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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
19702A GSRS, MISSILE NUMBER 336, ROUND NUMBER B-19.(U)
JUN 79

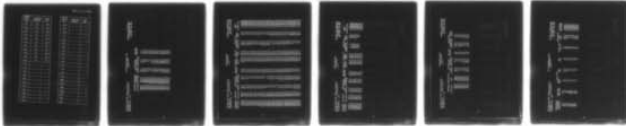
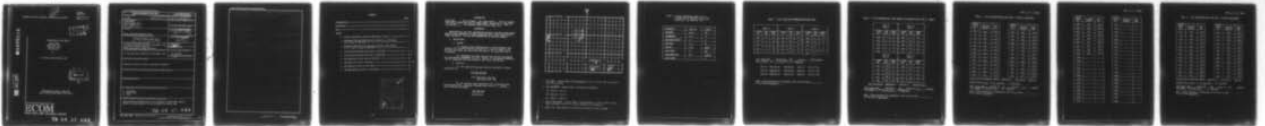
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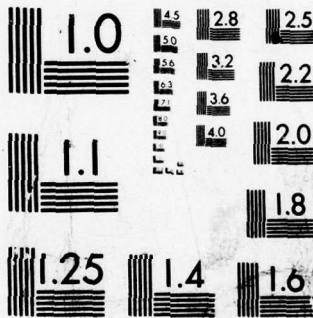
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JUNE 1979

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LEVEL

METEOROLOGICAL DATA REPORT

19702A GSRS
Missile No. 336
Round No. B-19
25 June 1979

by

White Sands Meteorological Team

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

79 08 27 045

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM	
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 19702A GSRS, Missile Number 336, Round Number B-19, are presented in tabular form.			

79 08 27 045

REPORT DOCUMENTATION PAGE

REPORT NUMBER: DA 1082

ACRONYMS: 1970A 0825

Missile Number 100

Round Number B-10

White Sands Meteorological Test

US Army Research Research Development Command

White Sands Missile Range, New Mexico

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DA 1082

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INTRODUCTION

19702A GSRS, Missile Number 336, Round Number B-19 was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0800 MDT, 25 June 1979. The scheduled launch time was 0800 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 ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(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 RPTS T-9 pibal observation at:

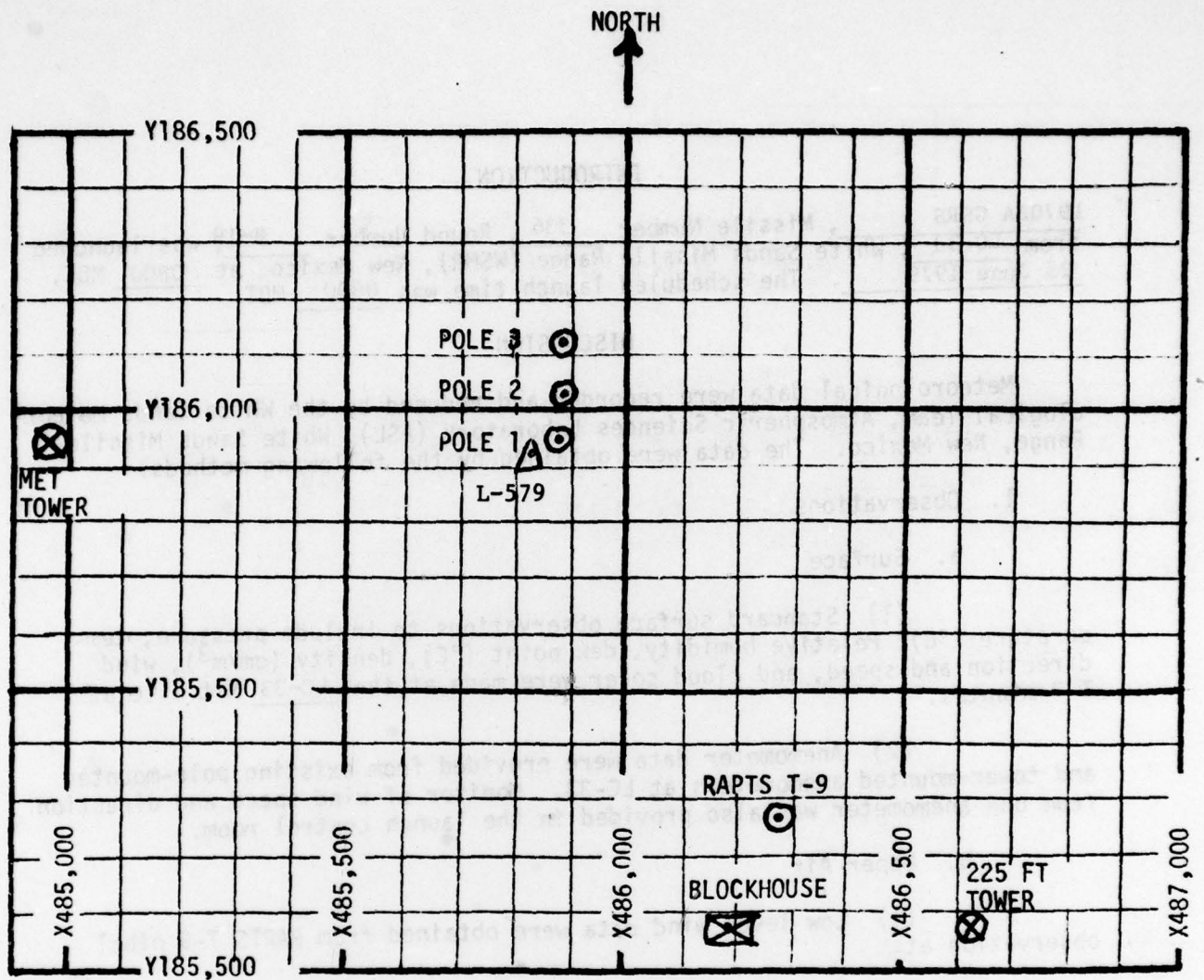
SITE AND ALTITUDE

LC-33 1020 Meters 0750 MDT
1080 Meters 0800 MDT

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 27,500 feet in 500-foot increments.

SITE AND TIME

SMR 0745 MST



1. MET TOWER - 4 Bendix Model T-120 Anemometers at 12 ft, 62 ft, 102 ft and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
 - (a) Pole #1 - 38.7 ft
 - (b) Pole #2 - 53.0 ft
 - (c) Pole #3 - 83.6 ft
3. 225 FT WIND TOWER - 5 Bendix Model T-120 Anemometers at 35 ft, 88 ft, 128 ft, 168 ft and 200 ft with 5 X-Y visual indicators in Blockhouse.
4. RAPTS T-9 - Radar Automatic Pilot-Balloon Tracking System T-9 Radar

TABLE 1. SURFACE OBSERVATION TAKEN AT LC-33
 25 JUNE 1979 AT 0800 M/T, 19702A GSRS,
 MISSILE NO. 336, ROUND NO. B-19

ELEVATION	3977.30	FT/MSL
PRESSURE	884.7	MBS
TEMPERATURE	22.8	°C
RELATIVE HUMIDITY	57	%
DEW POINT	13.8	°C
DENSITY	1034	GM/M ³
WIND SPEED	06	MPH
WIND DIRECTION	190	DEGREES
CLOUD COVER	2	AC

TABLE 2. LC-33 FIXED POLE ANEMOMETER-MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	M	07	-30	135	04	-30	M	M
-20	M	08	-20	145	05	-20	M	M
-10	M	07	-10	135	04	-10	M	M
0.0	M	06	0.0	130	04	0.0	M	M
+10	M	06	+10	135	04	+10	M	M

Type 19702A GSRS, Missile No. 336, Round No. B-19 launched
 from LC-33 on 25 June 1979 at 0800 MDT.

POLE #1 = X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL
 POLE #2 = X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL
 POLE #3 = X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL

NOTE: Wind directions are referenced to the firing azimuth _____
 or true north True North.

TABLE 3. LC-33 METEOROLOGICAL TOWER ANEMOMETER-MEASURED WINDS (202 FT. TOWER)

LEVEL #1 12 ft.			LEVEL #2 62 ft.		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	M	04	-30	177	05
-20	M	04	-20	173	05
-10	M	04	-10	162	05
0.0	M	03	0.0	177	05
+10	M	04	+10	170	05
LEVEL #3 102 ft.			LEVEL #4 202 ft.		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	160	03	-30	172	09
-20	160	03	-20	169	06
-10	154	05	-10	174	09
0.0	160	05	0.0	166	09
+10	158	05	+10	164	11

WTSM Coordinates: X484,982.64 Y185,957.73 H3983.00 (base)

Type 19702A GSRS, Missile No. 336, Round No. B-19 launched
from LG 33 on 25 June 1979 at 0800 MDT.

NOTE: Wind directions are referenced to the firing azimuth _____
or true north True North.

TABLE 4. PILOT-BALLOON-MEASURED WIND DATA (30-METER INCREMENTS)

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
SFC	000	000
30	161	01.0
60	161	02.5
90	161	03.5
120	161	04.5
150	161	06.0
180	161	07.0
210	161	08.0
240	161	09.5
270	161	10.5
300	161	11.5
330	161	13.0
360	161	13.0

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
390	161	12.0
420	161	11.0
450	162	10.0
480	160	09.0
510	160	08.0
540	159	07.0
570	159	06.0
600	157	05.0
630	155	04.0
660	153	03.0
690	140	03.0
720	128	03.5
750	119	04.0

Release Point Coordinates (WSTM): X486,037.24 Y486,037.24 H3977.30

Released from LC-33 on 25 June 1979 at 0750 MDT.

Type 19702A CSRS, Missile No. 336, Round No. B-19 launched from LC-33 on 25 June 1979 at 0800 MDT.

NOTE: Wind directions are referenced to the firing azimuth or true north True North.

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
780	113	04.5
810	108	05.5
840	104	06.0
870	101	07.0
900	099	07.5
930	097	08.0
960	095	09.0
990	093	09.5
1020	090	10.0
1050		
1080		
1110		
1140		
1170		
1200		
1230		
1260		
1290		
1320		
1350		
1380		
1410		

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
1440		
1470		
1500		
1530		
1560		
1590		
1620		
1650		
1680		
1710		
1740		
1770		
1800		
1830		
1860		
1890		
1920		
1950		
1980		
2010		
2040		
2070		

TABLE 5. PILOT-BALLOON-MEASURED WIND DATA (30-METER INCREMENTS)

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
SFC	190	06.0
30	188	09.5
60	186	12.5
90	184	16.0
120	182	19.0
150	191	17.0
180	199	14.5
210	208	12.5
240	216	10.0
270	213	10.0
300	210	09.5
330	207	09.0
360	204	08.5

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
390	206	08.5
420	207	08.0
450	209	08.0
480	210	07.5
510	216	06.5
540	222	05.5
570	228	04.5
600	234	03.0
630	209	03.5
660	183	04.0
690	157	04.5
720	131	04.3
750	133	05.5

Release Point Coordinates (WSTM): X486,037.24 Y486,037.24 H3977.30

Released from LC-33 on 25 June 1979 at 0750 MDT.

Type 19702A GSRS _____, Missile No. 336, Round No. B-19 launched from LC-33 on 25 June 1979 at 0800 MDT.

NOTE: Wind directions are referenced to the firing azimuth or true north True North.

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
780	134	06.5
810	135	07.5
840	136	08.0
870	133	08.5
900	130	09.0
930	127	09.5
960	124	09.5
990	121	09.5
1020	118	09.0
1050	115	09.0
1080	112	08.5
1110		
1140		
1170		
1200		
1230		
1260		
1290		
1320		
1350		
1380		
1410		

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
1440		
1470		
1500		
1530		
1560		
1590		
1620		
1650		
1680		
1710		
1740		
1770		
1800		
1830		
1860		
1890		
1920		
1950		
1980		
2010		
2040		
2070		

STATION ALTITUDE 3997.30 FEET MSL
 25 JUNE 79
 ASCENSION NO. 205

SIGNIFICANT LEVEL DATA
 1760060205
 S M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
883.8	25.4	45.0
857.2	23.6	46.0
850.0	24.2	46.0
817.8	23.3	38.0
750.8	16.8	41.0
700.0	11.9	51.0
659.4	7.8	56.0
633.0	5.1	44.0
557.0	-2.7	53.0
514.4	-8.6	70.0
501.2	-10.5	52.0
500.0	-9.6	50.0
493.4	-9.2	17.0
485.6	-9.0	16.0
426.2	-17.9	20.0
400.0	-21.8	20.0
388.4	-23.4	20.0
377.6	-23.1	19.0
364.2	-25.1	19.0
357.8	-24.7	19.0

STATION ALTITUDE 3997.30 FEET MSL
 25 JUNE 79
 ASCENSION NO. 205

UPPER AIR DATA
 1760060205
 S M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3997.3	883.8	25.4	12.6	45.0	1024.8	675.3	150.0	2.9	1.000291
4000.0	883.7	25.4	12.6	45.0	1024.7	675.2	150.1	2.9	1.000291
4500.0	868.5	24.4	11.9	45.6	1010.8	674.0	167.1	2.4	1.000285
5000.0	853.6	23.9	11.3	46.0	994.9	673.5	189.4	2.3	1.000280
5500.0	838.8	23.9	10.6	43.3	978.1	673.4	211.6	2.4	1.000273
6000.0	824.4	23.5	9.0	39.7	963.0	672.7	226.8	2.8	1.000264
6500.0	810.0	22.6	7.7	38.3	949.5	671.6	164.3	1.0	1.000257
7000.0	795.9	21.2	6.7	39.0	937.4	670.0	88.4	2.4	1.000252
7500.0	781.9	19.9	5.7	39.6	925.4	668.4	65.5	3.8	1.000247
8000.0	768.3	18.5	4.8	40.2	913.6	666.8	58.9	5.3	1.000242
8500.0	754.8	17.2	3.8	40.8	902.0	665.2	68.3	6.0	1.000237
9000.0	741.4	15.9	3.3	42.8	890.0	663.7	77.1	6.6	1.000233
9500.0	728.2	14.7	3.0	45.4	878.0	662.2	92.0	6.3	1.000230
10000.0	715.2	13.4	2.6	47.9	866.1	660.8	104.0	5.6	1.000227
10500.0	702.5	12.1	2.2	50.5	854.4	659.3	109.6	3.0	1.000224
11000.0	689.8	10.9	1.5	52.2	842.8	657.8	145.7	3.4	1.000220
11500.0	677.3	9.6	.7	53.8	831.3	656.3	309.4	3.4	1.000216
12000.0	665.0	8.4	-0.0	55.3	820.0	654.8	313.2	6.9	1.000212
12500.0	652.9	7.1	-1.8	53.1	808.9	653.2	334.4	8.7	1.000206
13000.0	640.9	5.9	-4.3	47.6	797.9	651.7	347.4	11.3	1.000199
13500.0	629.0	4.7	-6.3	44.4	786.8	650.1	7.3	12.9	1.000194
14000.0	617.3	3.6	-7.0	45.8	775.4	648.8	21.3	15.7	1.000191
14500.0	605.7	2.4	-7.7	47.1	764.1	647.4	31.1	15.8	1.000187
15000.0	594.4	1.3	-8.4	48.4	753.0	646.0	40.7	16.2	1.000184
15500.0	583.3	.1	-9.1	49.8	742.1	644.6	45.7	15.4	1.000181
16000.0	572.3	-1.0	-9.8	51.1	731.3	643.3	50.8	14.6	1.000178
16500.0	561.6	-2.2	-10.6	52.4	720.8	641.9	42.9	13.8	1.000175
17000.0	551.0	-3.5	-11.1	55.3	710.6	640.3	32.6	13.5	1.000172
17500.0	540.4	-4.9	-11.6	59.5	700.7	638.6	23.5	14.7	1.000169
18000.0	530.0	-6.4	-12.1	63.6	691.0	636.9	16.9	16.3	1.000167
18500.0	519.9	-7.8	-12.7	67.7	681.4	635.1	18.3	17.8	1.000164
19000.0	509.8	-9.3	-14.8	63.8	672.0	633.3	18.8	19.5	1.000160
19500.0	499.9	-9.6	-18.2	49.5	660.0	632.8	16.6	21.4	1.000155
20000.0	490.2	-9.1	-29.9	16.6	646.5	633.2	14.3	23.3	1.000147
20500.0	480.5	-9.7	-30.5	16.3	635.2	632.4	11.5	25.1	1.000144
21000.0	471.0	-11.1	-31.3	16.9	625.9	630.8	9.1	26.4	1.000142
21500.0	461.7	-12.4	-32.0	17.5	616.8	629.1	6.9	27.0	1.000140
22000.0	452.6	-13.8	-32.8	18.2	607.7	627.5	5.8	26.7	1.000138
22500.0	443.6	-15.2	-33.6	18.9	598.9	625.9	5.7	25.6	1.000135
23000.0	434.9	-16.5	-34.5	19.4	590.2	624.2	3.9	23.5	1.000133

STATION ALTITUDE 3997.30 FEET MSL
 25 JUNE 79 0745 HRS MST
 ASCENSION NO. 205

UPPER AIR DATA
 1760060205
 S M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT- TEMPERATURE DIFFERENCE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	426.3	-17.9	-35.3	20.0	581.6	622.5	.1	20.6	1.000131
24000.0	417.6	-19.1	-36.4	20.0	572.6	621.0	357.1	18.0	1.000129
24500.0	409.2	-20.4	-37.4	20.0	563.8	619.4	354.5	15.6	1.000127
25000.0	400.9	-21.7	-38.5	20.0	555.2	617.9	353.6	14.3	1.000125
25500.0	392.7	-22.8	-39.5	20.0	546.3	616.5	353.5	13.5	1.000123
26000.0	384.6	-23.3	-40.1	19.7	536.1	615.9	346.4	9.9	1.000121
26500.0	376.7	-23.2	-40.3	19.0	525.0	615.9	327.6	6.2	1.000118
27000.0	368.9	-24.4	-41.3	19.0	516.6	614.5			1.000116
27500.0	361.3	-24.9	-41.8	19.0	507.0	613.8			1.000114

STATION ALTITUDE 3997.30 FEET MSL
 25 JUNE 79 0745 HRS MST
 ASCENSION NO. 205

MANDATORY LEVELS
 1760060205
 S M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5116.	24.2	11.9	46.	194.9	2.3
800.0	6853.	21.6	7.0	39.	98.0	1.9
750.0	8674.	16.7	3.5	41.	71.1	6.3
700.0	10587.	11.9	2.1	51.	111.9	2.5
650.0	12606.	6.9	-2.4	52.	337.8	9.3
600.0	14745.	1.8	-8.0	48.	36.1	16.0
550.0	17027.	-3.6	-11.2	56.	31.8	13.5
500.0	19467.	-9.6	-18.0	50.	16.6	21.4
450.0	22123.	-14.2	-33.1	18.	5.8	26.4
400.0	25010.	-21.8	-38.6	20.	353.6	14.3

STATION ALTITUDE 3997.30 FEET MSL
 25 JUNE 79 0745 HRS MST
 ASCENSION NO. 205

MRN MANDATORY LEVELS
 1760060205
 S M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOCENTRIC ALTITUDE DECAMETERS	DIRECTION DEG (TN)	WIND DATA SPEED MPS	N-S MPS	E-W MPS	DEM PT DEP DEG C	TEMPERATURE AIR DEG C	PRESSURE MILLIBARS
762.	354.	7.	-7.	1.	17	-21.8	4.000+2
674.	6.	14.	-14.	-1.	19	-14.2	4.500+2
593.	17.	11.	-11.	-3.	08	-9.6	5.000+2
512.	32.	7.	-8.	-4.	08	-3.6	5.500+2
449.	36.	8.	-7.	-5.	10	1.8	6.000+2
384.	338.	5.	-4.	2.	09	6.9	6.500+2
323.	112.	1.	0.	-1.	10	11.9	7.000+2
264.	71.	3.	-1.	-3.	13	16.7	7.500+2
209.	98.	1.	0.	-1.	15	21.6	8.000+2
156.	195.	1.	1.	0.	12	24.2	8.500+2