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DR-476
October 1969

AD

METEOROLOGICAL DATA REPORT

NIKE-HYDAC STV-91
(22 October 1969)

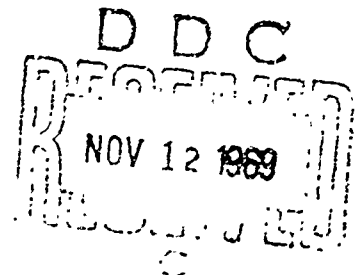
BY

JOHN M. SHARPE

ATMOSPHERIC SCIENCES OFFICE
WHITE SANDS MISSILE RANGE, NEW MEXICO

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METEOROLOGICAL DATA REPORT

NIKE-HYDAC STV-91
(22 October 1969)

By

John M. Sharpe

DR-476

October 1969

DA Task 1T665702D127-02

ATMOSPHERIC SCIENCES OFFICE
WHITE SANDS MISSILE RANGE, NEW MEXICO

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ABSTRACT

Meteorological data gathered for the launching of Nike-Hydac, STV-91, are presented for the Space and Missile Systems Organization, and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.

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INTRODUCTION

Nike-Hydac, STV-91, was launched from Launch Complex 33, left boom of L-361, White Sands Missile Range (WSMR), New Mexico, at 1112 hours MDT, 22 October 1969.

Meteorological data used in conjunction with theoretical calculations to predict rocket impact were collected by the Meteorological Support Technical Area, Atmospheric Sciences Office (ASO), WSMR, New Mexico. Ballistics Meteorologists for this firing were John M. Sharpe and Len E. Carter.

DISCUSSION

Wind data for the first 216 feet above the surface were obtained from a system composed of five Aerovanes mounted on a 200-foot tower and cabled to component wind indicators.

From 216 to 4,175 feet above the surface, wind data were obtained from T-9 Radar tracked balloon ascents.

Temperature, pressure, and humidity data, along with upper wind data from 4,175 to 71,089 feet above the surface, were obtained from standard rawinsonde observations.

Mean wind component values in each ballistic zone were determined from vertical cross sections by the equal-area method.

Theoretical rocket performance values and wind-weighting values as a function of altitude were provided by the Atmospheric Sciences Office and are the basis for the data appearing in Table I.

PAYLOAD	264	Pounds
CORIOLIS DISPLACEMENT	WEST 4.0	Miles
SECOND-STAGE IGNITION	TIME 20.0	Seconds
	ALTITUDE 36,025	Feet MSL
PEAK	TIME 224	Seconds
	ALTITUDE 643,635	Feet MSL
UNIT WIND EFFECT		
	RANGE 2.21	Miles/MPH
	CROSS 2.29	Miles/MPH
TOWER TILT EFFECT	12.74	Miles/Degree

TABLE I. THEORETICAL ROCKET PERFORMANCE VALUES
NIKE-HYDAC STV-91

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
11- 68	.129
68- 108	.065
108- 148	.057
148- 184	.048
184- 216	.028
216- 300	.078
300- 400	.072
400- 600	.095
600- 800	.059
800- 1000	.046

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
1000- 1400	.060
1400- 2000	.057
2000- 2500	.029
2500- 3000	.022
3000- 3500	.008
3500- 4175	.003
4175-11000	-.016
11000-16000	-.011
16000-21000	-.010
21000-26000	-.010

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
26000-32025	-.005
32025-34000	.072
34000-36000	.036
36000-41000	.043
41000-46000	.017
46000-51000	.009
51000-56000	.006
56000-66000	.010
66000-71089	.003

TABLE II. BALLISTIC FACTORS
NIKE-HYDAC STV-91

AERO- VANE NO. *	MEAN WIND COMPONENTS IN MILES PER HOUR											
	1		2		3		4		5		6	
	0815 MDT		0845 MDT		0927 MDT		0931 MDT		0945 MDT		0957 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
1	8.0N	0.0	6.0N	0.0	10.0N	0.0	8.0N	3.0E	5.0N	1.0E	6.0N	0.0
2	8.0	0.0	6.0	1.0E	10.0	0.0	8.0	4.0	6.0	0.0	4.0	0.0
3	10.0	0.0	8.0	1.0	11.0	1.0E	9.0	4.0	6.0	2.0	6.0	0.0
4	10.0	0.0	9.0	1.0	12.0	2.0	8.0	4.0	8.0	2.0	7.0	1.0E
5	10.0	0.0	9.0	1.0	10.0	2.0	10.0	2.0	6.0	4.3	6.0	4.0

TABLE III. ANEMOMETER WIND SPEED AND DIRECTION

NIKE-HYDAC STV-91

*Heights corresponding to Aerovane Numbers: 1 = 35 Feet
2 = 88 Feet

3 = 128 Feet
4 = 168 Feet

5 = 200 Feet

AERO- VANE NO. *	MEAN WIND COMPONENTS IN MILES PER HOUR											
	7		8		9		10		11		12	
	1005 MDT		1020 MDT		1035 MDT		1055 MDT		1105 MDT		1110 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
1	6.ON	4.OE	9.ON	2.OE	7.ON	2.OE	2.ON	4.OE	5.OS	1.OE	4.ON	2.OE
2	5.0	3.0	9.0	2.0	6.0	2.0	2.0	4.0	4.0	3.0	4.0	2.0
3	6.0	5.0	10.0	4.0	8.0	4.0	2.0	4.0	6.0	4.0	6.0	5.0
4	7.0	6.0	10.0	4.0	7.0	5.0	2.0	5.0	6.0	4.0	6.0	5.0
5	6.0	6.0	8.0	3.0	6.0	5.0	2.0	6.0	8.0	2.0	6.0	5.0

TABLE III. ANEMOMETER WIND SPEED AND DIRECTION (CONT)
NIKE-HYDAC STV-91

*Heights corresponding to Aerovane Numbers: 1 = 35 Feet 3 = 128 Feet 5 = 200 Feet
2 = 88 Feet 4 = 168 Feet

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN MILES PER HOUR									
	1		2		3		4		5	
	0815 MDT		0845 MDT		0927 MDT		0931 MDT		0945 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
215- 300	2.0N	0.5E	9.0N	1.5E	9.0N	2.0E	9.5N	3.5E	5.5N	2.5E
300- 400	2.5	1.0	9.5	1.0W	7.0	1.5	8.5	3.0	5.0	0.5W
400- 600	9.0	1.0	13.5	1.0E	8.0	1.0	7.5	2.0	7.0	1.5E
600- 800	15.5	1.0	15.0	2.0	9.0	3.5	9.5	4.5	7.0	4.5
800-1000	15.0	3.0	14.5	3.5	10.0	4.5	11.0	5.0	8.5	4.0
1000-1400	14.5	3.0	13.0	1.0	9.0	2.0	8.5	2.5	7.0	3.5
1400-2000	8.5	4.5W	5.0	6.0	4.0	4.0	4.0	5.0W	3.5	3.0W
2000-2500	5.5	7.5	5.0	9.0	5.0	7.5	3.0	7.5	2.0	5.5
2500-3000	3.0	12.0	2.0	9.0	3.0	7.5	1.0	8.5	0.0	6.5
3000-3500	0.5S	13.0	1.0S	9.0	*	*	1.0	6.0	2.0S	5.0
3500-4175	3.0	9.0	4.0	7.5			3.5S	5.0	2.0	2.0

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA
NIKE-HYDAC STV-91

*Target Lost

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN MILES PER HOUR									
	7		8		9		10		11	
	1005 MDT		1020 MDT		1035 MDT		1055 MDT		1110 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
216- 300	6.0N	5.5E	8.0N	3.0E	5.5N	4.0E	2.5N	5.0E	5.0N	5.0E
300- 400	6.0	5.0	8.0	3.0	5.0	3.5	3.5	5.0	3.5	5.5
400- 600	7.0	5.5	7.5	3.0	4.5	2.5	5.0	4.0	5.5	4.0
600- 800	8.0	6.0	7.5	3.5	3.0	5.0	5.5	3.0	5.0	2.5
800-1000	8.0	6.0	7.0	3.5	5.5	5.5	6.5	4.0	5.0	4.0
1000-1400	7.0	4.5	8.0	4.5	5.5	2.5	3.0	3.5	4.0	3.5
1400-2000	6.0	2.0W	6.0	0.5	3.5	1.5W	1.0	0.5	3.0	1.5
2000-2500	4.0	5.0	3.5	3.5W	3.5	3.5	0.0	2.0W	1.5S	0.0
2500-3000	1.5	3.5	2.0	3.5	0.0	3.0	2.5S	0.0	2.5S	0.0
3000-3500	3.0S	1.5	2.5S	0.5E	2.5S	0.0	3.5	2.0W	3.5	3.0W
3500-4175	7.0S	0.5E	5.0	1.5W	4.5	1.5W	5.5	6.5W	5.5	6.0

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA (CONT)
NIKE-HYDAC STV-91

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN KNOTS						
	1		2				
	0730 MDT		1030 MDT				
	N-S	E-W	N-E	E-W	N-S	E-W	
4175-11000	23.5S	13.5W	22.5S	13.0W			
11000-16000	36.5	21.0	29.0	24.5			
16000-21000	41.5	34.9	31.0	36.5			
21000-26000	51.0	61.0	54.0	64.0			
26000-32025	54.0	64.0	53.0	63.0			
32025-34000	39.0	66.5	39.0	64.0			
34000-36000	33.0	56.0	36.0	63.0			
36000-41000	31.0	54.0	35.5	61.5			
41000-46000	36.0	43.0	26.5	46.0			
46000-51000	21.5	37.0	23.0	27.5			
51000-56000	12.0	33.0	9.5	26.0			
56000-66000	3.5	20.5	7.5N	20.5			
66000-71089	3.5N	17.5	3.0	14.0			

TABLE V. RAWINSONDE-MEASURED WIND DATA
NIKE-HYDAC STV-91

STATION ALTITUDE 10000.00 FT. MSL
 22 OCT. 69 0730 HRS MDZ
 VISION NO. 100.

SIGNIFICANT LEVEL DATA
 2950021006
 WHITE SANDS

WSTM SITE COORDINATES
 4889.0.00 FEET E
 109645.30 FEET N

TABLE VE

GEOMETRIC ALTITUDE MILLIARMS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUMID. PERCENT
840.0	10.0	08.0
871.0	10.5	09.0
898.0	8.8	72.0
820.0	10.0	91.0
760.0	7.9	62.0
720.0	1.5	92.0
640.0	-4.0	99.0
629.0	-6.1	61.0
624.0	-4.8	20.0
610.0	-2.1	21.0
441.0	-21.9	29.0
324.0	-30.0	25.0
275.0	-37.1	25.0
210.0	-49.5	-0. **
151.0	-68.9	-0. **
136.0	-67.1	-0. **
112.0	-66.8	-0. **
91.0	-72.3	-0. **
82.0	-65.0	-0. **
70.0	-60.0	-0. **
23.0	-54.2	-0. **
10.0	-38.7	-0. **
7.9	-39.3	-0. **

*** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

STATION ALTITUDE 3989.00 FEET, MSL
22 OCT. 69 0730 HRS NDT
ASCENSION NO. 1006

UPPER AIR DATA
295021006
WHITE SANDS

WSTM SITE COORDINATES
488.550.00 FEET E
185045.00 FEET N

TABLE VII

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	FT/SEC			
3989.0	880.5	10.0	8.2	88.0	1078.4	656.7	10.0	10.0	1.9	1.000291
4000.0	880.1	10.0	8.0	87.1	1078.0	656.7	9.8	9.8	2.0	1.000291
4500.0	864.2	10.2	3.9	64.8	1058.8	656.4	358.8	358.8	3.6	1.000274
5000.0	848.5	9.4	4.0	69.1	1042.6	655.7	347.8	347.8	5.2	1.000271
5500.0	833.1	9.1	3.2	66.3	1024.7	655.3	336.8	336.8	6.8	1.000265
6000.0	818.0	9.8	0.3	51.4	1004.2	656.0	321.2	321.2	8.1	1.000253
6500.0	803.0	8.6	-0.2	54.0	990.2	654.5	291.1	291.1	8.4	1.000249
7000.0	788.3	7.4	-0.7	56.7	976.4	653.0	271.9	271.9	9.5	1.000246
7500.0	773.9	6.1	-1.2	59.4	962.8	651.6	258.3	258.3	11.0	1.000242
8000.0	759.7	4.9	-1.7	62.2	949.5	650.1	245.1	245.1	12.0	1.000238
8500.0	745.6	3.7	-0.8	72.6	935.6	648.8	233.1	233.1	13.2	1.000237
9000.0	731.7	2.5	-0.1	89.0	921.9	647.5	223.3	223.3	15.0	1.000236
9500.0	718.1	1.4	0.2	92.2	908.5	646.2	216.9	216.9	17.1	1.000234
10000.0	704.5	0.3	-0.7	93.4	894.9	644.9	212.3	212.3	19.4	1.000229
10500.0	691.2	-0.8	-1.6	94.6	881.6	643.6	209.7	209.7	21.9	1.000224
11000.0	678.1	-1.9	-2.5	95.9	868.5	642.2	207.5	207.5	24.0	1.000220
11500.0	665.3	-2.9	-3.4	97.1	855.6	640.9	205.5	205.5	25.9	1.000215
12000.0	652.8	-4.0	-4.3	98.3	842.9	639.6	205.4	205.4	29.2	1.000211
12500.0	640.3	-5.1	-7.0	86.5	830.5	638.2	205.5	205.5	32.4	1.000204
13000.0	628.1	-5.9	-13.9	53.3	817.6	637.0	206.0	206.0	35.4	1.000193
13500.0	616.1	-3.3	-22.8	20.6	794.9	639.9	206.9	206.9	38.2	1.000182
14000.0	604.1	-2.7	-21.9	21.2	777.7	640.6	208.5	208.5	40.8	1.000179
14500.0	592.2	-3.9	-22.7	21.7	765.9	639.1	208.7	208.7	42.1	1.000176
15000.0	580.6	-5.1	-23.5	22.2	754.2	637.7	208.1	208.1	42.8	1.000173
15500.0	569.1	-6.3	-24.3	22.7	742.8	636.2	207.0	207.0	42.3	1.000170
16000.0	557.9	-7.5	-25.1	23.2	731.5	634.8	205.9	205.9	41.9	1.000167
16500.0	547.0	-8.8	-25.9	23.7	720.4	633.3	204.8	204.8	41.5	1.000164
17000.0	536.2	-10.0	-26.7	24.2	709.5	631.8	205.3	205.3	39.5	1.000162
17500.0	525.6	-11.2	-27.6	24.7	698.8	630.4	206.6	206.6	37.6	1.000159
18000.0	515.3	-12.4	-28.4	25.2	688.2	628.9	209.4	209.4	37.5	1.000157

STATION ALTITUDE 3989.00 FEET MSL

22 OCT. 69

ASCENSION NO. 1006

UPPER AIR DATA

2950021006

WHITE SANDS

WSTM SITE COORDINATES

488580.00 FEET E

185045.00 FEET N

0730 HRS MDT

TABLE VII (Cont)

GOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
18500.0	505.1	-13.6	-29.2	25.7	677.9	627.4	212.4	37.5	1.000154
19000.0	495.2	-14.8	-30.1	26.1	667.6	625.9	215.4	37.4	1.000152
19500.0	485.5	-16.0	-31.0	26.6	657.6	624.5	218.0	39.8	1.000149
20000.0	475.9	-17.3	-31.8	27.1	647.7	623.0	220.3	42.0	1.000147
20500.0	466.5	-18.5	-32.7	27.6	638.0	621.5	222.0	43.1	1.000144
21000.0	457.3	-19.7	-33.6	28.1	628.5	620.0	222.7	44.8	1.000142
21500.0	448.3	-20.9	-34.5	28.6	619.1	618.5	222.5	46.8	1.000140
22000.0	439.4	-22.0	-35.4	29.0	609.4	617.2	221.0	48.5	1.000138
22500.0	430.3	-22.5	-35.9	28.7	598.1	616.5	219.2	50.3	1.000135
23000.0	421.4	-23.1	-36.5	28.4	587.0	615.8	217.2	53.1	1.000132
23500.0	412.6	-23.6	-37.1	28.1	576.1	615.1	216.6	55.8	1.000130
24000.0	404.0	-24.2	-37.7	27.9	565.3	614.4	217.3	58.5	1.000127
24500.0	395.6	-24.8	-38.3	27.6	554.8	613.8	217.7	61.5	1.000125
25000.0	387.4	-25.3	-38.9	27.3	544.5	613.1	218.1	64.6	1.000123
25500.0	379.4	-25.9	-39.4	27.0	534.4	612.4	219.9	69.7	1.000120
26000.0	371.5	-26.4	-40.0	26.8	524.5	611.7	221.3	74.2	1.000118
26500.0	363.8	-27.0	-40.6	26.5	514.7	611.0	221.8	77.4	1.000116
27000.0	356.2	-27.5	-41.2	26.2	505.2	610.3	223.2	80.8	1.000114
27500.0	348.8	-28.1	-41.8	26.0	495.8	609.6	225.1	84.3	1.000111
28000.0	341.6	-28.6	-42.4	25.7	486.6	608.9	226.5	83.6	1.000109
28500.0	334.5	-29.2	-42.9	25.4	477.6	608.3	227.9	82.8	1.000107
29000.0	327.5	-29.7	-43.5	25.1	468.7	607.6	228.9	83.7	1.000105
29500.0	320.6	-30.5	-44.2	25.0	460.2	606.6	229.8	84.4	1.000103
30000.0	313.8	-31.4	-45.0	25.0	452.1	605.5	230.4	84.8	1.000101
30500.0	307.0	-32.3	-45.9	25.0	444.2	604.3	230.7	85.4	1.000100
31000.0	300.5	-33.3	-46.7	25.0	436.4	603.1	231.0	86.1	1.000098
31500.0	294.0	-34.2	-47.5	25.0	428.7	601.9	231.2	85.5	1.000096
32000.0	287.7	-35.1	-48.3	25.0	421.2	600.7	231.4	84.9	1.000094
32500.0	281.6	-36.1	-49.2	25.0	413.8	599.6	231.4	84.2	1.000093
33000.0	275.5	-37.0	-50.0	25.0	406.5	598.4	231.3	83.4	1.000091

STATION ALTITUDE 3389.00 FEET MSL
22 OCT. 69 0730 HRS MDT
ASCENSION NO. 1006

UPPER LIP
2950071006
WHITE SANDS

ASTM SITE COORDINATES
488580.00 FEET E
165045.00 FEET N

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
33500.0	269.4	-38.0	-51.6	23.1**	399.2	597.1	231.2	82.7	1.000089	
34000.0	263.4	-39.1	-53.3	21.0**	392.1	595.7	231.0	82.2	1.000088	
34500.0	257.5	-40.1	-55.0	18.9**	385.0	594.4	230.9	81.9	1.000086	
35000.0	251.8	-41.2	-56.9	16.8**	378.1	593.1	231.0	81.3	1.000084	
35500.0	246.2	-42.2	-58.8	14.7**	371.4	591.8	231.2	80.8	1.000083	
36000.0	240.7	-43.2	-60.8	12.6**	364.7	590.4	232.0	80.5	1.000081	
36500.0	235.3	-44.3	-63.1	10.6**	358.2	589.1	232.8	80.2	1.000080	
37000.0	230.1	-45.3	-65.5	8.5**	351.8	587.8	234.0	78.0	1.000078	
37500.0	224.9	-46.3	-68.4	6.4**	345.5	586.4	235.1	75.7	1.000077	
38000.0	219.9	-47.4	-71.9	4.3**	339.4	585.1	236.0	72.9	1.000076	
38500.0	215.0	-48.4	-77.1	2.2**	333.3	583.7	236.8	70.2	1.000074	
39000.0	210.2	-49.5	-95.1	0.1**	327.4	582.4	237.0	67.7	1.000073	
39500.0	205.3	-50.5	0.	-0. **	321.1	581.1	237.0	66.4	1.000072	
40000.0	200.4	-51.5	0.	-0. **	315.0	579.8	236.7	66.8	1.000070	
40500.0	195.7	-52.5	0.	-0. **	308.9	578.5	236.6	66.3	1.000069	
41000.0	191.1	-53.5	0.	-0. **	303.0	577.1	236.5	65.4	1.000067	
41500.0	186.5	-54.5	0.	-0. **	297.2	575.8	235.9	63.6	1.000066	
42000.0	182.1	-55.5	0.	-0. **	291.5	574.5	235.3	61.7	1.000065	
42500.0	177.8	-56.5	0.	-0. **	285.9	573.2	234.4	59.3	1.000064	
43000.0	173.6	-57.5	0.	-0. **	280.5	571.9	233.5	57.0	1.000062	
43500.0	169.5	-58.5	0.	-0. **	275.1	570.5	232.6	56.4	1.000061	
44000.0	165.5	-59.5	0.	-0. **	269.9	569.2	231.7	55.9	1.000060	
44500.0	161.6	-60.5	0.	-0. **	264.7	567.9	231.5	55.6	1.000059	
45000.0	157.8	-61.5	0.	-0. **	259.7	566.5	231.5	55.3	1.000058	
45500.0	154.1	-62.5	0.	-0. **	254.8	565.2	231.9	55.5	1.000057	
46000.0	150.4	-63.4	0.	-0. **	249.9	563.9	232.6	55.9	1.000056	
46500.0	146.7	-64.3	0.	-0. **	244.8	562.7	233.7	56.1	1.000055	
47000.0	143.1	-65.3	0.	-0. **	239.8	561.4	235.2	55.9	1.000053	
47500.0	139.6	-66.2	0.	-0. **	234.9	560.2	237.0	55.9	1.000052	
48000.0	136.1	-67.1	0.	-0. **	230.2	559.0	239.1	56.0	1.000051	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA
2950021006
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
22 OCT. 69 0730 HRS MDT
ASCENSION NO. 1006

WSTM SITE COORDINATES
488580.00 FEET E
185045.00 FEET N

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL-HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS			
48500.0	132.8	-67.1	0.	-0.	224.5	559.0		241.1	54.5	1.000050
49000.0	129.5	-67.0	0.	-0.	218.9	559.0		243.2	52.3	1.000049
49500.0	126.3	-67.0	0.	-0.	213.4	559.1		243.8	50.6	1.000048
50000.0	123.1	-66.9	0.	-0.	208.1	559.1		243.8	49.1	1.000046
50500.0	120.1	-66.9	0.	-0.	202.9	559.2		242.0	50.4	1.000045
51000.0	117.1	-66.9	0.	-0.	197.8	559.2		239.0	53.5	1.000044
51500.0	114.2	-66.8	0.	-0.	192.9	559.3		236.3	56.1	1.000043
52000.0	111.4	-67.0	0.	-0.	188.2	559.1		233.9	58.2	1.000042
52500.0	108.6	-67.6	0.	-0.	184.1	558.2		231.7	60.1	1.000041
53000.0	105.8	-68.3	0.	-0.	180.0	557.3		230.8	60.1	1.000040
53500.0	103.2	-69.0	0.	-0.	176.1	556.4		229.8	60.0	1.000039
54000.0	100.6	-69.6	0.	-0.	172.2	555.5		229.4	58.3	1.000038
54500.0	98.1	-70.3	0.	-0.	168.5	554.6		229.9	54.2	1.000038
55000.0	95.6	-71.0	0.	-0.	164.8	553.6		230.3	50.1	1.000037
55500.0	93.2	-71.7	0.	-0.	161.2	552.7		232.5	45.6	1.000036
56000.0	90.9	-72.2	0.	-0.	157.6	552.0		235.4	40.9	1.000035
56500.0	88.6	-70.4	0.	-0.	152.3	554.4		238.7	36.4	1.000034
57000.0	86.4	-68.7	0.	-0.	147.2	556.8		245.0	32.7	1.000033
57500.0	84.2	-66.9	0.	-0.	142.3	559.2		251.2	29.1	1.000032
58000.0	82.1	-65.1	0.	-0.	137.5	561.6		270.3	24.0	1.000031
58500.0	80.1	-65.1	0.	-0.	134.2	561.6		295.8	18.2	1.000030
59000.0	78.1	-65.3	0.	-0.	131.0	561.4		318.3	13.6	1.000029
59500.0	76.2	-65.5	0.	-0.	127.9	561.1		329.7	13.5	1.000028
60000.0	74.3	-65.6	0.	-0.	124.8	560.9		341.1	13.3	1.000028
60500.0	72.5	-65.8	0.	-0.	121.8	560.7		321.4	14.8	1.000027
61000.0	70.7	-65.9	0.	-0.	118.9	560.5		291.8	16.9	1.000026
61500.0	69.0	-65.8	0.	-0.	116.0	560.6		267.8	21.1	1.000026
62000.0	67.4	-65.6	0.	-0.	113.1	561.0		258.7	30.9	1.000025
62500.0	65.7	-65.3	0.	-0.	110.2	561.3		249.6	40.7	1.000025
63000.0	64.2	-65.1	0.	-0.	107.4	561.7		246.4	44.7	1.000024

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
22 OCT. 69 0730 HRS MDT
ASCENSION NO. 1006

UPPER AIR DATA
2950021006
WHITE SANDS

WSTM SITE COORDINATES
488580.00 FEET E
185045.00 FEET N

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	62.6	-64.8	-0. **	104.7	562.0	245.4	46.7	1.000023
64000.0	61.1	-64.6	-0. **	102.1	562.4	245.2	46.5	1.000023
64500.0	59.7	-64.3	-0. **	99.5	562.7	248.5	37.6	1.000022
65000.0	58.2	-64.0	-0. **	97.0	563.1	251.8	28.7	1.000022
65500.0	56.8	-63.8	-0. **	94.6	563.4	258.7	22.8	1.000021
66000.0	55.5	-63.5	-0. **	92.2	563.7	267.6	18.5	1.000021
66500.0	54.1	-63.3	-0. **	89.9	564.1	275.3	15.4	1.000020
67000.0	52.8	-63.0	-0. **	87.6	564.4	280.1	16.5	1.000020
67500.0	51.6	-62.8	-0. **	85.4	564.8	284.9	17.5	1.000019
68000.0	50.3	-62.5	-0. **	83.3	565.1	284.1	18.8	1.000019
68500.0	49.1	-62.2	-0. **	81.2	565.5	283.2	20.1	1.000018
69000.0	48.0	-62.0	-0. **	79.1	565.8	284.0	20.0	1.000018
69500.0	46.8	-61.7	-0. **	77.1	566.2	285.5	19.3	1.000017
70000.0	45.7	-61.5	-0. **	75.2	566.5	286.5	18.7	1.000017
70500.0	44.6	-61.2	-0. **	73.3	566.9	286.8	17.9	1.000016
71000.0	43.5	-61.0	-0. **	71.4	567.2	286.4	17.4	1.000016
71500.0	42.5	-60.7	-0. **	69.7	567.5	282.0	18.4	1.000016
72000.0	41.5	-60.4	-0. **	67.9	567.9	277.7	19.3	1.000015
72500.0	40.5	-60.2	-0. **	66.2	568.2	274.9	20.8	1.000015
73000.0	39.5	-59.9	-0. **	64.5	568.6	272.7	22.4	1.000014
73500.0	38.5	-59.7	-0. **	62.9	568.9	272.1	23.5	1.000014
74000.0	37.6	-59.4	-0. **	61.3	569.3	275.5	23.3	1.000014
74500.0	36.7	-59.2	-0. **	59.8	569.6	278.8	23.1	1.000013
75000.0	35.8	-58.9	-0. **	58.3	569.9	285.6	22.6	1.000013
75500.0	35.0	-58.6	-0. **	56.8	570.3	293.3	22.0	1.000013
76000.0	34.1	-58.4	-0. **	55.4	570.6	298.0	22.0	1.000012
76500.0	33.3	-58.1	-0. **	54.0	571.0	295.5	23.3	1.000012
77000.0	32.5	-57.9	-0. **	52.6	571.3	293.1	24.6	1.000012
77500.0	31.7	-57.6	-0. **	51.3	571.7	287.3	26.6	1.000011
78000.0	31.0	-57.4	-0. **	50.0	572.0	280.6	28.7	1.000011

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
22 OCT. 69 0730 HRS MDT
ASCENSION NO. 1006

UPPER AIR DATA
2950021006
WHITE SANDS

WSTM SITE COORDINATES
488580.00 FEET E
185045.00 FEET N

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS			
78500.0	30.2	-57.1	0.	-0.	**	48.8	572.3	273.9	31.1	1.000011
79000.0	29.5	-56.8	0.	-0.	**	47.5	572.7	267.4	34.3	1.000011
79500.0	28.8	-56.6	0.	-0.	**	46.3	573.0	260.9	37.4	1.000010
80000.0	28.1	-56.3	0.	-0.	**	45.2	573.4	262.3	34.4	1.000010
80500.0	27.4	-56.1	0.	-0.	**	44.0	573.7	265.9	29.7	1.000010
81000.0	26.8	-55.8	0.	-0.	**	42.9	574.0	269.0	26.1	1.000010
81500.0	26.1	-55.6	0.	-0.	**	41.9	574.4	270.8	25.2	1.000009
82000.0	25.5	-55.3	0.	-0.	**	40.8	574.7	272.7	24.3	1.000009
82500.0	24.9	-55.0	0.	-0.	**	39.8	575.1	277.4	23.7	1.000009
83000.0	24.3	-54.8	0.	-0.	**	38.8	575.4	283.9	23.3	1.000009
83500.0	23.7	-54.5	0.	-0.	**	37.8	575.7	290.3	22.9	1.000008
84000.0	23.2	-54.3	0.	-0.	**	36.9	576.1	286.5	26.8	1.000008
84500.0	22.6	-53.9	0.	-0.	**	35.9	576.6	280.2	31.6	1.000008
85000.0	22.1	-53.5	0.	-0.	**	35.1	577.1	274.0	36.5	1.000008
85500.0	21.6	-53.0	0.	-0.	**	34.2	577.7	274.1	37.4	1.000008
86000.0	21.1	-52.6	0.	-0.	**	33.4	578.2	275.1	37.8	1.000007
86500.0	20.7	-52.2	0.	-0.	**	32.6	578.8	276.1	38.2	1.000007
87000.0	20.2	-51.8	0.	-0.	**	31.8	579.3	276.1	39.4	1.000007
87500.0	19.7	-51.3	0.	-0.	**	31.0	579.9	276.0	40.8	1.000007
88000.0	19.3	-50.9	0.	-0.	**	30.2	580.5	275.8	42.1	1.000007
88500.0	18.9	-50.5	0.	-0.	**	29.5	581.0	276.0	40.7	1.000007
89000.0	18.4	-50.1	0.	-0.	**	28.8	581.6	276.2	38.7	1.000006
89500.0	18.0	-49.7	0.	-0.	**	28.1	582.1	276.5	36.7	1.000006
90000.0	17.6	-49.2	0.	-0.	**	27.4	582.7	275.1	36.9	1.000006
90500.0	17.2	-48.8	0.	-0.	**	26.7	583.2	273.4	37.4	1.000006
91000.0	16.8	-48.4	0.	-0.	**	26.1	583.8	271.6	38.0	1.000006
91500.0	16.4	-48.0	0.	-0.	**	25.4	584.3	270.4	38.3	1.000006
92000.0	16.1	-47.5	0.	-0.	**	24.8	584.9	269.2	38.5	1.000006
92500.0	15.7	-47.1	0.	-0.	**	24.2	585.4	268.1	38.7	1.000005
93000.0	15.4	-46.7	0.	-0.	**	23.6	586.0	268.4	38.3	1.000005

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
22 FEB 69 0730 HRS MDT
ASCENSION NO. 1006

UPPER AIR DATA
2950021006
WHITE SANDS

WSTM SITE COORDINATES
488580.00 FEET E
185045.00 FEET N

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	DEGREES(TN)	DIRECTION	SPEED KNOTS	
93500.0	15.0	-46.3	0.	-0. **	23.1	586.5		269.2	37.7	1.000005
94000.0	14.7	-45.8	0.	-0. **	22.5	587.1		269.9	37.1	1.000005
94500.0	14.3	-45.4	0.	-0. **	22.0	587.6		270.0	37.3	1.000005
95000.0	14.0	-45.0	0.	-0. **	21.4	588.1		269.9	37.6	1.000005
95500.0	13.7	-44.6	0.	-0. **	20.9	588.7		269.7	38.0	1.000005
96000.0	13.4	-44.1	0.	-0. **	20.4	589.2		269.6	38.4	1.000005
96500.0	13.1	-43.7	0.	-0. **	19.9	589.8		269.5	38.7	1.000004
97000.0	12.8	-43.3	0.	-0. **	19.4	590.3		269.4	39.1	1.000004
97500.0	12.5	-42.9	0.	-0. **	18.9	590.9		269.5	40.3	1.000004
98000.0	12.2	-42.5	0.	-0. **	18.5	591.4		269.6	41.7	1.000004
98500.0	12.0	-42.0	0.	-0. **	18.0	592.0		269.7	43.1	1.000004
99000.0	11.7	-41.6	0.	-0. **	17.6	592.5		267.8	44.4	1.000004
99500.0	11.4	-41.2	0.	-0. **	17.2	593.0		265.2	45.7	1.000004
100000.0	11.2	-40.8	0.	-0. **	16.7	593.6		262.6	46.9	1.000004
100500.0	10.9	-40.3	0.	-0. **	16.3	594.1		260.1	47.6	1.000004
101000.0	10.7	-39.9	0.	-0. **	15.9	594.7		257.7	48.1	1.000004
101500.0	10.4	-39.5	0.	-0. **	15.6	595.2		255.3	48.5	1.000003
102000.0	10.2	-39.1	0.	-0. **	15.2	595.7		253.2	49.7	1.000003
102500.0	10.0	-38.7	0.	-0. **	14.8	596.2		252.0	53.0	1.000003
103000.0	9.8	-38.8	0.	-0. **	14.5	596.1		250.8	56.3	1.000003
103500.0	9.5	-38.8	0.	-0. **	14.2	596.1		249.6	59.5	1.000003
104000.0	9.3	-38.9	0.	-0. **	13.9	596.0				1.000003
104500.0	9.1	-38.9	0.	-0. **	13.6	595.9				1.000003
105000.0	8.9	-39.0	0.	-0. **	13.3	595.8				1.000003
105500.0	8.7	-39.0	0.	-0. **	13.0	595.8				1.000003
106000.0	8.5	-39.1	0.	-0. **	12.7	595.7				1.000003
106500.0	8.4	-39.2	0.	-0. **	12.4	595.6				1.000003
107000.0	8.2	-39.2	0.	-0. **	12.2	595.6				1.000003
107500.0	8.0	-39.3	0.	-0. **	11.9	595.5				1.000003

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL

22 OCT. 69

ASCENSION NO. 1006

MANDATORY LEVELS

2950021006

WHITE SANDS

WSTM SITE COORDINATES

488580.00 FEET E

185045.00 FEET N

TABLE VIII

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
350.0	4951.	9.5	4.0	69.	348.8	5.0
800.0	6602.	8.3	-0.3	55.	284.9	8.4
750.0	8339.	4.1	-1.0	69.	236.2	12.7
700.0	10169.	-0.1	-1.0	94.	211.4	20.3
650.0	12104.	-4.3	-4.5	99.	205.4	30.0
600.0	14175.	-3.1	-22.2	21.	209.0	41.6
550.0	16413.	-8.4	-25.7	24.	204.9	41.6
500.0	18812.	-14.2	-29.7	26.	214.4	37.4
450.0	21402.	-20.7	-34.3	29.	222.5	46.5
400.0	24235.	-24.5	-38.0	28.	217.5	60.1
350.0	27405.	-28.0	-41.7	26.	224.9	83.9
300.0	31002.	-33.3	-46.7	25.	231.0	86.1
250.0	35134.	-41.5	-57.5	16.**	231.1	81.1
200.0	39993.	-51.5	0.	-0.**	236.7	66.8
175.0	42801.	-57.1	0.	-0.**	233.7	57.5
150.0	45953.	-63.5	0.	-0.**	232.7	55.9
125.0	49580.	-67.0	0.	-0.**	243.8	50.0
100.0	53988.	-69.8	0.	-0.**	229.5	57.2
80.0	58360.	-65.2	0.	-0.**	297.0	17.9
70.0	61024.	-66.0	0.	-0.**	279.9	17.8
60.0	64104.	-64.4	0.	-0.**	247.2	41.2
50.0	67779.	-62.4	0.	-0.**	284.1	18.8
40.0	72323.	-60.1	0.	-0.**	274.6	21.1
30.0	78257.	-57.0	0.	-0.**	273.3	31.4
25.0	82060.	-55.1	0.	-0.**	275.9	23.8
20.0	86769.	-51.6	0.	-0.**	276.1	39.8
15.0	92668.	-46.2	0.	-0.**	269.0	37.8
10.0	101957.	-38.7	0.	-0.**	252.1	52.7

** AT LFAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
22 OCT. 69 1030 HRS WDT
ASCENSION NO. 1007

SIGNIFICANT LEVEL DATA
2950021007
WHITE SANDS
TABLE IX

WSTM SITE COORDINATES
488580.00 FEET E
185045.00 FEET N

PRESSURE GEOMETRIC ALTITUDE		TEMPERATURE		REL. HUM. PERCENT
MILLIBARS	MSL FEET	AIR DEGREES	DEWPOINT CENTIGRADE	
881.4	3989.0	15.8	8.6	62.0
871.0	4318.8	13.4	4.1	53.0
811.0	6278.0	9.5	-3.1	41.0
718.0	9549.8	1.5	-5.0	62.0
702.0	10146.2	1.3	-9.9	43.0
690.0	10601.5	0.4	-10.2	45.0
672.0	11296.2	-1.0	-28.9	10.0
640.0	12569.4	-3.1	-30.5	10.0
618.0	13479.5	-2.7	-30.2	10.0
578.0	15214.6	-5.0	-28.5	14.0
450.0	21508.4	-19.1	-38.7	16.0
402.0	24226.8	-26.9	-44.7	17.0
345.0	27838.1	-29.2	-50.4	11.0
336.0	28460.5	-28.5	0.	0.
275.0	33091.3	-38.2	0.	0.
219.0	38160.2	-46.4	0.	0.
176.0	42325.2	-57.5	0.	0.
159.0	44931.3	-59.2	0.	0.
135.0	46270.8	-64.3	0.	0.
110.0	52364.8	-68.0	0.	0.
107.0	52913.6	-67.4	0.	0.
96.0	55051.2	-71.0	0.	0.
88.0	56753.9	-70.3	0.	0.
87.0	56980.5	-65.8	0.	0.
67.0	62243.3	-63.6	0.	0.
64.0	63115.4	-61.9	0.	0.
59.0	64826.3	-64.7	0.	0.
30.0	78773.8	-55.2	0.	0.
25.0	82619.0	-55.6	0.	0.
13.0	96862.1	-41.1	0.	0.

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

STATION ALTITUDE 3989.00 FEET MSL
 22 OCT. 69 1030 HRS MDT
 ASCENSION NO. 1007

SIGNIFICANT LEVEL DATA
 2950021007
 WHITE SANDS

WSTM SITE COORDINATES
 488580.00 FEET E
 185045.00 FEET N

TABLE IX (Cont)

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
10.5 101688.1	-39.4 0.	-0. **
8.6 106256.9	-35.3 0.	-0. **
8.1 107635.7	-36.9 0.	-0. **

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

STATION ALTITUDE 3989.00 FEET MSL
22 OCT. 69 1030 MRS MDT
ASCENSION NO. 1007

UPPER AIR DATA
2950021007
WHITE SANDS

WSTM SITE COORDINATES
408540.00 FEET E
185045.00 FEET N

TABLE X

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	881.4	15.8	8.6	62.0	1057.7	663.5	50.0	4.1	1.000286
4000.0	881.1	15.7	8.5	61.7	1057.6	663.4	49.6	4.1	1.000286
4500.0	865.3	13.0	3.4	51.9	1049.8	659.8	33.0	3.7	1.000270
5000.0	849.7	12.0	1.6	48.8	1034.8	658.6	16.4	3.4	1.000263
5500.0	834.3	11.0	-0.2	45.8	1020.0	657.3	35.8	3.1	1.000254
6000.0	819.3	10.1	-2.0	42.7	1005.5	656.1	34.2	2.7	1.000249
6500.0	804.3	9.0	-3.1	42.4	991.1	654.7	301.9	2.7	1.000244
7000.0	789.5	7.7	-3.3	45.6	977.1	653.3	249.9	2.7	1.000241
7500.0	774.9	6.5	-3.5	48.8	963.2	651.9	235.8	4.7	1.000238
8000.0	760.6	5.3	-3.0	52.1	949.6	650.5	225.3	7.2	1.000234
8500.0	746.6	4.1	-4.1	55.3	936.2	649.0	219.6	11.0	1.000231
9000.0	732.8	2.8	-4.5	58.5	923.1	647.6	214.8	15.1	1.000227
9500.0	719.3	1.6	-5.0	61.7	910.1	646.2	210.9	19.4	1.000224
10000.0	705.9	1.3	-5.6	47.7	894.4	645.7	208.5	22.4	1.000215
10500.0	692.7	0.6	-10.1	44.6	880.2	644.7	206.8	24.8	1.000210
11000.0	679.6	-0.4	-18.1	24.9	867.5	643.3	200.6	25.6	1.000201
11500.0	666.8	-1.3	-29.1	10.0	854.4	642.1	211.1	26.5	1.000193
12000.0	654.1	-2.2	-29.8	10.0	840.8	641.1	214.7	27.4	1.000190
12500.0	641.7	-3.0	-30.4	10.0	827.3	640.1	216.3	29.1	1.000187
13000.0	629.5	-2.9	-30.4	10.0	811.4	640.2	217.0	31.1	1.000183
13500.0	617.5	-2.7	-30.2	10.0	795.4	640.4	218.8	33.1	1.000190
14000.0	605.7	-3.4	-29.5	11.2	782.1	639.6	218.6	34.4	1.000177
14500.0	594.1	-4.1	-29.0	12.4	769.0	638.9	216.5	34.8	1.000174
15000.0	582.8	-4.7	-28.6	13.5	756.2	638.1	216.1	34.9	1.000171
15500.0	571.5	-5.6	-28.9	14.1	744.0	637.0	215.8	35.1	1.000169
16000.0	560.2	-6.8	-29.7	14.2	732.5	635.6	215.5	35.3	1.000166
16500.0	549.2	-7.9	-30.5	14.4	721.1	634.3	214.8	35.5	1.000163
17000.0	538.4	-9.0	-31.3	14.6	709.9	632.9	213.9	35.8	1.000161
17500.0	527.8	-10.1	-32.1	14.7	698.9	631.6	214.0	35.8	1.000158
18000.0	517.4	-11.2	-32.9	14.9	688.1	630.2	214.4	36.0	1.000155

STATION ALTITUDE 3989.00 FEET MSL
22 OCT. 69 1030 HRS MDT
ASCENSION NO. 1007

UPPER AIR DATA
2450021007
WHITE SANDS

WSTM SITE COORDINATES
488580.00 FEET E
185045.00 FEET N

GEOMETRIC ALTITUDE		PRESSURE		TEMPERATURE		REL. HUM. PERCENT	TABLE X (Cont)		WIND DATA		INDEX OF REFRACTION
MSL FEET	FEET	MILLIBARS	DEGREES	AIR DEGREES	DEWPOINT CENTIGRADE		DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	SPEED KNOTS	
18500.0		507.2	-12.4	-33.7		15.0	677.4	628.9	215.3	36.5	1.000153
19000.0		497.2	-13.5	-34.6		15.2	667.0	627.5	217.5	37.9	1.000150
19500.0		487.4	-14.6	-35.4		15.4	656.7	626.2	220.6	39.4	1.000148
20000.0		477.8	-15.7	-36.2		15.5	646.6	624.8	223.0	42.1	1.000146
20500.0		468.4	-16.8	-37.0		15.7	636.6	623.4	225.3	43.9	1.000143
21000.0		459.2	-18.0	-37.9		15.8	626.8	622.1	227.2	44.8	1.000141
21500.0		450.2	-19.1	-38.7		16.0	617.2	620.7	228.6	45.3	1.000139
22000.0		440.9	-20.5	-39.8		16.2	608.0	619.0	229.4	45.6	1.000137
22500.0		431.9	-21.9	-40.9		16.4	598.9	617.2	230.7	45.6	1.000134
23000.0		423.0	-23.4	-42.0		16.5	590.0	615.4	232.0	45.8	1.000132
23500.0		414.3	-24.8	-43.1		16.7	581.2	613.6	232.6	47.9	1.000130
24000.0		405.8	-26.2	-44.2		16.9	572.6	611.9	233.1	50.4	1.000128
24500.0		397.4	-27.1	-45.1		16.5	562.6	610.8	233.5	53.9	1.000126
25000.0		389.1	-27.4	-45.8		15.7	551.5	610.4	233.8	57.9	1.000123
25500.0		380.9	-27.7	-46.6		14.9	540.7	610.0	233.7	62.7	1.000121
26000.0		372.9	-28.0	-47.3		14.1	530.0	609.6	233.6	67.4	1.000119
26500.0		365.1	-28.3	-48.1		13.2	519.6	609.3	233.7	72.6	1.000116
27000.0		357.5	-28.7	-49.0		12.4	509.4	608.9	233.6	76.9	1.000114
27500.0		350.0	-29.0	-49.8		11.6	499.4	608.5	233.4	80.7	1.000112
28000.0		342.6	-29.0	-52.8		8.1**	489.0	608.4	233.3	84.5	1.000109
28500.0		335.4	-28.6	0.		-0. **	477.9	608.9	233.2	88.3	1.000106
29000.0		328.2	-29.6	0.		-0. **	469.6	607.6	233.5	85.9	1.000105
29500.0		321.2	-30.7	0.		-0. **	461.6	606.3	234.0	83.8	1.000103
30000.0		314.4	-31.7	0.		-0. **	453.7	605.0	234.6	84.2	1.000101
30500.0		307.6	-32.8	0.		-0. **	445.8	603.7	235.1	84.6	1.000099
31000.0		301.0	-33.8	0.		-0. **	438.3	602.4	235.5	84.3	1.000098
31500.0		294.6	-34.9	0.		-0. **	430.8	601.1	235.5	85.9	1.000096
32000.0		288.3	-35.9	0.		-0. **	423.4	599.7	235.2	89.4	1.000094
32500.0		282.1	-37.0	0.		-0. **	416.2	598.4	234.9	89.8	1.000093
33000.0		276.1	-38.0	0.		-0. **	409.1	597.1	234.7	87.4	1.000091

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 9989.00 FEET MSL
22 OCT. 69
ASCENSION NO. 18000

UPPER AIR DATA
2950021007
WHITE SANDS

WSTM SITE COORDINATES
488580.00 FEET E
185045.00 FEET N

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE			KNQTS	KNQTS	DIRECTION DEGREES(TN)	SPEED KNQTS	
33500.0	270.0	-38.4	0.	-0. **	401.5	596.0		234.7	86.0	1.000089
34000.0	264.0	-39.7	0.	-0. **	394.0	595.0		234.8	85.3	1.000088
34500.0	258.1	-40.5	0.	-0. **	386.5	593.9		235.1	84.2	1.000086
35000.0	252.4	-41.3	0.	-0. **	379.3	592.9		235.5	83.0	1.000084
35500.0	246.8	-42.1	0.	-0. **	372.2	591.9		235.9	81.8	1.000083
36000.0	241.3	-42.9	0.	-0. **	365.2	590.8		236.2	80.5	1.000081
36500.0	236.0	-43.7	0.	-0. **	358.3	589.8		236.4	79.0	1.000080
37000.0	230.7	-44.5	0.	-0. **	351.6	588.8		236.7	77.5	1.000078
37500.0	225.6	-45.3	0.	-0. **	345.0	587.7		236.9	77.8	1.000077
38000.0	220.6	-46.1	0.	-0. **	338.5	586.7		237.0	78.7	1.000075
38500.0	215.5	-47.2	0.	-0. **	332.4	585.3		237.5	80.0	1.000074
39000.0	210.5	-48.4	0.	-0. **	326.4	583.7		238.0	81.4	1.000073
39500.0	205.7	-49.6	0.	-0. **	320.5	582.2		238.7	80.8	1.000071
40000.0	200.9	-50.8	0.	-0. **	314.8	580.6		239.5	79.5	1.000070
40500.0	196.3	-52.0	0.	-0. **	309.2	579.1		240.2	77.3	1.000069
41000.0	191.7	-53.2	0.	-0. **	303.6	577.5		240.9	74.1	1.000068
41500.0	187.3	-54.3	0.	-0. **	298.2	576.0		241.4	71.1	1.000066
42000.0	182.9	-55.5	0.	-0. **	292.9	574.4		241.2	69.6	1.000065
42500.0	178.7	-56.7	0.	-0. **	287.7	572.8		241.1	68.8	1.000064
43000.0	174.5	-57.6	0.	-0. **	282.2	571.6		240.5	67.9	1.000063
43500.0	170.4	-58.0	0.	-0. **	275.9	571.1		239.7	67.8	1.000061
44000.0	166.3	-58.4	0.	-0. **	269.9	570.5		239.3	67.8	1.000060
44500.0	162.3	-58.9	0.	-0. **	263.9	570.0		239.0	67.8	1.000059
45000.0	158.5	-59.3	0.	-0. **	258.2	569.4		239.0	67.3	1.000057
45500.0	154.6	-60.1	0.	-0. **	252.8	568.4		239.5	66.0	1.000056
46000.0	150.9	-60.8	0.	-0. **	247.6	567.4		240.0	64.6	1.000055
46500.0	147.2	-61.6	0.	-0. **	242.5	566.3		241.3	60.5	1.000054
47000.0	143.7	-62.4	0.	-0. **	237.5	565.3		242.7	56.4	1.000053
47500.0	140.2	-63.1	0.	-0. **	232.6	564.3		244.7	51.0	1.000052
48000.0	136.8	-63.9	0.	-0. **	227.8	563.3		246.9	45.4	1.000051

** AT LAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA
2950021007
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
22 OCT. 69 1030 HRS MDT
ASCENSION NO. 1007

WSTM SITE COORDINATES
488580.00 FEET E
185045.00 FEET N

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL-HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
48500.0	133.5	-64.5	-0.00	222.9	562.4	247.5	42.2	1.000050
49000.0	130.2	-65.0	-0.00	217.8	561.8	247.5	39.7	1.000049
49500.0	126.9	-65.4	-0.00	212.9	561.2	246.1	39.2	1.000047
50000.0	123.8	-65.9	-0.00	208.1	560.6	243.9	39.7	1.000045
50500.0	120.8	-66.3	-0.00	203.4	560.0	241.4	41.2	1.000045
51000.0	117.8	-66.8	-0.00	198.0	559.4	238.6	44.1	1.000044
51500.0	114.9	-67.2	-0.00	194.3	558.8	235.7	46.9	1.000043
52000.0	112.0	-67.7	-0.00	190.0	558.2	233.8	48.1	1.000042
52500.0	109.3	-67.9	-0.00	185.4	557.9	231.9	49.3	1.000041
53000.0	106.5	-67.5	-0.00	180.5	558.3	230.6	49.3	1.000040
53500.0	103.9	-68.4	-0.00	176.7	557.2	230.2	48.0	1.000039
54000.0	101.3	-69.2	-0.00	173.0	556.0	229.7	46.8	1.000039
54500.0	98.7	-70.1	-0.00	169.4	554.9	231.1	43.0	1.000038
55000.0	96.2	-70.9	-0.00	165.8	553.7	232.4	39.2	1.000037
55500.0	93.8	-70.8	-0.00	161.6	553.9	235.4	34.9	1.000036
56000.0	91.5	-70.6	-0.00	157.3	554.2	240.1	30.1	1.000035
56500.0	89.1	-70.4	-0.00	153.2	554.4	244.8	25.3	1.000034
57000.0	86.9	-65.8	-0.00	146.0	560.7	249.4	23.1	1.000033
57500.0	84.8	-65.6	-0.00	142.3	561.0	254.0	21.2	1.000032
58000.0	82.7	-65.4	-0.00	138.7	561.3	257.7	19.6	1.000031
58500.0	80.7	-65.2	-0.00	135.2	561.6	259.2	19.0	1.000030
59000.0	78.7	-65.0	-0.00	131.7	561.8	260.8	18.4	1.000029
59500.0	76.8	-64.7	-0.00	128.4	562.1	261.3	18.6	1.000029
60000.0	74.9	-64.5	-0.00	125.1	562.4	261.3	19.2	1.000028
60500.0	73.1	-64.3	-0.00	121.9	562.7	261.4	19.8	1.000027
61000.0	71.3	-64.1	-0.00	118.8	563.0	262.7	19.2	1.000026
61500.0	69.5	-63.9	-0.00	115.8	563.2	263.9	18.8	1.000026
62000.0	67.8	-63.7	-0.00	112.8	563.5	264.1	18.3	1.000025
62500.0	66.2	-63.1	-0.00	109.8	564.3	263.8	17.7	1.000024
63000.0	64.6	-62.2	-0.00	106.6	565.5	262.3	18.0	1.000024

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 389.00 FEET MSL
 103.00 FEET MSL
 ASCENSION MSL 100.7

UPPER RAIN DATA
 2950001007
 WHITE SANDS
 SAMPLE X (CONT)

WIND SITE COORDINATES
 48580.00 FEET
 185045.00 FEET N

GEOMETRIC ALTITUDE MSS: FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	RELATIVE HUMIDITY PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OMF REFRACTION
63500.0	63.0	-67.5	-0.0	104.2	565.2	297.2	21.1	1.0000013
64000.0	61.5	-68.3	-0.0	103.0	564.1	292.1	24.1	1.0000013
64500.0	60.0	-69.1	-0.0	99.9	562.9	250.7	26.7	1.0000013
65000.0	58.5	-69.6	-0.0	97.7	562.3	250.2	29.1	1.0000013
65500.0	57.1	-69.2	-0.0	95.2	562.8	249.8	31.6	1.0000013
66000.0	55.7	-69.9	-0.0	92.8	563.3	251.1	33.5	1.0000013
66500.0	54.4	-69.6	-0.0	90.4	563.7	252.4	33.3	1.0000013
67000.0	53.1	-69.2	-0.0	88.1	564.2	253.7	34.2	1.0000013
67500.0	51.8	-69.9	-0.0	85.9	564.6	256.1	32.4	1.0000013
68000.0	50.6	-69.5	-0.0	83.7	565.1	258.8	29.8	1.0000013
68500.0	49.4	-69.2	-0.0	81.5	565.5	261.6	27.1	1.0000013
69000.0	48.2	-69.9	-0.0	79.3	566.0	261.7	27.0	1.0000013
69500.0	47.0	-69.5	-0.0	77.4	566.5	259.2	29.5	1.0000013
70000.0	45.9	-69.2	-0.0	75.5	566.9	256.7	31.9	1.0000013
70500.0	44.8	-69.9	-0.0	73.5	567.4	254.9	33.3	1.0000013
71000.0	43.7	-69.5	-0.0	71.7	567.8	253.8	31.2	1.0000013
71500.0	42.7	-69.2	-0.0	69.8	568.3	256.6	29.1	1.0000013
72000.0	41.7	-69.9	-0.0	68.0	568.7	257.4	27.0	1.0000013
72500.0	40.7	-69.5	-0.0	66.3	569.2	260.4	25.7	1.0000013
73000.0	39.7	-69.1	-0.0	64.6	569.6	263.4	24.4	1.0000013
73500.0	38.7	-68.8	-0.0	63.0	570.1	266.6	23.1	1.0000013
74000.0	37.8	-68.5	-0.0	61.4	570.5	275.4	20.8	1.0000013
74500.0	36.9	-68.1	-0.0	59.8	571.0	284.3	18.6	1.0000013
75000.0	36.0	-67.8	-0.0	58.3	571.4	292.0	17.1	1.0000013
75500.0	35.2	-67.4	-0.0	56.8	571.9	297.6	17.0	1.0000013
76000.0	34.3	-67.1	-0.0	55.3	572.3	303.2	16.8	1.0000013
76500.0	33.5	-66.7	-0.0	53.9	572.8	295.9	18.3	1.0000013
77000.0	32.7	-66.4	-0.0	52.6	573.2	284.8	20.3	1.0000013
77500.0	31.9	-66.1	-0.0	51.2	573.7	276.1	21.8	1.0000013
78000.0	31.1	-65.7	-0.0	49.9	574.1	281.0	20.2	1.0000013

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
 27 OCT. 69 1030 HRS MDT
 ASCENSION NO. 1007

UPPER AIR DATA
 2950021007
 WHITE SANDS

WSTM SITE COORDINATES
 488580.00 FEET E
 185045.00 FEET N

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
78500.0	30.4	-55.4	0	-0.	48.6	574.6	285.9	18.6	1.000011	
79000.0	29.7	-55.2	0	-0.	47.5	574.8	284.3	19.7	1.000011	
79500.0	29.0	-55.3	0	-0.	46.4	574.7	276.5	23.3	1.000010	
80000.0	28.3	-55.3	0	-0.	45.3	574.7	268.7	26.9	1.000010	
80500.0	27.6	-55.4	0	-0.	44.2	574.6	269.9	27.0	1.000010	
81000.0	27.0	-55.4	0	-0.	43.2	574.5	272.7	26.4	1.000010	
81500.0	26.4	-55.5	0	-0.	42.2	574.5	275.3	26.0	1.000009	
82000.0	25.7	-55.5	0	-0.	41.2	574.4	276.6	26.3	1.000009	
82500.0	25.1	-55.6	0	-0.	40.3	574.3	277.9	26.7	1.000009	
83000.0	24.6	-55.2	0	-0.	39.3	574.8	277.8	27.2	1.000009	
83500.0	24.0	-54.7	0	-0.	38.3	575.5	275.3	28.0	1.000009	
84000.0	23.5	-54.2	0	-0.	37.3	576.2	272.8	28.7	1.000008	
84500.0	22.9	-53.7	0	-0.	36.4	576.8	271.1	29.8	1.000008	
85000.0	22.4	-53.2	0	-0.	35.5	577.5	270.6	31.5	1.000008	
85500.0	21.9	-52.7	0	-0.	34.6	578.2	270.2	33.2	1.000008	
86000.0	21.4	-52.2	0	-0.	33.7	578.8	269.1	35.0	1.000008	
86500.0	20.9	-51.6	0	-0.	32.9	579.5	266.4	37.4	1.000007	
87000.0	20.4	-51.1	0	-0.	32.1	580.2	263.7	39.7	1.000007	
87500.0	20.0	-50.6	0	-0.	31.3	580.8	262.1	41.5	1.000007	
88000.0	19.5	-50.1	0	-0.	30.5	581.5	264.0	41.7	1.000007	
88500.0	19.1	-49.6	0	-0.	29.7	582.2	265.9	41.9	1.000007	
89000.0	18.7	-49.1	0	-0.	29.0	582.8	267.3	42.0	1.000006	
89500.0	18.2	-48.6	0	-0.	28.3	583.5	265.8	41.8	1.000006	
90000.0	17.8	-48.1	0	-0.	27.6	584.2	264.2	41.6	1.000006	
90500.0	17.4	-47.6	0	-0.	26.9	584.8	262.9	41.5	1.000006	
91000.0	17.0	-47.1	0	-0.	26.2	585.5	263.6	42.3	1.000006	
91500.0	16.6	-46.6	0	-0.	25.6	586.1	264.2	43.1	1.000006	
92000.0	16.3	-46.0	0	-0.	24.9	586.8	264.8	43.9	1.000006	
92500.0	15.9	-45.5	0	-0.	24.3	587.4	264.7	42.9	1.000005	
93000.0	15.5	-45.0	0	-0.	23.7	588.1	264.7	41.8	1.000005	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA

STATION ALTITUDE 3989.00 FEET MSL
22 OCT. 69 1030 HRS MDT
ASCENSION NO. 1007

WSTM SITE COORDINATES
489580.00 FEET E
185045.00 FEET N

TABLE X. (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
93500.0	15.2	-44.5	0.	-0. **	23.1	588.8	264.6	40.6	1.000005
94000.0	14.8	-44.0	0.	-0. **	22.5	589.4	267.1	40.3	1.000005
94500.0	14.5	-43.5	0.	-0. **	22.0	590.1	269.8	39.8	1.000005
95000.0	14.2	-43.0	0.	-0. **	21.4	590.7	272.4	39.3	1.000005
95500.0	13.8	-42.5	0.	-0. **	20.9	591.4	271.8	39.6	1.000005
96000.0	13.5	-42.0	0.	-0. **	20.4	592.0	270.6	40.0	1.000005
96500.0	13.2	-41.5	0.	-0. **	19.9	592.7	269.5	40.4	1.000004
97000.0	12.9	-41.1	0.	-0. **	19.4	593.2	267.8	41.8	1.000004
97500.0	12.6	-40.9	0.	-0. **	19.0	593.4	266.0	43.3	1.000004
98000.0	12.4	-40.7	0.	-0. **	18.5	593.7	264.2	44.9	1.000004
98500.0	12.1	-40.5	0.	-0. **	18.1	593.9	262.6	46.9	1.000004
99000.0	11.8	-40.3	0.	-0. **	17.7	594.1	260.9	49.3	1.000004
99500.0	11.6	-40.2	0.	-0. **	17.3	594.3	259.3	51.6	1.000004
100000.0	11.3	-40.0	0.	-0. **	16.9	594.6	257.8	53.1	1.000004
100500.0	11.1	-39.8	0.	-0. **	16.5	594.8	256.4	53.7	1.000004
101000.0	10.8	-39.6	0.	-0. **	16.2	595.0	255.0	54.2	1.000004
101500.0	10.6	-39.5	0.	-0. **	15.8	595.2	253.8	54.8	1.000004
102000.0	10.4	-39.1	0.	-0. **	15.4	595.7	253.0	55.9	1.000003
102500.0	10.1	-38.7	0.	-0. **	15.1	596.2	252.3	57.0	1.000003
103000.0	9.9	-38.2	0.	-0. **	14.7	596.8	251.5	58.1	1.000003
103500.0	9.7	-37.8	0.	-0. **	14.4	597.4			1.000003
104000.0	9.5	-37.3	0.	-0. **	14.0	598.0			1.000003
104500.0	9.3	-36.9	0.	-0. **	13.7	598.5			1.000003
105000.0	9.1	-36.4	0.	-0. **	13.4	599.1			1.000003
105500.0	8.9	-36.0	0.	-0. **	13.1	599.7			1.000003
106000.0	8.7	-35.5	0.	-0. **	12.8	600.2			1.000003
106500.0	8.5	-35.6	0.	-0. **	12.5	600.2			1.000003
107000.0	8.3	-36.2	0.	-0. **	12.2	599.4			1.000003
107500.0	8.1	-36.7	0.	-0. **	12.0	598.7			1.000003

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
 22 OCT. 69
 ASCENSION NO. 1007

MANDATORY LEVELS
 2950021007
 WHITE SANDS

WSTM SITE COORDINATES
 488580.00 FEET E
 185045.00 FEET W

TABLE XI

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4991.	12.1	1.7	49.	16.7	3.4
800.0	6647.	8.6	-3.2	43.	286.4	2.7
750.0	8385.	4.4	-4.0	54.	220.9	10.1
700.0	10215.	1.2	-10.0	43.	207.6	23.5
650.0	12157.	-2.4	-30.0	10.	215.8	27.8
600.0	14236.	-3.7	-29.3	12.	216.5	34.6
550.0	16474.	-7.8	-30.4	14.	214.8	35.5
500.0	18881.	-13.2	-34.3	15.	216.9	37.5
450.0	21484.	-19.1	-38.7	16.	228.6	45.3
400.0	24314.	-27.0	-44.9	17.	233.4	52.8
350.0	27460.	-29.0	-49.8	12.	233.4	80.7
300.0	31053.	-34.0	0.	-0.**	235.6	84.2
250.0	35171.	-41.6	0.	-0.**	235.7	82.4
200.0	40044.	-51.0	0.	-0.**	239.7	79.2
175.0	42851.	-57.6	0.	-0.**	240.6	67.9
150.0	46023.	-61.0	0.	-0.**	240.4	63.6
125.0	49693.	-65.7	0.	-0.**	244.7	39.6
100.0	54104.	-69.6	0.	-0.**	230.4	45.0
80.0	58493.	-65.1	0.	-0.**	259.7	18.8
70.0	61170.	-64.0	0.	-0.**	263.6	19.0
60.0	64280.	-64.1	0.	-0.**	250.7	26.6
50.0	67952.	-62.4	0.	-0.**	259.8	28.9
40.0	72505.	-59.2	0.	-0.**	261.9	25.0
30.0	78475.	-55.2	0.	-0.**	287.8	18.1
25.0	82290.	-55.6	0.	-0.**	278.2	26.8
20.0	87008.	-50.7	0.	-0.**	261.7	41.4
15.0	93247.	-44.3	0.	-0.**	265.3	40.6
10.0	102295.	-38.4	0.	-0.**	251.8	57.7

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

RELEASE TIME (MDT)		SECOND-STAGE IMPACT DISPLACEMENT IN MILES DUE TO WIND								AZI- MUTH (DE- GREES)	THEORETICAL IMPACT FROM LAUNCHER (IN MILES)		
		11-216 FT		216-4175 FT		4175-71089 FT		TOTAL					
		N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W				
RAWIN- SONDE	PIBAL	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W				
0730	0815	6.4N	0.0	5.5N	1.4E	10.9S	23.5W	4.0N	22.1W	351.7	92.0	91.0N	13.3W
0730	0845	5.1N	0.4E	2.0N	0.7W	10.9S	23.5W	6.2N	23.8W	350.9	94.4	95.2N	15.0W
0730	0927	7.5N	0.5E	11.7N	0.5E	10.9S	23.5W	8.3N	22.5W	351.8	96.3	95.3N	13.7W
0730	0931	6.0N	2.6E	8.8N	1.3E	10.9S	23.5W	3.9N	19.6W	353.2	91.5	90.9N	10.8W
0730	0945	4.3N	0.9E	6.4N	1.0E	10.9S	23.5W	0.2S	21.6W	351.6	87.7	86.8N	12.8W
0730	0955	4.1N	0.4E	7.4N	1.3E	10.9S	23.5W	0.6N	21.8W	351.6	88.6	87.6N	13.0W
0730	1005	4.3N	3.2E	7.2N	4.2E	10.9S	23.5W	0.6N	16.0W	355.3	87.9	87.6N	7.2W
0730	1020	6.5N	2.0E	8.0N	2.7E	10.9S	23.5W	3.6N	18.8W	354.3	91.2	90.6N	10.0W
0730	1035	5.0N	2.3E	5.0N	3.0E	10.9S	23.5W	0.9S	18.2W	353.8	86.6	86.1N	9.4W
0730	1055	1.4N	3.2E	3.2N	3.9E	10.9S	23.5W	6.3S	16.4W	354.6	81.1	80.7N	7.6W
1030	1110	3.5N	2.3E	4.1N	4.0E	11.4S	24.1W	3.8S	17.8W	353.8	83.7	83.2N	9.0W

	AZI- MUTH (DE- GREES)	MILES FROM LAUNCHER		
LAUNCHER SETTING (ELEVATION 83.1 DEGREES 0d)	008.4	RANGE	N-S	E-W
		97.9	87.0N	12.8E
NO WIND IMPACT	005.8	87.4	87.0N	8.8E
PREDICTED SECOND-STAGE IMPACT	353.0	75.0	74.4N	9.1W
SECOND-STAGE IMPACT, RADAR TRACK	352.0	81.7	80.9N	11.4W
PREDICTED BOOSTER IMPACT	020.0	2.0	1.9N	0.7E
ACTUAL BOOSTER IMPACT	N/A	N/A	N/A	N/A

TABLE XII. IMPACT PREDICTION DATA
NIKE-HYDAC STV-91

UNCLASSIFIED

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13. ABSTRACT Meteorological data gathered for the launching of Nike-Hydac, STV-91, are presented for the Space and Missile Systems Organization, and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.			

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