

AD-A233 656

2

GL-TR-90-0288
SPECIAL REPORTS, NO. 264

Sounding Rocket Flight Data Summary,
1977-October 1990

EDWARD F. McKENNA

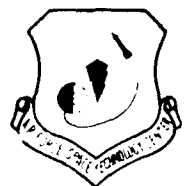


26 October 1990

DTIC
ELECTE
APR 10 1991
S B D



Approved for public release; distribution unlimited.



AEROSPACE ENGINEERING DIVISION

PROJECT 7659

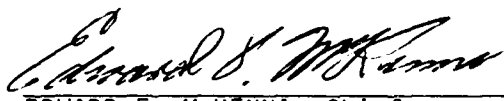
GEOPHYSICS LABORATORY

HANSCOM AFB, MA 01731-5000

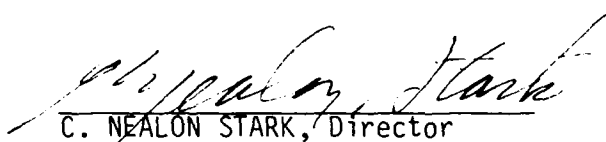


91 4 09 035

"This technical report has been reviewed and is approved for publication"


EDWARD F. MCKENNA, Chief
System Integration Branch

FOR THE COMMANDER


C. NEALON STARK, Director
Aerospace Engineering Division

This document has been reviewed by the ESD Public Affairs Office (PA) and is releasable to the National Technical Information Services (NTIS).

Qualified requestors may obtain additional copies from the Defense Technical Information Center. All others should apply to the National Technical Information Service.

If your address has changed, or if you wish to be removed from the mailing list, or if the addressee is no longer employed by your organization, please notify GL/IMA, Hanscom AFB, MA 01731. This will assist us in maintaining a current mailing list.

Do not return copies of this report unless contractual obligations or notices on a specific document requires that it be returned.

REPORT DOCUMENTATION PAGEForm Approved
OMB No. 0704-0188

Public reporting for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)

2. REPORT DATE

26 October 1990

3. REPORT TYPE AND DATES COVERED

Scientific Interim 1977-Oct. 1990

4. TITLE AND SUBTITLE

Sounding Rocket Flight Data Summary,
1977 - October 1990

5. FUNDING NUMBERS

PE 62101F
PR 7659 TAOY WU

6. AUTHOR(S)

Edward McKenna

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Geophysics Laboratory (LCI)
Hanscom AFB
Massachusetts 01731-50008. PERFORMING ORGANIZATION
REPORT NUMBERGL-TR-90-0288
SR, No. 264

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING/MONITORING
AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT

Approved for public release; distribution unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

This report is a summary listing of all GL sounding rockets launched from 1977 to October 1990. Listed data includes launch date, rocket type, launch location, principal scientist, payload weight, payload diameter, apogee information, system performance and experiment description.

14. SUBJECT TERMS

Sounding Rockets
Launch Summary
System Performance

15. NUMBER OF PAGES

28

16. PRICE CODE

17. SECURITY CLASSIFICATION
OF REPORT

UNCLASSIFIED

18. SECURITY CLASSIFICATION
OF THIS PAGE

UNCLASSIFIED

19. SECURITY CLASSIFICATION
OF ABSTRACT

UNCLASSIFIED

20. LIMITATION OF ABSTRACT

SAR

Accession For	
NTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification _____	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

Contents

1. INTRODUCTION	1
Sounding Rocket Flight Data Summary, 1977	2
Sounding Rocket Flight Data Summary, 1978	4
Sounding Rocket Flight Data Summary, 1979	7
Sounding Rocket Flight Data Summary, 1980	10
Sounding Rocket Flight Data Summary, 1981	11
Sounding Rocket Flight Data Summary, 1982	13
Sounding Rocket Flight Data Summary, 1983	15
Sounding Rocket Flight Data Summary, 1985	17
Sounding Rocket Flight Data Summary, 1986	18
Sounding Rocket Flight Data Summary, 1987	19
Sounding Rocket Flight Data Summary, 1988	20
Sounding Rocket Flight Data Summary, 1989	21
Sounding Rocket Flight Data Summary, 1990	22
Vehicle and Launch Site Codes	23

Sounding Rocket Flight Data Summary 1977-October 1990

1. INTRODUCTION

The sounding rocket has become the standard workhorse for carrying scientific experiments to the upper atmosphere and beyond for exploration and investigation.

Our first sounding rocket was a German V-2, launched from the White Sands Missile Range on 22 August 1946. Over 40 years have passed and the need for sounding rockets still continues.

This report is a summary of the sounding rockets flown by the Air Force Geophysics Laboratory from 1977 through October 1990. As of 15 March 1989, AFGL was redesignated Geophysics Laboratory (GL).

Those flown before this period are listed in *Summary of AFCRL Rocket and Satellite Experiments (1946-1966)*, McIntyre A., December 1966, AFCRL-66-868, AD649333, Special Reports, No. 54, and in the *Sounding Rocket Flight Data Summary (1966-1976)*, C. Nealon Stark and Capt. Alan K. Williams USAF, 15 May 1978, AFGL-TR-78-0120, ADA059005, Special Reports, No. 213..

Explanation of Vehicle and Launch Site Codes are on p. 23.

(Received for Publication 26 October 1990.)

SOUNDING ROCKET FLIGHT DATA SUMMARY

1977										Results			
Line	GL No.	Date	PROJECT	Payload	Apogee	Vehicle		Experiments		Exper.	Overall		
No.	Type	Location	Scientist	Wt. (lb)	Alt. (km)	Recovery	Support	Remarks		Performance			
1	A11.712-1	05/18	DENSITY	208	188		S	10 Inch Falling Sphere		S	100%		
	Nike-Hydac	KMR	Faire	12			S						
2	A03.509-1	08/09	SOLAR UV	304	168	S	S	UV Spectrometer		S	100%		
	Aerobee 150	WSMR	Bedo	15	219	S	S						
3	A07.707-1	09/24	DMSP CHEM.	128	178		S	Chemical Release		S	100%		
	Nike-Iroquois	WSMR	Vickery	7.8	205								
4	A10.705-1	09/24	DMSP MS SP	284	199	S	S	Neutral Composition		S	100%		
	Paiute-Tomahawk	WSMR	Philbrick	12	223	S	S						
5	A24.609-1	11/11	TEM-1	3200	228	F	S	UV/IR Target Engine Meas.		P	50%		
	ARIES	WSMR	McIntyre	38	262	P	S						
6	IC730.09-1	11/13	FWFI	740	141	S	S	Field Widened Interferometer		F	F		
	Sergeant	PFRR	Ulwick	17.3	193	S	S						

S - Success

P - Partial Success

F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1978										Results			
Line	GL No.	Date	PROJECT	Payload	Apogee							Exper.	Overall
No.	Type	Location	Scientist	Wt. (lb)	Alt. (km)	Time (sec)	Recovery	Vehicle	Support	Experiments	Remarks	Performance	
1	A31.603	01/21	CHARGING	378	257			S		Vehicle Charging	S	100%	
	Astrobee-F	WSMR	Cohen	15	265		S	S					
2	IC819.08-1	02/28	MULTI	410	458		S	S		IR Instruments	S	100%	
	Sergeant-Hydac	PFRR	Ulwick	17.3	350			S					
3	A11.712-3	04/05	DENSITY	210	26			F		10 Inch Falling Sphere		F	
	Nike-Hydac	KMR	Philbrick	12									
4	A11.712-4	04/05	DENSITY	210	174			S		10 Inch Falling Sphere	P	50%	
	Nike-Hydac	KMR	Philbrick	12				S					
5	A04.606-1	05/16	EUV	415	191		S	S		UV Spectrom Photometer	F	F	
	Aerobee 170	WSMR	Heroux	15	230		S	P					
6	A45.710-1	05/20	SMOKE	548	53			S		Chemical Release	S	100%	
	Nike-Nike	WFF	Quesada	17	120								

S - Success

P - Partial Success

F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1978					Results						
Line	GL No.	Date	PROJECT	Payload	Apogee	ACS		Vehicle	Experiments	Exper.	Overall Performance
No.	Type	Location	Scientist	Wt. (lb)	Alt. (km)	Recovery	Support				
7	A45.710-2	05/22	SMOKE	549	54		S		Chemical Release	S	100%
	Nike-Nike	WFF	Quesada	17	120						
8	A03.604	07/25	DENSITY	376	144		S		Laser Density	P	50%
	Aerobee 150	WSMR	Bedo	15	205	S	P				
9	A45.709-1	09/13	SMOKE	668	45		S		Chemical Release	S	100%
	Nike-Nike	CRR	Quesada	17	110						
10	A45.709-2	09/13	SMOKE	650	45		S		Smoke	S	100%
	Nike-Nike	CRR	Quesada	17	110						
11	A08.708-1	09/15	CLUSTER ION	464	114	S	S		Positive/Negative MS SP	S	75%
	Nike-Tomahawk	WSMR	Nardcsi	12	170	F	P				
12	A04.711-1	09/19	SOLAR UV	400	192	S	S		Spectrometer Photometer	S	100%
	Aerobee 170	WSMR	Bedo	15	231	S	S				

S - Success
P - Partial Success
F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1978					Results						
Line	GL No.	Date	PROJECT	Payload	Apogee	ACS		Vehicle	Experiments	Exper. Remarks	Overall Performance
No.	Type	Location	Scientist	Wt. (lb) Dia. (in.)	Alt. (km) Time (sec)	Recovery	Support				
13	IC807.15-1	10/26	DYNAMICS	310	122		S		Auroral Dynamics	S	90%
	Nike-Hydac	PFRR	Ulwick	12	177		F	S			
14	IC806.35-1	10/26	DYNAMICS	136			F		Chemical Release	F	F
	Nike-Javelin	PFRR	Vickery	9							
15	IR807.57-1	10/26	ENERGY	270	160		S		IR Aurora	S	100%
	Nike-Hydac	PFRR	Ulwick	12	198		F	S			
16	EX851.44-1	10/29	EXCEDE I	4470	137		S		Electron Guns	F	F
	Talos-Castor	PFRR	O'Neil	32	196		P	F			
17	IC830.09-1	11/13	FWIF II	745	141		S		Auroral IR Spectra	F	F
	Sergeant	PFRR	Ulwick	17.3	190		S	S			

S - Success
P - Partial Success
F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1979										Results			
Line	GL No.	Date	PROJECT	Payload	Apogee	ACS	Vehicle	Experiments	Exper.	Overall			
No.	Type	Location	Scientist	Wt. (lb)	Alt. (km)	Recovery	Support		Remarks	Performance			
1	A24.7S1-1	01/20	SPICE I	1832	249	F	S	IR Background		F			
	ARIES	WSMR	Price	38	340		S						
2	A12.9A1-1	02/26	ECLIPSE DEN	214	160		S	10" Falling Sphere	S	100%			
	Nike-Orion	Red Lake	Philbrick	12			S						
3	A12.9A2	02/26	ECLIPSE LWIR	272	141		S	IR Radiometer	S	100%			
	Nike-Orion	Red Lake	UWick	12	189		S						
4	A10.802-1	02/26	ECLIPSE MS	433	115	S	S	Mass Spect. Gerdiens	S	90%			
	Paiute-Tomahawk	Red Lake	Nardisi	12	173	S	S						
5	A10.802-2	02/26	ECLIPSE MS	433	117	S	S	Mass Spect. Gerdiens	S	90%			
	Paiute-Tomahawk	Red Lake	Nardisi	12	173	P	S						
6	A07.712-2	02/26	ECLIPSE DEN	128	215		S	7" Falling Sphere	S	100%			
	Nike Iroquois	Red Lake	Faire	7.8			S						

S - Success
P - Partial Success
F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1979				Payload		Apogee		Results			
Line	GL No.	Date	PROJECT	Wt. (lb)	Alt. (km)	ACS	Vehicle	Experiments		Exper.	Overall
No.	Type	Location	Scientist	Dia. (in.)	Time (sec)	Recovery	Support			Remains	Performance
7	A31.702	08/03	FWR III	750	172		S	Field Widened Interferometer		S	50%
	Astrobee F	WSMR	Wheeler	17.3	217	S	S				
8	A18.805	08/07	POST B.O.	650	219	S	S	Post Burnout Thrust Meas.		S	90%
	Blk. Brant VC	WSMR	McKenna	17.3	235	S	S				
9	A08.705-2	08/14	DMSP MS	284	190	S	S	Neutral Mass Spectrometer		P	50%
	Nike-Tomahawk	WSMR	Philbrick	12	218	S	S				
10	A08.706-2	08/14	DMSP DENS	282	18		F	10 Inch Density Sphere			F
	Nike-Tomahawk	WSMR	Philbrick	12							
11	A04.703	08/14	DMSP UV	735	111	S	S	UV Spectrometer Photometer		P	50%
	Aerobee 170	WSMR	Heroux	15	222	S	P				
12	A51.970	10/18	EXCEDE II	5690	128	S	S	120 kW Electron Gun		P	50%
	Talos-Castor	PFRR	O'Neil	32	184	F	S				

S - Success
P - Partial Success
F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1979				Payload		Apogee		Results			
Line	GL No.	Date	PROJECT	Wt. (lb)	Alt. (km)	Time (sec)	Recovery	Vehicle	Experiments	Remarks	Overall Performance
No.	Type	Location	Scientist	Dia. (in.)				Support			
13	A45.803-1	10/23	SMOKE	550	50			S	Chemical Release	S	100%
	Nike-Nike	Peru	Quesada	17							
14	A45.803-2	10/24	SMOKE	550	50			S	Chemical Release	S	100%
	Nike-Nike	Peru	Quesada	17							
15	A45.803-3	10/29	SMOKE	550	50			S	Chemical Release	S	100%
	Nike-Nike	Peru	Quesada	17							

S - Success
P - Partial Success
F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1980					Results							
Line	GL No.	Date	PROJECT	Payload	Apogee	ACS		Vehicle		Exper.	Remarks	Overall Performance
No.	Type	Location	Scientist	Wt. (lb)	Alt. (km)	Recovery	Support					
1	A24.609-2	05/21	TEM-2	2997	230	S	S	IR/UV Target Engine Measurements	S	100%		
	ARIES	WSMR	McIntyre	38		S	S					
2	A24.6S1-1	08/18	ZIP-I	1246	401	S	S	IR Zodial	S	100%		
	ARIES	WSMR	Murdock	20.8		S	S					
3	A04.801	09/18	UV	376	197	S	S	Solar Max UV	S	100%		
	Aerobee 170	WSMR	Bedo	15		S	S					
4	A10.901-1	10/22	SPE-I	515	88	S	S	Mass Spect. Solar Protons	S	100%		
	Paiute-Tomahawk	PFRR	Nardisi	12		S	S					
5	A14.021-1	10/22	SPE-IA	10	88		S	Charged Particles	S	100%		
	Super-Arcas	PFRR	Nardisi	4.5			S					
6	A13.073	11/16	ENERGY B	310	195		S	IR Heating	S	100%		
	Taurus-Orion	ARR	Stair	12			S					

S - Success
P - Partial Success
F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1981				Payload		Apogee		Results			
Line	GL No.	Date	PROJECT	Wt. (lb)	Alt. (km)	ACS	Recovery	Vehicle	Experiments	Exper.	Overall
No.	Type	Location	Scientist	Dia. (in.)	Time (sec)			Support		Remarks	Performance
1	A24.7S1-1	02/03	IRBS	1782	389			S	Earth limb IR Background	F	F
	ARIES	WSMR	Murdock	38				Failure			
2	A30.072	02/05	FWIF IV	790	130	S		S	Field Widened Interferometer	Failure	F
	Sergeant	PFRF	Wheeler	17.3		S		S			
3	A13.030	03/07	AURORAL E1	437	150	S		S	UV Aurora	S	100%
	Taurus-Orion	PFRF	McMahon Vantassel	14				S			
4	A13.031	03/07	AURORAL E2	376	164	S		S	UV Aurora	S	100%
	Taurus-Orion	PFRF	McMahon Paulson	14				S			
5	A13.020	03/07	AURORAL E3	324	188			S	Mass Spectrometer	S	100%
	Taurus-Orion	PFRF	Narcisi	12				S			
6	A10.903	03/07	AURORAL E4	270	175			S	10" Sphere/ E-Field/Chemical	S	100%
	Patute-Tomahawk	PFRF	Many	12				S			

S - Success
P - Partial Success
F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1981				Results							
Line	GL No.	Date	PROJECT	Payload	Apogee	ACS		Vehicle	Experiments	Exper.	Overall
No.	Type	Location	Scientist	Wt. (lb)	Alt. (km)	Time (sec)	Recovery	Support		Remarks	Performance
7	A24.6S1-2	07/31	ZIP II	1260	395		S	S	IR Zodical	S	100%
	ARIES	WSMR	Murdock	20.8			S	S			
8	A10.901-2	10/26	SPE-2	501	96		S	S	Mass Spec Solar Proton	S	100%
	Paiute-Tomahawk	PFRR	Narcisi	12			S	S			
9	A30.175	11/07	FWIF V	790	138		S	S	Field Widened Interferometer	Failure	F
	Sergeant	PFRR	Wheeler	17.3			S	S			

S - Success
P - Partial Success
F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1982					Results						
Line	GL No.	Date	PROJECT	Payload		Apogee		Experiments		Exper.	Overall
No.	Type	Location	Scientist	Wt. (lb)	Dia. (in.)	Alt. (km)	Time (sec)	Recovery	Vehicle	Remarks	Performance
1	A24.7S2-2	01/23	FIRSSE	1484		378		S	S	FAR IR	S
	ARIES	WSMR	Price	38		332		S	S		100%
2	A24.609-3	05/28	TEM-3	3100		236		S	S	IR/UV Target Engine Measurements	S
	ARIES	WSMR	McIntyre	38		260		S	S		80%
3	A13.277	06/29	TRACER	402		150			S	Truth Rocket	S
	Taurus-Orion	WFF	Picard	12		198			S		100%
4	A19.124-1	09/08	BIME	460		323			S	Ionospheric Modification	S
	Blk. Brant VIII	NRR	Nardisi	17.3					S		100%
5	A20.123-1	09/08	BIME	175		524			S	Ionospheric Irregularities	S
	Sonda III	NRR	Nardisi	11.8		384			S		100%
6	A20.123-2	09/13	BIME	174		549			S	Ionospheric Irregularities	Partial
	Sonda III	NRR	Nardisi	11.8		388			S		50%

S - Success
P - Partial Success
F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

[illegible]

S - Success
P - Partial Success
F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1983										Results			
Line	GL No.	Date	PROJECT	Payload		Apogee							
No.	Type	Location	Scientist	Wt. (lb)	Dia. (in.)	Alt. (km)	ACS	Recovery	Vehicle	Experiments	Remarks	Overall Performance	
1	A31.200	03/01	SES	640		197	S		S	Sensor Ejection System	S	100%	
	Astrobe F	WSMR	McKenna	17.3			S		S				
2	A51.971	03/18	ELIAS	1492		305	S		S	Earth Limb IR Aurora	S	80%	
	Talos-Castor	PFRR	Nadile	32		280	F		S				
3	A30.276	04/12	FWIF VI	903		140	S		S	Field Widened Interferometer	S	100%	
	Sergeant	PFRR	Cook	17.3		185	S		S				
4	A04.902	04/19	UV	345		204	S		S	UV Spectrometer/Photometer	S	100%	
	Aerobee 170	WSMR	Heroux	15		237	S		S				
5	A14.311-1	06/14	STATE	9		101			S	DC Electron Probe	S	100%	
	Super-Arcas	PFRR	Philbrick	4.5					S				
6	A11.074	06/15	STATE	336		134			S	10 inch Sphere/Photometer, etc.	S	100%	
	Nike-Hydac	PFRR	Philbrick	9		184			S				

S - Success

P - Partial Success

F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1983					Results						
Line	GL No.	Date	PROJECT	Payload	Apogee	ACS		Vehicle	Experiments	Exper.	Overall
No.	Type	Location	Scientist	Wt. (lb)	Alt. (km)	Recovery	Support			Remarks	Performance
7	A14.311-2	06/15	STATE	9	106		S		DC Electron Probe	S	100%
	Super-Arcas	PFRR	Philbrick	4.5			S				
8	A14.311-3	06/17	STATE	9	98		S		DC Electron Probe	S	100%
	Super-Arcas	PFRR	Philbrick	4.5			S				
9	A24.260	10/24	ELC-I	1315	283	S	S		IR Earth Limb Clutter	S	100%
	ARIES	WSMR	Murdock	20.8	291	S	S				
10	A20.327-1	10/31	IMS	311	81		F		Mass Spec/ E-Field, etc.	F	F
	Sonda III	WFF	Weber	11.8							
11	A08.708-2	11/09	IMS	125	348		S		Chemical Release	S	100%
	Nike-Tomahawk	WFF	Vickery	9			S				
12	A20.327-2	11/14	IMS	311	55		F		Mass Spec/ E-Field	F	F
	Sonda III	WFF	Weber	11.8							

S - Success
P - Partial Success
F - Failure

SOUNDING ROCKET FLIGHT DATA SUMMARY

1985				Results			
Line	GL No.	Date	PROJECT	Payload	Apogee	Vehicle	
No.	Type	Location	Scientist	Wt. (lb)	Alt. (km)	Recovery	Support
1	A21.426	03/15	PIIE	460	429	S	S
	Black Brant IX	GRN	Weber	12			S
2	A19.250	06/14	BERT	880	243		S
	Black Brant VIII	WSMR	Cohen	17.3	254		S
3	A44.362	06/17	BEAM	544			F
	Castor-Lance	NRR	Price	15			
4	A40.401	11/19	HARP	968	667		S
	Sonda IV	NRR	McKenna	22	463	S	S

S - Success
P - Partial Success
F - Failure

[illegible]

18

SOUNDING ROCKET FLIGHT DATA SUMMARY

1987				Results										
Line	GL No.	Date	PROJECT	Payload		Apogee		ACS		Vehicle		Experiments	Exper.	Overall
No.	Type	Location	Scientist	Wt. (lb)	Dia. (in.)	Alt. (km)	Time (sec)	Recovery	Support				Remarks	Performance
1	A21.628	02/26	POLAR ARC	552		387		S	S			Mass Spec/ E-Field	S	98%
	Black Brant IX	GRN	Weber	12		319			S					
2	A19.427	03/21	POLAR ARC	503		354			S			Chemical Release Disc Probes	S	100%
	Black Brant VIII	GRN	Weber	17.3		310			S					
3	A12.629	08/14	COLDR	508		86			S			Sub-Sonic Mass Spec	S	100%
	Nike-Orion	WFF	Ballenthin	12		147		S	S					
4	A22.703	12/13	SPEAR I	823		367		S	S			High Voltage Discharge	S	95%
	Black Brant X	WFF	Raike	17.3					S					

S - Success
P - Partial Success
F - Failure

[illegible]

20

1989				Results							
Line	GL No.	Date	PROJECT	Payload	Apogee	ACS		Experiments	Exper.	Overall	
No.	Type	Location	Scientist	Wt. (lb)	Alt. (km)	Time (sec)	Recovery	Vehicle	Remarks	Performance	
1	A24.602	07/13	BEAR	3676	195		S	S	Neutral Particle Beam	S	100%
	ARIES	WSMR	McKenna	44	244		S	S			

21

[illegible]

22.

GL VEHICLE CODES

The number code consists of the following: The letter "A", two digits, a decimal, three digits.

A identifies a GL rocket.

The two digits before the decimal identify the vehicle flown.

The first digit after the decimal identifies the fiscal year the rocket was approved.

The next two digits represent the using GL science branch.

Vehicle numbers starting with an "N" were GL payloads on NASA rockets. Vehicle numbers starting with IC, IR or EX were DNA sponsored rockets.

GL VEHICLE CODE

02. Mighty Mouse
03. Aerobee 150
04. Aerobee 170
07. Nike-Iroquois
08. Nike-Tomahawk
10. Paiute-Tomahawk
11. Nike-Hydac
12. Nike-Orion
13. Taurus-Orion
14. Super Arcas
18. Black Brant VC
19. Black Brant VIII

GL BRANCH CODE

01-09 LCI
10-19 OPA
20-29 LID
40-49 LIS

GL LAUNCH SITE CODE

ARR - Andoya Rocket Range, Norway
CRR - Churchill Research Range, Manitoba, Canada
GRN - Sondestrom, Greenland
KMR - Kwajalein Missile Range, Marshall Islands
NRR - Barreira Do Inferno, Natal, Brazil
PFRR - Poker Flat Research Range, AK
Red Lake - Red Lake, Ontario, Canada
WFF - NASA/GSFC Wallops Flight Facility, VA
WSMR - White Sands Missile Range, NM

GL VEHICLE CODE

20. Sonda III
21. Black Brant IX
22. Black Brant X
24. Aries
25. Minuteman I
26. TM2 (Talso-M56A1)
30. Sergeant
31. Astrobee F
40. Sonda IVstor
44. Castor-Lance
45. Nike-Nike
51. Talos-Castor

GL BRANCH CODE

50-59 PHG
60-69 OPI
70-79 OPB
80-89 LYA