AD-A061 329 ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2
19302A GSRS. MISSILE NOS. V-10, V-11 AND V-12 ROUND NOS. 11, 12--ETC(U)
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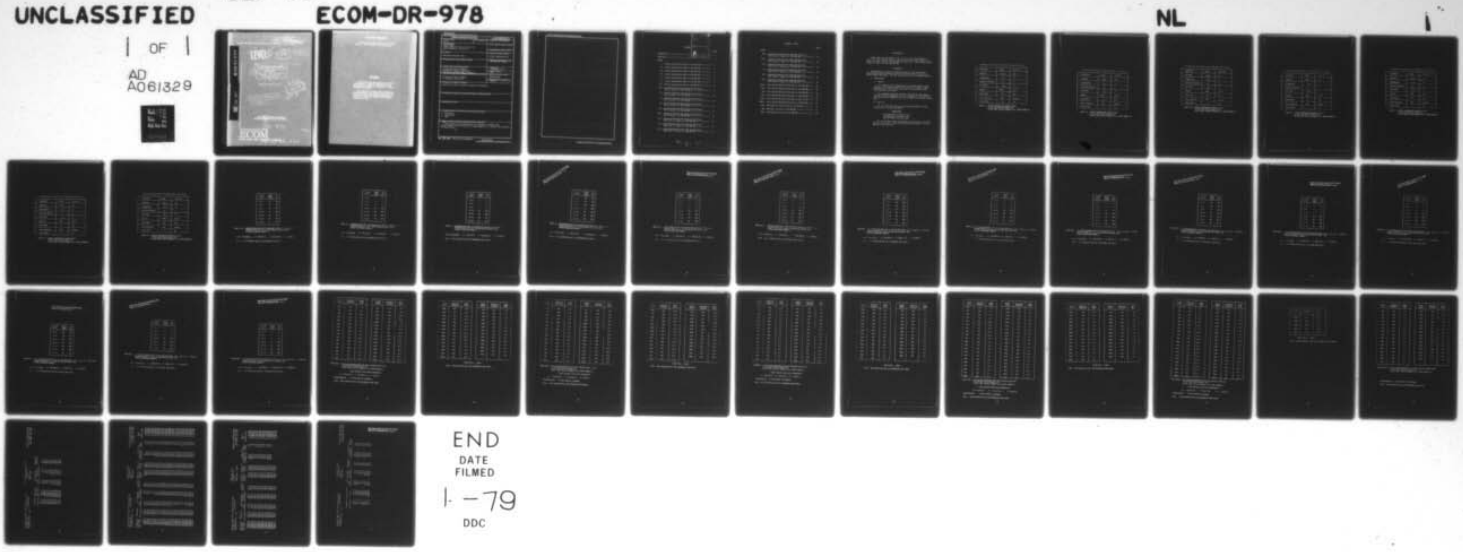

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METEOROLOGICAL DATA REPORT,

19302A GSRS,
Missile Nos. V-10, V-11 and V-12
Round Nos. 11, 12 and 10
(28 August 1978)

By

WSMR Meteorological Team

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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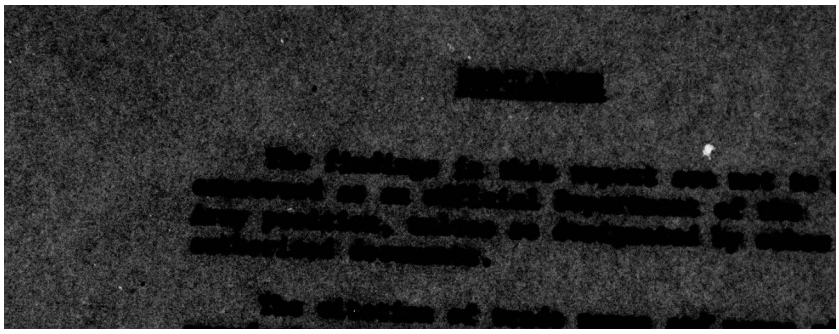

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

1. Ballistics
2. Meteorology
3. Wind

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Meteorological data gathered for the launching of 19302A GSRS, Missile Number V-10, V-11 and V-12, Round Number 11, 12 and 10, are presented in tabular form.

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CONTENTS

CONTENTS (CONT)

INTRODUCTION

19302A GSRS, Missile Numbers V-10, V-11 and V-12, Round Numbers 11, 12 and 10, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1209, 1216 and 1228 HRS MDT, 28 August 1978. The scheduled launch times were 1145, 1155 and 1205 HRS MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

   a. Surface

      (1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m^3), wind direction, wind velocity and cloud cover were made at the LC-33 Met Site at T-0 mins.

      (2) Anemometer data were provided from existing pole mounted and tower mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

   b. Upper Air

      (1) Low level wind data were obtained from RAPTS-T-9 pibals observation at T-0 mins as follows:

SITE & ALT.
LC-33 900 meters (15 meter incs)
APA 900 meters (30 meter incs)
SMR 900 meters (30 meter incs)

      (2) Air structure data (rawinsonde) were collected at the SMR Met Site at T-0 mins. Data were collected from surface to 125 % of apogee in 100 meter incs.

The data are presented in the following tabulations:

ELEVATION	3,990	FEET/MSL
PRESSURE	878.9	MBS
TEMPERATURE	31.2	°C
RELATIVE HUMIDITY	13	%
DEW POINT	-0.6	°C
DENSITY	1,001	GM/M^3
WIND SPEED	05	MPH
WIND DIRECTION	030	DEGREES
CLOUD COVER	0	Cu

TABLE I. SURFACE OBSERVATIONS TAKEN AT WSD
AT 1145 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-11, ROUND NUMBER 12

The data are presented in the following tabulations:

ELEVATION	3,990	FEET/MSL
PRESSURE	878.9	MBS
TEMPERATURE	31.5	°C
RELATIVE HUMIDITY	13	%
DEW POINT	-0.4	°C
DENSITY	1,000	GM/M^3
WIND SPEED	06	MPH
WIND DIRECTION	030	DEGREES
CLOUD COVER	0	Cu

TABLE II. SURFACE OBSERVATIONS TAKEN AT WSD
AT 1155 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-11, ROUND NUMBER 12

The data are presented in the following tabulations:

ELEVATION	3,990	FEET/MSL
PRESSURE	878.4	MBS
TEMPERATURE	31.8	°C
RELATIVE HUMIDITY	13	%
DEW POINT	-0.1	°C
DENSITY	998	GM/M^3
WIND SPEED	06	MPH
WIND DIRECTION	030	DEGREES
CLOUD COVER	0	Cu

TABLE III. SURFACE OBSERVATIONS TAKEN AT WSD
AT 1205 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-12, ROUND NUMBER 10

The data are presented in the following tabulations:

ELEVATION	3,989	FEET/MSL
PRESSURE	881.9	MBS
TEMPERATURE	32.2	°C
RELATIVE HUMIDITY	27	%
DEW POINT	10.8	°C
DENSITY	999	GM/M^3
WIND SPEED	02	MPH
WIND DIRECTION	355	DEGREES
CLOUD COVER	1	Cu

TABLE IV. SURFACE OBSERVATIONS TAKEN AT LC-33
AT 1209 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-10, ROUND NUMBER 11

The data are presented in the following tabulations:

ELEVATION	3,989	FEET/MSL
PRESSURE	881.9	MBS
TEMPERATURE	32.2	°C
RELATIVE HUMIDITY	27	%
DEW POINT	10.8	°C
DENSITY	999	GM/M^3
WIND SPEED	02	MPH
WIND DIRECTION	360	DEGREES
CLOUD COVER	1	Cu

TABLE V. SURFACE OBSERVATIONS TAKEN AT LC-33
AT 1216 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-11, ROUND NUMBER 12

The data are presented in the following tabulations:

ELEVATION	3,990	FEET/MSL
PRESSURE	878.7	MBS
TEMPERATURE	33.3	°C
RELATIVE HUMIDITY	11	%
DEW POINT	-1.4	°C
DENSITY	995	GM/M^3
WIND SPEED	07	MPH
WIND DIRECTION	030	DEGREES
CLOUD COVER	0	Cu

TABLE VI. SURFACE OBSERVATIONS TAKEN AT WSD
AT 1227 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-12, ROUND NUMBER 10

The data are presented in the following tabulations:

ELEVATION	3,989	FEET/MSL
PRESSURE	881.9	MBS
TEMPERATURE	32.3	°C
RELATIVE HUMIDITY	26	%
DEW POINT	10.2	°C
DENSITY	998.9	GM/M^3
WIND SPEED	04	MPH
WIND DIRECTION	350	DEGREES
CLOUD COVER	2	Cb

TABLE VII. SURFACE OBSERVATIONS TAKEN AT LC-33
AT 1228 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-12, ROUND NUMBER 10

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	09	018
-20.0	11	047
-10.0	11	037
-00.00	11	036
+10.00	10	037
+20.00	08	039
+30.00	07	032

TABLE VIII. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 1
RELEASED FROM LC-33 AT 1109 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 1

WSTM COORDINATES: X = 485,874.29 Y = 185,958.90 Z = 4,018.74

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	--	---
-20.0	--	---
-10.0	--	---
-00.00	07	051
+10.00	08	050
+20.00	09	050
+30.00	08	053

TABLE IX. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 1
RELEASED FROM LC-33 AT 1116 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 2

WSTM COORDINATES: X = 485,874.29 Y = 185,958.90 Z = 4,018.74

NOTE. WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	--	---
-20.0	--	---
-10.0	--	---
-00.00	04	360
+10.00	04	003
+20.00	06	342
+30.00	06	350

TABLE X. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 1
RELEASED FROM LC-33 AT 1128 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 3

WSTM COORDINATES: X = 485,874.29 Y = 185,958.90 Z = 4,018.74

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	06	051
-20.0	08	045
-10.0	06	066
-00.00	10	066
+10.00	08	057
+20.00	08	062
+30.00	08	056

TABLE XI. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 2
RELEASED FROM LC-33 AT 1109 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 1

WSTM COORDINATES: X = 485,874.93 Y = 186,012.00 Z = 4,033.57

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	--	---
-20.0	--	---
-10.0	--	---
-00.00	05	077
+10.00	05	083
+20.00	08	058
+30.00	08	066

TABLE XII. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 2
RELEASED FROM LC-33 AT 1116 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 2

WSTM COORDINATES: X = 485,874.93 Y = 186,012.00 Z = 4,033.57

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	--	---
-20.0	--	---
-10.0	--	---
-00.00	03	357
+10.00	02	348
+20.00	03	346
+30.00	04	342

TABLE XIII. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 2
RELEASED FROM LC-33 AT 1128 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 3

WSTM COORDINATES: X = 485,874.93 Y = 186,012.00 Z = 4,033.57

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	06	360
-20.0	06	011
-10.0	04	021
-00.00	05	031
+10.00	04	008
+20.00	04	023
+30.00	03	046

TABLE XIV. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TOWER LEVEL NO. 1 (12 FT)
RELEASED FROM LC-33 AT 1109 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 1

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	--	---
-20.0	--	---
-10.0	--	---
-00.00	05	020
+10.00	04	057
+20.00	02	073
+30.00	01	023

TABLE XV. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TOWER LEVEL NO. 1 (12 FT) RELEASED FROM LC-33 AT 1116 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 2

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	--	---
-20.0	--	---
-10.0	--	---
-00.00	05	002
+10.00	07	016
+20.00	09	011
+30.00	08	002

TABLE XVI. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TOWER LEVEL NO. 1 (12 FT)
RELEASED FROM LC-33 AT 1128 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 3

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	05	344
-20.0	06	349
-10.0	05	022
-00.00	04	016
+10.00	08	050
+20.00	08	053
+30.00	08	023

TABLE XVII. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TOWER LEVEL NO. 3 (102 FT)
RELEASED FROM LC-33 AT 1109 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 1

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFFRENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	--	---
-20.0	--	---
-10.0	--	---
-00.00	08	065
+10.00	06	078
+20.00	05	086
+30.00	03	085

TABLE XVIII. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TOWER LEVEL NO. 3 (102 FT)
RELEASED FROM LC-33 AT 1116 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 2

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	--	---
-20.0	--	---
-10.0	--	---
-00.00	08	005
+10.00	10	005
+20.00	09	005
+30.00	09	002

TABLE XIX. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TOWER LEVEL NO. 3 (102 FT)
RELEASED FROM LC-33 AT 1128 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 3

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	06	350
-20.0	06	015
-10.0	05	011
-00.00	05	043
+10.00	06	048
+20.00	09	036
+30.00	10	047

TABLE XX. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TOWER LEVEL NO. 4 (202 FT)
RELEASED FROM LC-33 AT 1109 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 1

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEC
-30.0	--	---
-20.0	--	---
-10.0	--	---
-00.00	04	057
+10.00	07	058
+20.00	05	067
+30.00	03	062

TABLE XXI. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TOWER LEVEL NO. 4 (202 FT)
RELEASED FROM LC-33 AT 1116 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 2

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEC
-30.0	--	---
-20.0	--	---
-10.0	--	---
-00.00	11	004
+10.00	11	011
+20.00	09	009
+30.00	08	009

TABLE XXII. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TOWER LEVEL NO. 4 (202 FT)
RELEASED FROM LC-33 AT 1128 HRS MDT/28 AUGUST 1978
19302A GSRS/ROUND NUMBER 3

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	355	2.0
50	020	1.0
100	045	0.0
150	036	2.0
200	027	3.0
250	028	5.0
300	029	6.0
350	028	7.0
400	027	9.0
450	026	10.0
500	025	11.0
550	057	9.0
600	088	6.0
650	073	7.0
700	057	8.0
750	051	9.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
800	045	9.0
850	041	9.0
900	036	10.0
950	035	10.0
1000	034	9.0
1050	033	9.0
1100	032	9.0
1150	031	10.0
1200	030	11.0
1250	029	12.0
1300	028	12.0
1350	032	12.0
1400	035	11.0
1450	039	11.0
1500	043	10.0
1550	043	11.0

TABLE XXIII. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM LC-33 AT 1109 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-10, ROUND NUMBER 11

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,302.67 Y = 185,283.13 Z = 3,989.47

APPROXIMATELY: 1.0 MILE WEST OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
1600	043	12.0
1650	043	12.0
1700	043	13.0
1750	041	12.0
1800	038	11.0
1850	035	11.0
1900	032	10.0
1950	036	10.0
2000	039	10.0
2050	045	10.0
2100	051	9.0
2150	047	9.0
2200	042	8.0
2250	036	8.0
2300	030	8.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
2350	024	8.0
2400	018	7.0
2450	007	7.0
2500	356	7.0
2550	352	7.0
2600	347	6.0
2650	342	6.0
2700	336	6.0
2750	337	6.0
2800	338	6.0
2850	339	6.0
2900	340	5.0
2950	340	5.0
3000	340	5.0

TABLE XXIII. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	360	2.0
50	360	2.0
100	360	1.0
150	023	1.0
200	000	0.0
250	049	2.0
300	052	4.0
350	053	6.0
400	053	8.0
450	051	8.0
500	048	7.0
550	045	7.0
600	041	7.0
650	052	8.0
700	063	9.0
750	070	9.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
800	076	9.0
850	075	9.0
900	073	9.0
950	072	8.0
1000	070	8.0
1050	058	8.0
1100	046	7.0
1150	034	8.0
1200	022	8.0
1250	027	9.0
1300	032	9.0
1350	034	10.0
1400	036	10.0
1450	030	12.0
1500	023	14.0
1550	024	14.0

TABLE XXIV. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM LC-33
AT 1116 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-11, ROUND NUMBER 12

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,302.67 Y = 185,283.13 Z = 3,989.47

APPROXIMATELY: 1.0 MILE WEST OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
1600	024	13.0
1650	025	12.0
1700	026	11.0
1750	028	10.0
1800	029	9.0
1850	024	9.0
1900	019	9.0
1950	014	9.0
2000	009	9.0
2050	007	10.0
2100	004	11.0
2150	002	12.0
2200	360	13.0
2250	005	12.0
2300	010	11.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
2350	016	11.0
2400	022	11.0
2450	017	11.0
2500	012	10.0
2550	005	11.0
2600	358	11.0
2650	357	11.0
2700	356	11.0
2750	355	12.0
2800	354	12.0
2850	356	12.0
2900	357	12.0
2950	358	12.0
3000	359	12.0

TABLE XXIV. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	350	4.0
50	350	4.0
100	350	4.0
150	018	2.0
200	000	0.0
250	059	1.0
300	063	1.0
350	062	1.0
400	060	1.0
450	057	2.0
500	053	3.0
550	053	4.0
600	052	5.0
650	042	4.0
700	032	3.0
750	014	3.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
800	356	3.0
850	356	3.0
900	356	3.0
950	355	3.0
1000	354	3.0
1050	351	4.0
1100	348	4.0
1150	346	5.0
1200	344	5.0
1250	352	5.0
1300	360	5.0
1350	007	6.0
1400	014	6.0
1450	011	6.0
1500	008	6.0
1550	005	6.0

TABLEXXV. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM LC-33
AT 1128 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-12, ROUND NUMBER 10

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,302.67 Y = 185,283.13 Z = 3,989.47

APPROXIMATELY: 1.0 MILE WEST OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
1600	002	6.0
1650	009	6.0
1700	016	6.0
1750	024	7.0
1800	032	7.0
1850	031	7.0
1900	029	7.0
1950	028	8.0
2000	027	8.0
2050	023	8.0
2100	018	8.0
2150	014	8.0
2200	010	7.0
2250	008	7.0
2300	006	7.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
2350	005	7.0
2400	004	6.0
2450	007	6.0
2500	009	6.0
2550	012	5.0
2600	015	5.0
2650	018	5.0
2700	021	5.0
2750	025	5.0
2800	028	4.0
2850	018	4.0
2900	008	3.0
2950	355	3.0
3000	341	3.0

TABLE XXVI. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	045	7.0
100	060	5.5
200	075	3.5
300	055	8.0
400	034	12.0
500	033	13.0
600	031	14.0
700	033	12.5
800	035	10.5
900	041	7.0
1000	046	3.5
1100	047	4.0
1200	047	4.0
1300	047	4.0
1400	046	4.0
1500	039	5.0
1600	031	6.0
1700	021	5.0
1800	011	4.0
1900	048	3.5
2000	085	2.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
2100	032	2.5
2200	338	2.0
2300	348	2.0
2400	357	2.0
2500	075	2.0
2600	153	2.0
2700	235	2.0
2800	317	2.0
2900	324	2.5
3000	330	2.5
3100	319	4.5
3200	308	6.5
3300	302	7.5
3400	296	8.0
3500	294	8.0
3600	292	7.5
3700	283	8.5
3800	274	9.5
3900	268	9.0
4000	262	8.0
4100	262	9.5

TABLE XXVI. PILOT-BALLOON-MEASURED WIND DATA, RELEASED FROM SMR AT 1208 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-10, ROUND NUMBER 11

PIBAL RELEASE POINT WSTM COORDINATES:

X = 472,441.28 Y = 214,137.54 Z = 3,999.00

APPROXIMATELY: 6 MILES NORTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	262	10.5
4300	266	9.0
4400	270	7.5
4500	269	8.0
4600	267	8.5
4700	259	9.0
4800	251	9.5
4900	250	8.0
5000	248	6.0
5100	255	7.0
5200	261	7.5
5300	257	7.0
5400	253	6.5
5500	252	7.0
5600	250	7.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
5700	252	5.0
5800	253	3.0
5900	251	4.0
6000	248	5.0
6100	243	5.0
6200	237	4.5
6300	235	5.0
6400	233	5.0
6500	246	4.5
6600	258	4.0
6700	245	4.5
6800	231	4.5
6900	244	4.0
7000	256	3.0

TABLE XXVI. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	045	7.0
100	036	4.0
200	027	1.0
300	055	8.0
400	082	15.0
500	078	12.0
600	073	8.5
700	056	10.0
800	038	11.5
900	050	13.0
1000	061	14.5
1100	057	14.0
1200	053	13.5
1300	055	12.5
1400	056	11.5
1500	053	12.0
1600	050	12.0
1700	041	13.0
1800	031	13.5
1900	032	11.5
2000	033	9.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
2100	031	10.0
2200	028	10.5
2300	037	10.5
2400	045	10.0
2500	037	10.0
2600	029	10.0
2700	034	9.5
2800	038	9.0
2900	032	7.5
3000	026	6.0
3100	357	6.5
3200	328	6.5
3300	318	7.0
3400	307	7.0
3500	295	9.0
3600	282	10.5
3700	273	11.0
3800	264	11.5
3900	264	10.5
4000	264	9.0
4100	260	10.5

TABLE XXVII. PILOT-BALLOON-MEASURED WIND DATA, RELEASED FROM SMR AT 1228 HRS MDT/28 AUGUST 1978

19302A GSRS, MISSILE NUMBER V-12, ROUND NUMBER 10

PIBAL RELEASE POINT WSTM COORDINATES:

X = 472,441.28 Y = 214,137.54 Z = 3,999.00

APPROXIMATELY: 6 MILES NORTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	256	11.5
4300	261	10.5
4400	266	9.0
4500	264	9.5
4600	262	10.0

TABLE XXVII. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	350	2.0
100	030	1.5
200	070	2.0
300	089	3.0
400	092	3.5
500	085	3.0
600	076	3.0
700	064	2.5
800	058	2.0
900	052	2.0
1000	042	1.5
1100	038	1.0
1200	063	1.5
1300	078	2.0
1400	087	2.0
1500	093	2.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
1600	099	2.0
1700	107	2.0
1800	124	1.0
1900	184	1.0
2000	232	1.5
2100	245	2.0
2200	250	3.0
2300	252	4.0
2400	255	4.5
2500	263	4.0
2600	271	4.0
2700	280	4.0
2800	279	4.0
2900	277	4.0
3000	275	4.0

TABLE XXVIII. PILOT-BALLOON-MEASURED WIND DATA, RELEASED FROM APACHE AT 1315 HRS MDT/28 AUGUST 1978
19302A GSRS, MISSILE NUMBER V-10, ROUND NUMBER 11

APPROXIMATELY: 15 MILES NORTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

STATION ALTITUDE 3997.30 FEET MSL
28 AUG. 78 1155 HRS MDT
ASCENSION NO. 127

SIGNIFICANT LEVEL DATA
24000[illegible]127
S M R
TABLE XXIX.

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT
879.6	3997.3	31.0	3.9	18.0
850.0	4976.8	27.6	1.3	18.0
750.8	8524.0	18.5	-3.6	23.0
700.0	10477.5	13.4	-6.7	24.0
605.2	14420.3	2.1	-8.3	46.0
564.2	16269.7	-1.6	-19.5	24.0
500.0	19391.0	-8.5	-27.4	20.0
472.4	20828.0	-12.6	-31.4	19.0
458.6	21573.6	-11.8	-32.5	16.0
423.2	23577.8	-16.8	-34.9	19.0
400.0	24961.5	-20.3	-37.3	20.0
378.4	26815.9	-25.6	-41.6	22.0

STATION ALTITUDE 3997.30 FEET MSL
28 AUG. 78 1155 HRS MDT
ASCENSION NO. 197

UPPER AIR DATA
24[illegible]127
S M R
TABLE XXX.

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3997.3	879.0	31.0	3.9	18.0	1003.3	680.6	60.0	9.9	1.000257
4000.0	878.9	31.0	3.9	18.0	1003.2	680.6	60.0	9.9	1.000257
4500.0	864.0	29.4	2.6	18.0	991.8	678.7	57.7	8.0	1.000252
5000.0	849.3	27.7	1.3	18.0	980.4	676.8	53.9	6.2	1.000247
5500.0	834.6	26.4	.8	18.7	967.7	675.3	47.1	4.4	1.000243
6000.0	820.1	25.1	.2	19.4	955.1	673.8	31.6	2.7	1.000239
6500.0	805.9	23.8	-.4	20.1	942.8	672.3	348.0	1.7	1.000236
7000.0	791.9	22.5	-1.0	20.9	930.6	670.8	293.8	2.6	1.000232
7500.0	778.2	21.2	-1.6	21.6	918.6	669.2	275.4	4.4	1.000228
8000.0	764.7	19.9	-2.3	22.3	906.8	667.7	268.0	5.4	1.000225
8500.0	751.4	18.6	-3.0	23.0	895.1	666.2	262.7	6.2	1.000221
9000.0	738.1	17.3	-3.9	23.2	883.3	664.7	257.1	6.3	1.000217
9500.0	725.0	16.0	-4.9	23.5	871.6	663.1	249.6	6.0	1.000214
10000.0	712.1	14.6	-5.8	23.8	860.1	661.6	244.4	5.8	1.000210
10500.0	699.4	13.3	-6.7	24.1	848.8	660.1	245.6	5.4	1.000206
11000.0	686.6	11.9	-6.5	26.9	837.4	658.4	247.4	5.1	1.000204
11500.0	674.1	10.5	-6.5	29.7	826.2	656.8	252.4	5.2	1.000202
12000.0	661.7	9.0	-6.6	32.5	815.2	655.1	257.3	5.3	1.000199
12500.0	649.6	7.6	-6.7	35.3	804.4	653.5	261.7	6.5	1.000197
13000.0	637.8	6.2	-7.0	38.1	793.7	651.8	264.8	7.7	1.000194
13500.0	626.1	4.7	-7.4	40.9	783.2	650.1	267.2	9.1	1.000192
14000.0	614.7	3.3	-7.9	43.7	772.9	648.4	268.9	10.5	1.000189
14500.0	603.4	1.9	-8.7	45.1	762.6	646.8	271.3	10.6	1.000186
15000.0	592.0	.9	-11.4	39.1	751.2	645.5	274.1	10.3	1.000180
15500.0	580.9	-.1	-14.3	33.2	740.1	644.2	277.1	9.4	1.000175
16000.0	570.0	-1.1	-17.5	27.2	729.0	642.9	280.9	8.0	1.000170
16500.0	559.2	-2.1	-20.1	23.7	718.1	641.6	286.4	6.5	1.000166
17000.0	548.5	-3.2	-21.3	23.1	707.3	640.3	295.3	5.1	1.000163
17500.0	538.0	-4.3	-22.6	22.4	696.6	639.0	310.5	3.9	1.000160
18000.0	527.7	-5.4	-23.8	21.8	686.2	637.6	318.5	3.2	1.000158

STATION ALTITUDE 3997'30 FEET MSL
28 AUG. 78 1155 HRS MDT
ASCENSION NO. 127

UPPER AIR DATA
24000e0127
S M R
TABLE XXX. (CONT)

GEODETIC COORDINATES
32.4H034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
18500.0	517.5	-6.5	-25.1	21.1	e75.8	636.3	327.4	2.6	1.000155
19000.0	507.6	-7.6	-26.4	20.5	665.7	635.0	333.0	1.8	1.000152
19500.0	497.9	-8.8	-27.7	19.9	655.8	633.5	343.4	.9	1.000149
20000.0	488.1	-10.2	-29.1	19.6	64e.5	631.8	38.1	.8	1.000147
20500.0	478.6	-11.7	-30.4	19.2	637.3	630.1	66.7	1.5	1.000145
21000.0	469.2	-12.4	-31.6	18.3	626.7	629.2	72.3	2.0	1.000142
21500.0	459.9	-11.9	-32.3	16.3	613.1	629.8	73.8	2.3	1.000139
22000.0	450.8	-12.9	-32.9	16.6	603.2	628.6	77.8	2.2	1.000136
22500.0	441.9	-14.1	-33.5	17.4	594.1	627.1	86.3	1.8	1.000134
23000.0	433.1	-15.4	-34.1	18.1	585.1	625.6	87.2	1.3	1.000132
23500.0	424.5	-16.6	-34.8	18.9	57e.3	624.1	40.3	.7	1.000130
24000.0	416.0	-17.9	-35.6	19.3	567.5	622.5	337.1	1.0	1.000128
24500.0	407.6	-19.1	-36.5	19.7	55e.8	621.0	346.0	1.7	1.000126
25000.0	399.4	-20.4	-37.4	20.0	55e.3	619.4	349.8	2.5	1.000124
25500.0	391.2	-21.8	-38.4	20.6	542.1	617.7			1.000122
26000.0	383.1	-23.3	-39.3	21.1	534.0	615.9			1.000120
26500.0	375.3	-24.7	-40.3	21.7	526.1	614.1			1.000118

STATION ALTITUDE 3997.36 FEET MSL
28 AUG. 78 1155 HRS MDT
ASCENSION NO. 127

MANDATORY LEVELS
24[illegible]127
S M R
TABLE XXXI.

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
85[illegible].0	4973.	27.8	1.3	18.	54.2	0.3
80[illegible].0	6718.	23.3	-.0	20.	316.3	1.9
75[illegible].0	8546.	18.4	-3.1	23.	262.3	6.2
70[illegible].0	10467.	13.4	-6.7	24.	245.5	5.4
65[illegible].0	12492.	7.6	-6.7	35.	261.7	6.5
60[illegible].0	14632.	1.6	-9.5	43.	272.1	10.5
55[illegible].0	16913.	-3.1	-21.1	23.	293.7	5.3
50[illegible].0	19363.	-8.5	-27.9	20.	339.5	1.1
45[illegible].0	22015.	-13.9	-33.0	17.	78.4	2.2
40[illegible].0	24919.	-20.3	-37.3	20.	349.6	2.4