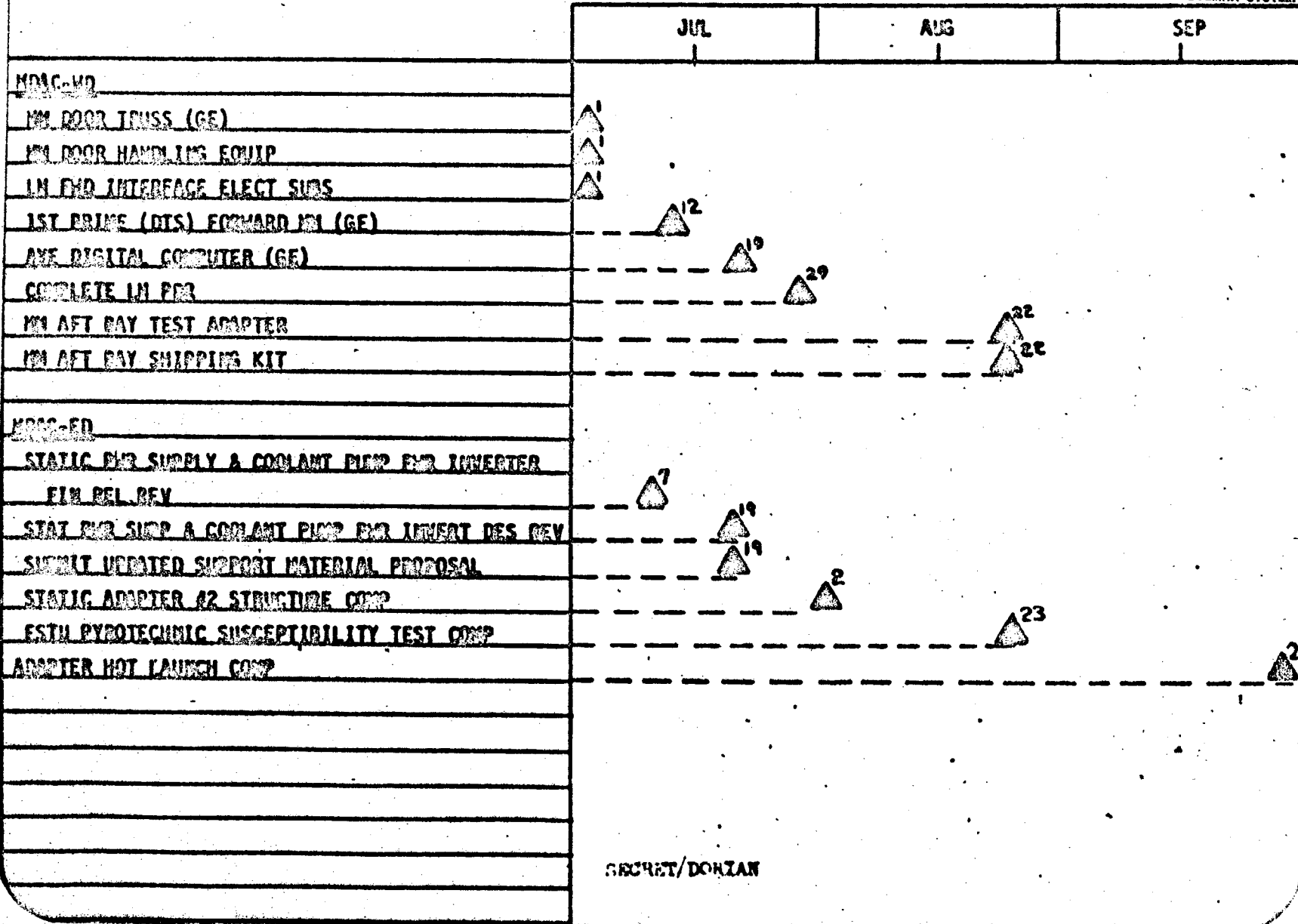
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13-34

SECRET//NOFORN
90-DAY WINDOW

HANDLE VIA BYEMAN SYSTEM ONLY



SECRET//NOFORN

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90-DAY WINDOW

OCT, NOV, DEC

90-DAY WINDOW

HANDLE VIA BYEMAN SYSTEM ONLY

McDONNELL DOUGLAS - WESTERN DIVISION

	OCT	NOV	DEC
DEL LAB INTERFACE HEAT EXCH		△ ²⁰	
ADC FOR MISSION SIM DEV		△ ¹	
DEL AVE DIGITAL COMPUTER		△ ³	
MATRIX FUEL CELL SUBCONTRACTOR ATP		△ ¹⁵	
ASSEMBLY AFT BAY MISSION MOD			△ ²⁰
COMP ASSEMBLY FORWARD BAY MISSION MOD			△ ¹⁰
DEL LN ADJACENT STRUCT SUB AND HANDLING EQUIP			31

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90-DAY WINDOW

HANDLE VIA BYEMAN SYSTEM ONLY

McDONNELL DOUGLAS - EASTERN DIVISION

	OCT	NOV	DEC
ROCKETDYNE-DEL COMPLETE SET OF RCS COMPONENTS		△ ¹	
C - ADAPTER FREE SHELL MODES TEST		△ ¹	
C - AVE EQUIPMENT COR			△ ¹²
C - B/P 01 STRUCTURE REFURB & MOD			△ ⁶
S - TTV STRUCTURE REFURB & MOD			△ ⁶

	OCT	NOV	DEC
S MIES PRE-ASSY OF 113 DYNAMIC VEHICLE	1		
C 1ST UNIT OF VERTICAL SUPPORT STAND O/D GE		20	
C 1ST TRANSPORTER UNIT O/D GE		1	
C AGE TEST SUPPORT SOFTWARE PROG (805) MILE. 4		5	
C DEV COMPONENT DRWG RELEASE FOR DEV VEH (114)			29
C PRE-ASSY MIES STRUCT FOR 113D TEST			5
C FAB & ASSY MOL CITE SET #1			3
C INSTALL AIR DIST EQUIP IN METAL MOCKUP (103)			9
S FINAL ASSY ON MIES FOR 113D TEST			16
C ANALOG TEST OF CC&I SUBSYS FOR DSS-1			27

C - COMPLETED
S - START

EASTMAN KODAK

~~SECRET/DORIAN~~

90-DAY WINDOW

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	OCT	NOV	DEC
THERMAL MODEL-COMP CORR & SPT STRUCT ASSY		△ ²⁰	
THERMAL MODEL-COMP ASSY COA STRUCTURE		△ ²¹	
THERMAL MODEL-COMP PRIMARY MIRROR ASSY		△ ⁷	
ENRR MODEL-COMP PRIMARY MIRROR ASSY		△ ¹³	
THERMAL MODEL-COMP ROSS CORR & UPPER OPT ASSY		△ ¹⁶	
ENRR MODEL-COMP ROSS CORR & UPPER OPT ASSY		△ ²⁴	
ENRR MODEL-COMP CORR & SPT STRUCT ASSY			△ ⁶

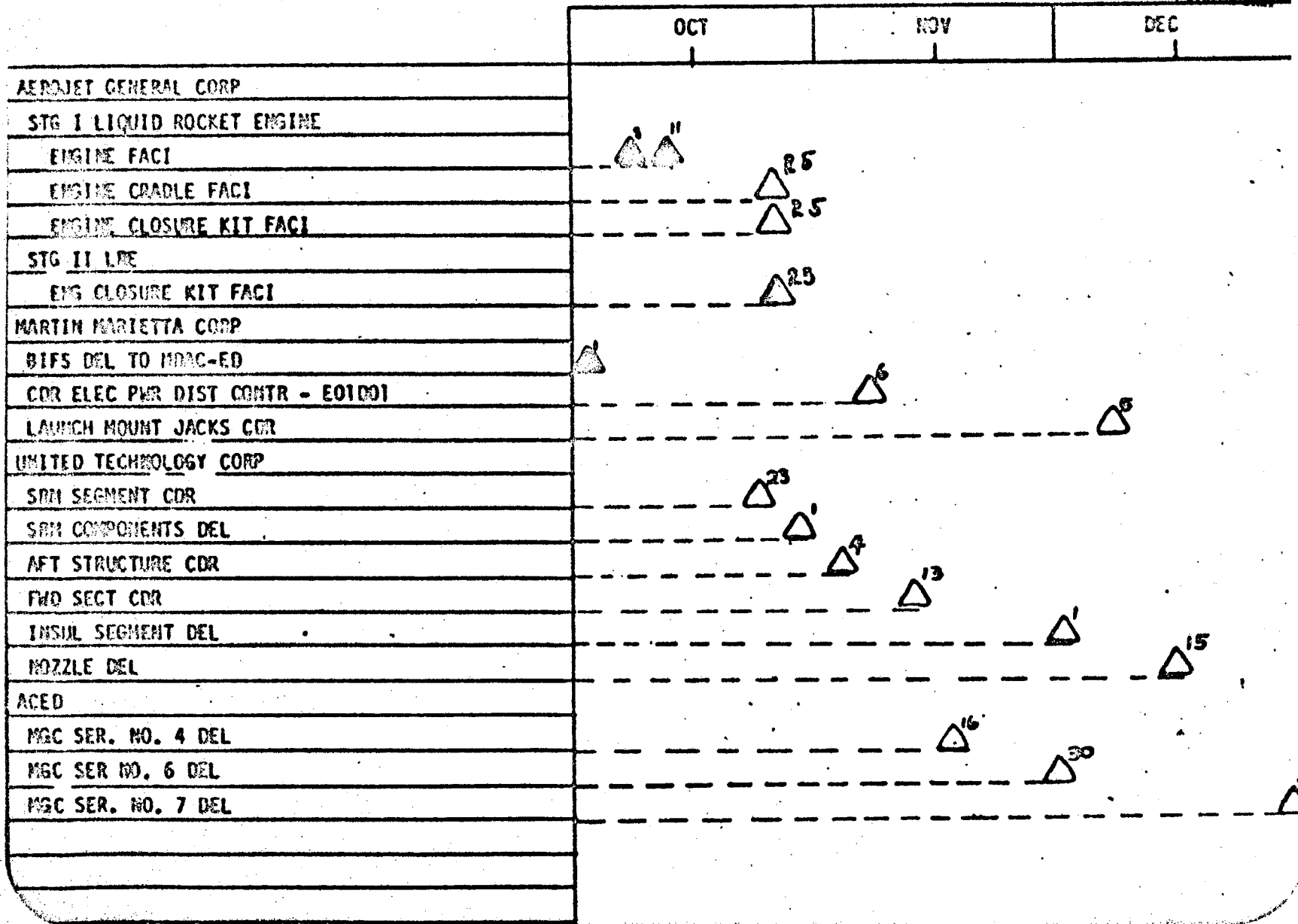
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90-DAY WINDOW

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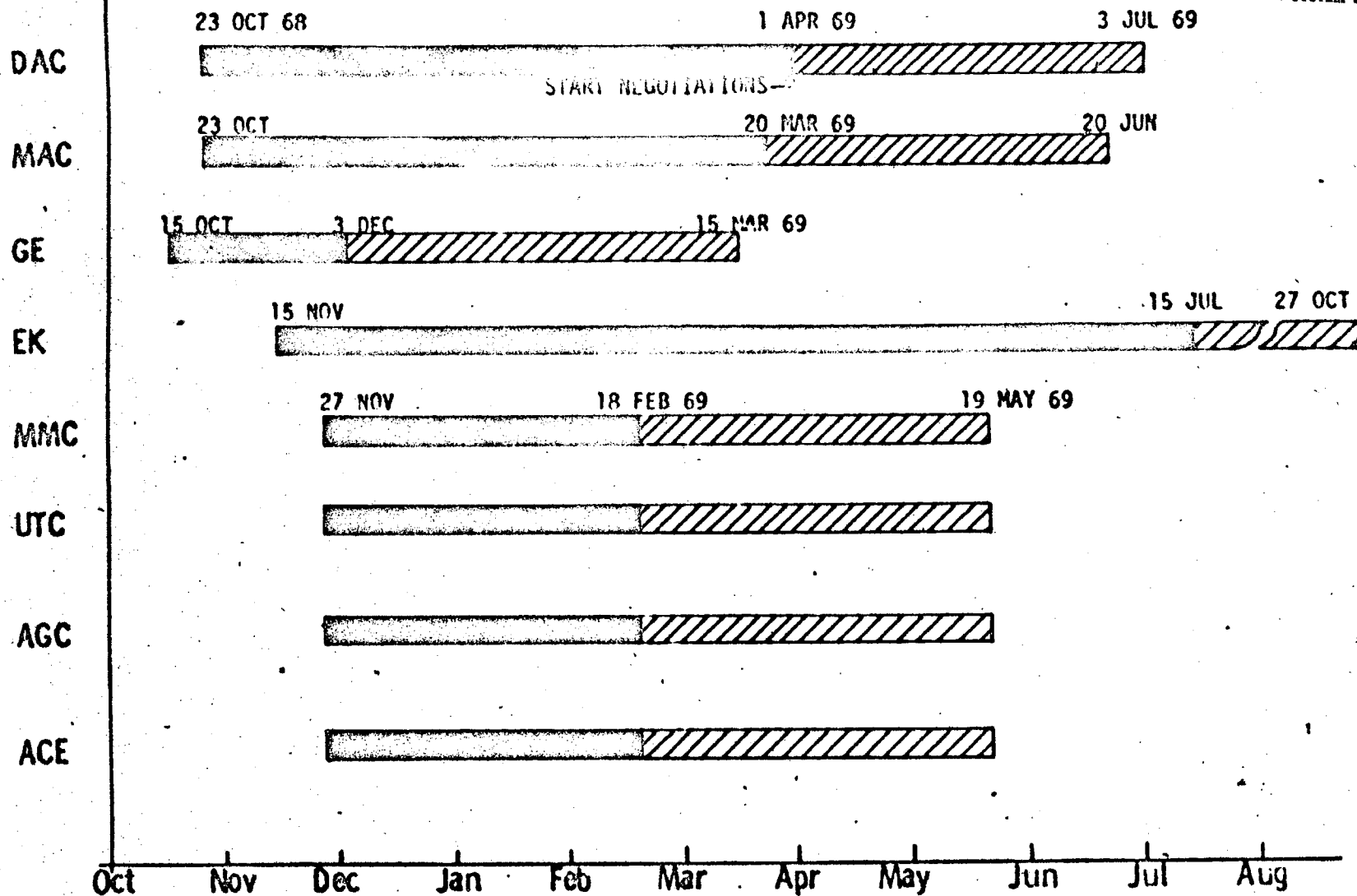


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TIME FORECAST OF TOTAL TECHNICAL PACKAGE TO PCO TO DISTRIBUTION OF FINAL SIA

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MOL FACILITIES SUMMARY CONSTRUCTION SCHEDULE

AS OF: 17 OCT 1968 **HANDLE VIA BYEMAN SYSTEM ONLY**

	SCHEDULED COMPLETION	PERCENT COMPLETE				
		20	40	60	80	100
SLC-6						
MOBILE SERVICE TOWER	4-1-69					28
UMBILICAL TOWER	4-1-69					90
AGE BUILDING	11-15-68					91
LAUNCH DECK/DUCKET	4-1-69					95
LAUNCH CONTROL CENTER	8-21-68					100
PROPELLANT HOLD AREAS	7-25-68					100
COMPLEX SERVICE BUILDING	12-2-68					92
READY BUILDING	7-1-68					100
SRM PROCESSING BUILDINGS	9-1-68					100
MOL SUPPORT FACILITIES						
OPERATIONS TRNG EVAL FAC.	8-4-69					14
OPERATIONAL READINESS UNIT	8-4-69					16
ENGINEERING OPERATIONS BLDG	4-1-69					18
LAB VEHICLE SUPPORT FAC.	6-1-69					3
GEMINI B SUPPORT BLDG.	6-1-69					5

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- MOL SUPPORT FACILITIES -

VANDENBERG AFB

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FACILITY	DESIGN STATUS % COMPLETE	SCHEDULED ADVERTISE DATE	SCHEDULED CONSTR START	PROGRAM NEED DATE
OTEF	100	18 MAR 68	1 MAY 68	1 OCT 69
ORU	100	18 MAR 68	1 MAY 68	1 OCT 69
EOB	100	18 MAR 68	1 MAY 68	1 APR 69
LVSF	100	18 MAR 68	1 MAY 68	1 AUG 69
GBSB	100	18 MAR 68	1 MAY 68	1 AUG 69
PSF	100	13 JAN 69	21 FEB 69	1 SEP 69
PTC	100	13 JAN 69	21 FEB 69	1 SEP 69
PSA	100	13 JAN 69	21 FEB 69	1 SEP 69
GBTC	100	13 JAN 69	21 FEB 69	1 SEP 69
BIGS	70	13 JAN 69	21 FEB 69	1 JAN 70
MMSF	0	1 OCT 69	15 NOV 69	1 APR 70

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HANDLE VIA BYEMAN SYSTEM ONLY

SLC-6

- #1 SLC LAUNCH COMPLEX LOOKING NORTHWEST
- #2 UT AND MST
- #3 POWER PLANT
- #4 RECEIPT AND INSPECTION BUILDING
- #5 SEGMENT READY STORAGE BUILDING

89-89791-68
EYE -

HANDLE VIA BYEMAN SYSTEM ONLY

SHIP SUPPORT REQUIREMENT

HANDLE VIA BYEMAN SYSTEM ONLY

- o PRIMARY RECOVERY SHIP REQUIRED FOR RETRIEVAL OF CREW, DATA, AND SPACECRAFT IN EVENT OF MODE C ABORT DURING ASCENT.
 - FIRST NEED IN JULY 1971
 - 30 DAYS USE AT APPROXIMATELY 5 MONTH INTERVALS
 - LOCATED AT 40° S. LATITUDE
 - NEED TERMINATES AT INSERTION

- o USNS LONGVIEW AND USNS SUNNYVALE CAPABILITIES ADEQUATE FOR MOL NEEDS.

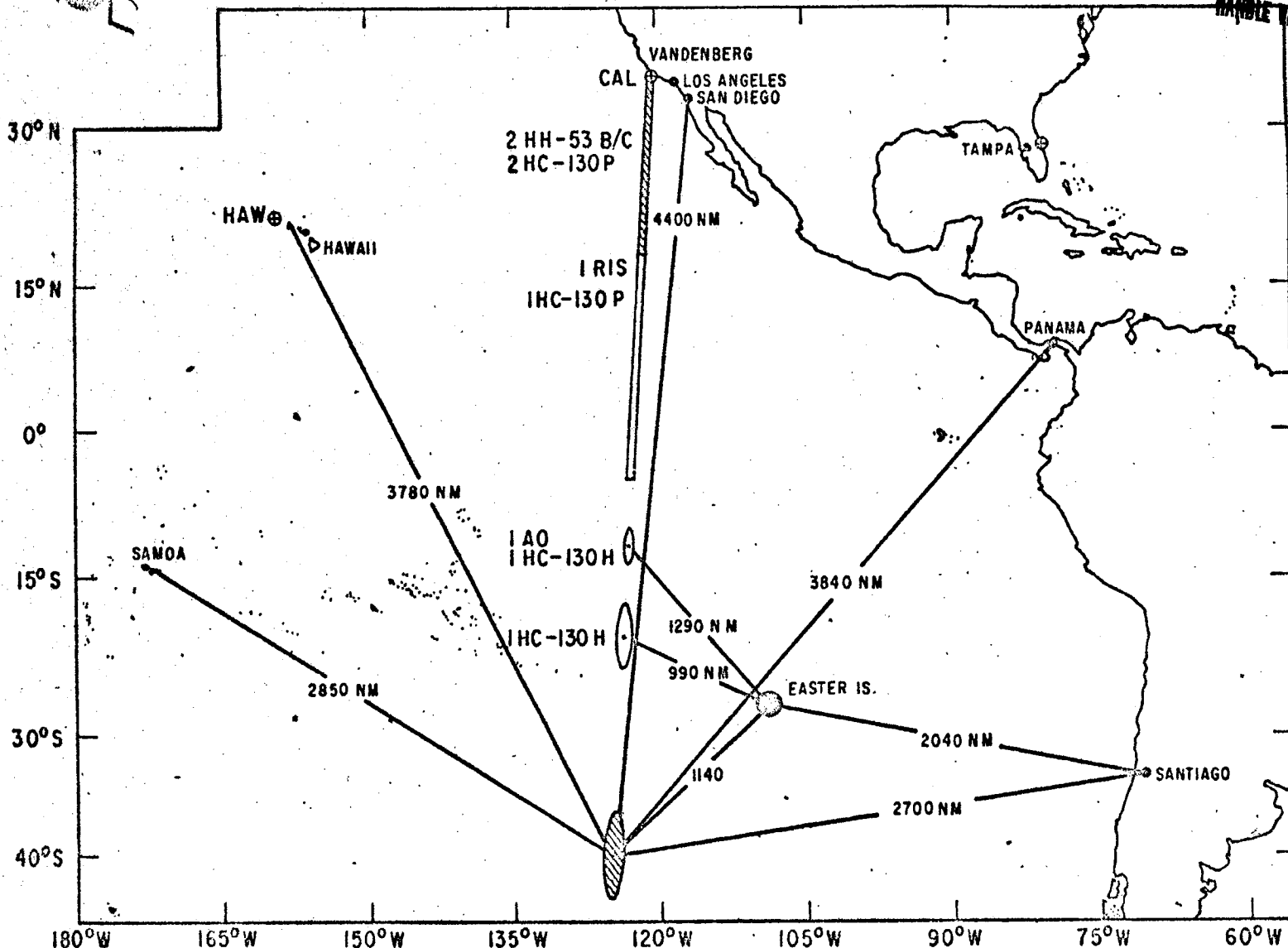
- o MOL REQUIREMENTS SHOULD BE CONSIDERED IN FORMULATION OF PLANS FOR USE OF LONGVIEW AND SUNNYVALE.

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~~CONFIDENTIAL~~ MOL POWERED-FLIGHT-ABORT

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DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS.
DOD DIR 5200.10

~~CONFIDENTIAL~~

AEROSPACE CORPORATION
EL SEGUNDO CALIF

OCT 17-68

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HANDLE VIA BYEMAN SYSTEM ONLY

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MOL

~~CONFIDENTIAL~~ AREA DELTA FORCE REQUIREMENTS

RECOVERY FORCE A

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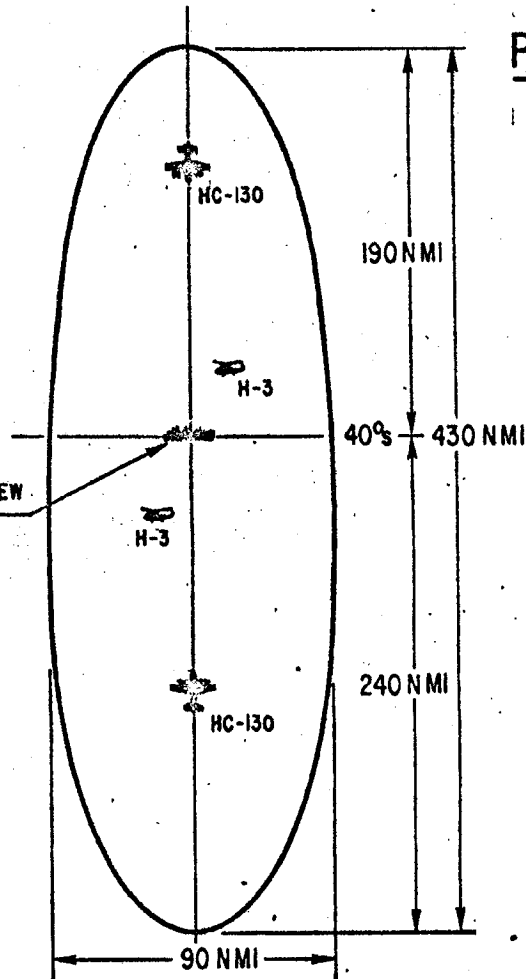
REQUIREMENTS:

- ACCESS - 2.0 HRS
- CREW RETRIEVAL - 4.0 HRS
- S/C RETRIEVAL - 72 HRS

FORCE:

- USNS SUNNYVALE / LONGVIEW
OR EQUIVALENT SHIP*
- 2 HC-130 H/P
AIRCRAFT
- 2 H-3 HELICOPTER

USNS SUNNYVALE/LONGVIEW
OR EQUIVALENT



PROVIDES:

- ACCESS:
1 1/2 HRS BY HC-130
- CREW RETRIEVAL:
2 1/2 HRS BY H-3
- S/C RETRIEVAL:
17 HRS BY SHIP

*EQUIVALENT IS LONG ENDURANCE
NAVY SHIP CAPABLE OF OPERATING
AT LEAST 2 HELICOPTERS

DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS.
DOD DIR 5200.10

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EL SEGUNDO CALIF
OCT 17-1968



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AREA DELTA FORCE REQUIREMENTS (CONT'D)

RECOVERY FORCE B

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REQUIREMENTS:

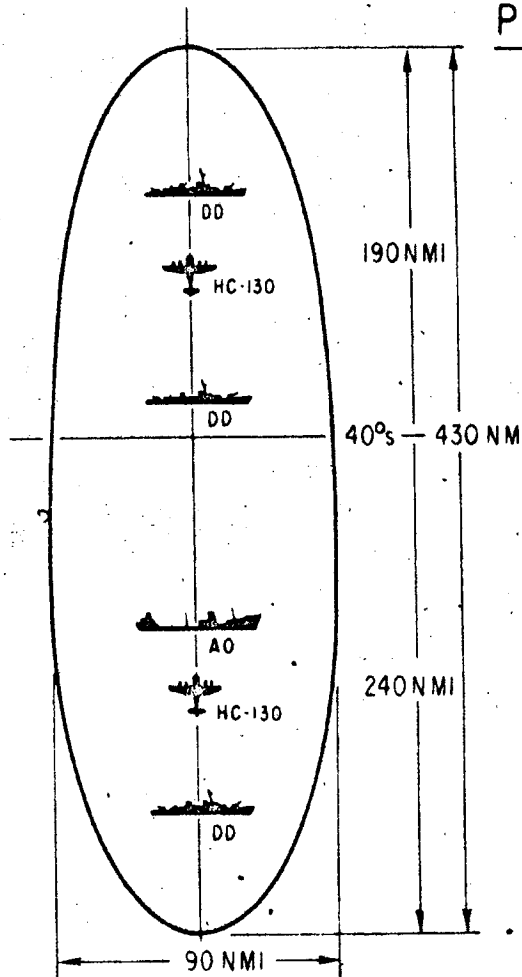
ACCESS:	2.0 HRS
CREW RETRIEVAL:	4.0 HRS
S/C RETRIEVAL:	72 HRS

FORCE:

- 3-25 KT SHIPS (DD)*
- 1 - AO (FLEET OILER)
- 2 - HC-130 H AIRCRAFT

PROVIDES:

ACCESS:	1 1/2 HRS BY HC-130
CREW RETRIEVAL:	3 1/2 HRS BY SHIP
S/C RETRIEVAL:	4 HRS BY SHIP



* WOULD REQUIRE AO REFUELING SUPPORT FOR TRANSIT FROM CONUS. AO WOULD ASSUME RECOVERY STATION

DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS.
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AREA DELTA FORCE REQUIREMENTS (CONT'D)

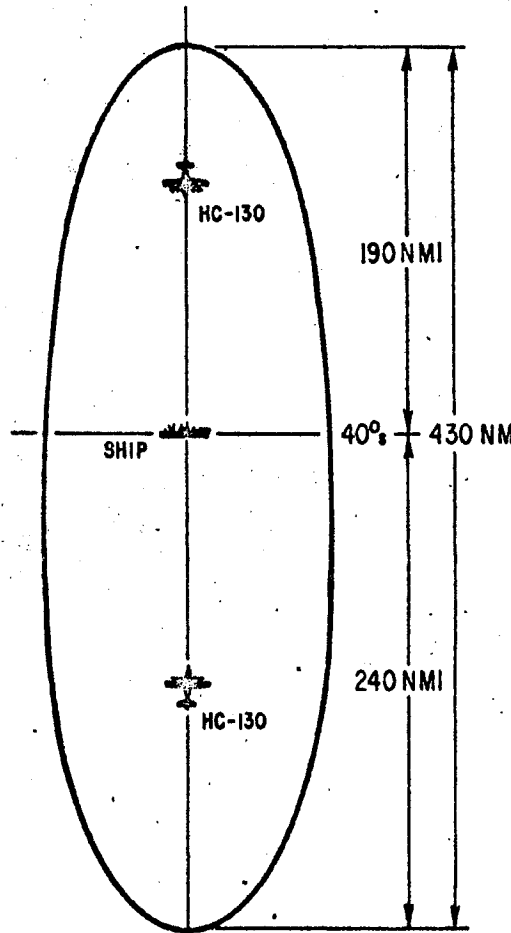
RECOVERY FORCE C

REQUIREMENTS:

- ACCESS - 2.0 HRS
- CREW RETRIEVAL - 4.0 HRS
- S/C RETRIEVAL - 72 HRS

FORCE:

- LONG ENDURANCE SHIP
- 2 HC-130 H AIRCRAFT



PROVIDES:

- ACCESS: 1 1/2 HRS BY HC-130
- CREW RETRIEVAL: 2 1/2 HRS BY HC-130
- FULTON SYSTEM*
- S/C RETRIEVAL: 17 HRS BY SHIP

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*BY FULTON SYSTEM TAKES APPROX
30 MIN PER PICKUP. HC-130
WOULD ALSO BE REQUIRED TO
RETRIEVE 2 DATA PACKAGES
PLUS 3 PARARESCUE

DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS.
DOD DIR 5200.10

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HANDLE VIA BRYAN SYSTEM ONLY

MAC HARDWARE

#1 Gemini "B" Static #1 Re-entry Module delivered to the lab on 24 September for testing of AFT Bridle Loads, Hoist, Fitting Loads, Dynamic Response, Cold Launch Loads and Conical Section Pyro Tests; Completion scheduled for 31 May 1970.

#2 Gemini "B" Static Test Article Adapter #1 Hot Launch Test; Combined Temperature and Static Load Test of the Adapter to verify adequate strength for loads and temperatures which occur during launch.

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HANDLE VIA BRYAN SYSTEM ONLY

DAC HARDWARE

- #1 Forward Section Mission Module Dynamic Test Structure (DTS) Shown with the Truss Installed. The wrench used to adjust the truss so it bears the load normally borne by the door is in place and the individual on the right has his hand on it. The truss is a piece of Operating Ground Equipment and is classed as a handling and transportation fixture.
-
- #2 Forward Section Mission Module with the Mission Module Structure Truss Being Installed. The truss allows the Mission Module to be moved about when the door is removed by bearing the load normally carried by the door. The truss is a piece of Operating Ground Equipment and is classed as a handling and transportation fixture.
-
- #3 Completed Forward Section Mission Module Structure Being Loaded on Truck. Forward Section Mission Module being located on flat bed truck for transport to Los Alamitos NAS where it will be loaded aboard Military Airlift Command C-133 for flight to a MOL associate contractor. The hardware is mounted on shipping kit, Forward Bay for ease in handling and has an environmental cover to protect it.
-
- #4 Forward Section Mission Module Being Readied for Loading on Aircraft. The Mission Module has been placed on the aircraft center line behind the aircraft and the MAC aircraft loadmaster is attaching the aircraft loading tow hood to the Shipping Kit pallet in order to pull the load up the ramp and into the aircraft. The loading rollers have been placed under the Shipping Kit pallet feet.

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DAC HARDWARE (Continued)

#5 Forward Mission Module Being Loaded into C-133. In this view the pallet is halfway up loading ramp. Notice tight fit between diameter of load and door opening.

#6 This is the Power Supply and Distribution Set of the IMSE. This unit provides 28 and 5 volt DC power for the IMSE and distributes all AC power from the facility to the various units which comprise the IMSE. The operator is turning off one of the contactors which controls the distribution of AC power.

#7 Major Lawyer in the MOL Pressure Suit Assembly evaluates pelvic and foot restraints to assure crew member has proper access to controls and switches while restrained at work station.

#8 Major Lawyer evaluates controls at simulated work station (Bay 2 or Bay 8) with Pressure Suit Assembly pressurized.

#9 Framing operations on CEI 207900A Partial Aft MM. (Shipped out complete in September per schedule.)

#10 Close up view of skins, frames, and hardpoint fittings on Aft Mission Module DTS Serial C0001.

#11 Installation of internal pressure fixture in Structural Test Lab for Test Line Item 1A16, MOL IM Pressurized Compartment Test.

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HANDLE VIA BRYAN SYSTEM ONLY

DAC HARDWARE (continued)

#12 Installation of static load fixture in Structural Test Lab for
Test Line Item 1A16, MOL IM Pressurized Compartment Test.

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GE HARDWARE

1. The aluminum metal mock-up of the Beryllium tripod structure on the floor at GE before installation into the metal mock-up of the mission module forward section.

2. The aluminum metal mock-up of the Beryllium T-Bar assembly. The nine inch bearing and five inch bearing inner races of the roll hub are exposed to the left of the assembly. The right hand side of the picture shows the pitch torquer housing and its connection to the T-Bar Assembly.

3. View of the tripod and T-Bar assembly with the tracking mirror removed showing the pitch torquer housings on either end of the T-Bar. The roll torquer hub is in the background.

4. This elemental development simulator was operated at GE Valley Forge plant from August 1967 to August 1968 for the purpose of developing and validating MOL vehicle optical displays and controls and developing operational flight crew procedures. An improved version, mission development simulator (MDS), will begin operation in the Spring of 1969, featuring high quality optical presentation of simulated ground targets.

5. The elemental development simulator of the Lab Module reconnaissance console No. 8. The primary optics eyepiece is shown on the right and the acquisition telescope optics are shown on the left. The rate tracking control is the small orange stick in the well on the right and the magnification control stick is on the left.

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VIENGRAPH NARRATIVE (Reference Blue Numbers)

1 - Test Chambers in Bldg 101. From foreground: Chamber IIIA, IIIB for COA level testing; Chamber IIG for Tracking Mirror Testing (up to 150") and Chamber A for Thermal Vacuum Testing.

2 - Chamber IG in Bldg 101 for testing of curved mirrors up to 150" diameter.

3 - Acoustic Test Facility, Bldg 101, with test/body for facility check out.

4 - Assembly Area, Bldg 101, showing from left to right: Thermal Model COA barrel, Structural Development Model #1 and the COA barrel for the Structural Development Model # 2 which is slated to fly on FV-2.

5 - Engineering Model COA barrel.

6 - Engineering Model "Ringo" Structure showing Ross Folding Mirror. (Ringo is the name given to the invar structure which supports the Newtonian and Ross folding mirrors and connects the Ross barrel to the COA barrel.

7 - Thermal Model Ross Corrector Barrel.

8 - Thermal Model COA End Cap Assembly showing Primary Mirror and Launch locks.

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#9 - Engineering Model Film Handling System with Simulated Camera.

#8 #10 - Camera Mock-up for training purposes.

#7 #11 - Formula Sample of Visual Optics.

#6 #12 - Half Scale Tracking Mirror Thermal Simulation Test set up showing
Albedo Simulation Tracking Mirror and sliding mask.

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MOL/NASA BIOASTRONAUTICS INTERFACE

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0 MOL BIOASTRONAUTICS SUPPORT OF APOLLO 7 MISSION

- 2 MOL FLIGHT SURGEONS DEDICATED TO APOLLO 7
- THERMAL-VACUUM TESTS MONITORED
- MISSION SIMULATIONS MONITORED
- PRE-LAUNCH, LAUNCH, AND RECOVERY OPERATIONS SUPPORTED AT KSC
- MISSION CONTROL STAFF SUPPORT AT MSC

0 MOL BIOASTRONAUTICS SUPPORT TO NASA WILL CONTINUE THROUGHOUT APOLLO PROGRAM

- FLIGHT SURGEONS
- BIOENVIRONMENTAL ENGINEERS
- PRESSURE SUIT TECHNICIANS

0 BENEFITS TO MOL

- TRAINING AND EXPERIENCE IN SUPPORT OF MANNED SPACEFLIGHT
- READY ACCESS TO REPORTS

0 JOINT DEVELOPMENT AREAS

- FEEDING SYSTEM DEVELOPMENT
- WASTE MANAGEMENT SYSTEM DEVELOPMENT
- RADIATION MONITORING SYSTEM DEVELOPMENT
- CREW ACCOMMODATIONS
- EC/LS BASIC RESEARCH
- MEDICAL CONTINGENCIES MANAGEMENT

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**MOL TEST OPERATIONS DIRECTORATE
INTERFACE WITH THE APOLLO PROGRAM**

- 0 OBSERVED SIMULATIONS OF VARIOUS MISSION PHASES**
- 0 RECEIVED DETAILED BRIEFINGS ON SOFTWARE AND OPERATIONAL PROCEDURES**
- 0 OBSERVED APOLLO 7 LAUNCH AND FLIGHT OPERATIONS**

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24 Oct 1968



MOL / ADS STATUS

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- ORD SUPPLEMENT ISSUED 30 SEP 1968 --- EXPANDED REQUIREMENTS FROM JUN 1967
ORD --- EMPHASIS ON ADS REQUIREMENTS
 - 440 REQUIREMENTS (ADS, AOS & SYSTEM IIC)
 - 295 SATISFIED IN 3 SEP ADS BASELINE
 - 117 NON ADS
 - 28 NOT IN 3 SEP ADS BASELINE

- MOL SO / SCF TECHNICAL DISCUSSIONS 30 SEP - 14 OCT

- GEN BLEYMAIER / GEN O'NEILL REVIEW 15 OCT

- SERIES OF AFSCF / LOCKHEED MEETINGS COMMENCED LAST FRIDAY

- GEN O'NEILL'S REVIEW COMMITTEE IS ASSESSING THE ADS SOFTWARE APPROACH

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