Meteorological Factual Report
Missile Visibility Test on April 28, 2000
Fort Walton Beach, Florida

In the report all heights above mean sea level unless noted. Heights in surface weather observations above ground level. All directions with reference to true north unless noted. All distances in statute miles unless noted. McIDAS ... Man-computer Interactive Data Access System. CDT = Central Daylight Time. EDT = Eastern Daylight Time.

Surface Weather Observations

The following Surface Weather Observations were made by a United States Air Force certified Weather Observer from Eglin Air Force Base (AFB). The point of observation is approximately 6 nautical miles west of the Stinger Missile launch site (Site Number 6) at a latitude of approximately 30 degrees, 23 minutes, and 34 seconds north (30:23:34), and a longitude of 86 degrees, 46 minutes, 01 second west (86:46:01). The Stinger Missile launch site is at approximately 30:23:52 north latitude and 86:39:03 west longitude. The observations are for April 28, 2000.

1915 CDT ... Winds 270 degrees at 10 knots; visibility 7 miles; few clouds at 8,000 feet; temperature 22 degrees C; dew point 16 degrees C; altimeter setting 29.89 inches of Hg.; relative humidity 72%.

1930 CDT ... Winds 270 degrees at 10 knots; visibility 7 miles; few clouds at 8,000 feet; temperature 22 degrees C; dew point 16 degrees C; altimeter setting 29.89 inches of Hg.; relative humidity 69%.

1945 CDT ... Winds 270 degrees at 11 knots; visibility 7 miles; few clouds at 8,000 feet; temperature 22 degrees C; dew point 16 degrees C; altimeter setting 29.90 inches of Hg.; relative humidity 71%.

2000 CDT ... Winds 300 degrees at 5 knots; visibility 7 miles; few clouds at 8,000 feet; temperature 22 degrees C; dew point 16 degrees C; altimeter setting 29.91 inches of Hg.; relative humidity 68%.

2015 CDT ... Winds 330 degrees at 4 knots; visibility 7 miles; few clouds at 8,000 feet; temperature 22 degrees C; dew point 16 degrees C; altimeter setting 29.92 inches of Hg.; relative humidity 69%.

Attachment 1 ... Surface Weather Observations form from Site Number 6. Note: the latitude and longitude on the form is the location of a building just east of Site Number 6.

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Surface Weather Observations from Eglin AFB (KVPS)...

1855 CDT ... Winds 220 degrees at 9 knots; wind direction 200 degrees variable 260 degrees; visibility 7 miles; few clouds at 4,500 feet; temperature 23 degrees C; dew point 12 degrees C; altimeter setting 29.88 inches of Hg.

1955 CDT ... Winds 300 degrees at 3 knots; visibility 7 miles; scattered clouds at 7,000 feet; temperature 22 degrees C; dew point 12 degrees C; altimeter setting 29.91 inches of Hg.

KVPS is located about 8.1 nautical miles northeast of the launch site.

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Surface Weather Observations from Hurlburt Field, Florida (KHRT) ...

1855 CDT ... Winds 260 degrees at 5 knots; visibility 7 miles; scattered clouds at 8,000 feet; temperature 23 degrees C; dew point 14 degrees C; altimeter setting 29.89 inches of Hg.

1955 CDT ... Winds 270 degrees at 12 knots; visibility 7 miles; scattered clouds at 8,000 feet; temperature 22 degrees C; dew point 14 degrees C; altimeter setting 29.92 inches of Hg.

KHRT is located about 2.7 nautical miles northwest of the launch site.

Attachment 2 ... Surface Weather Observations for KVPS and KHRT.

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Surface Weather Observations for July 17, 1996 (from the Meteorological Factual Report of the TWA 800 accident, dated June 18, 1997) ...

Islip, New York (KISP)

KISP is located about 23 nautical miles west-northwest of the accident site (TWA 800).

1950 EDT .. Winds 220 degrees at 4 knots; visibility 8 miles; skies clear; temperature 27 degrees C; dew point 23 degrees C; altimeter setting 30.05 inches of Hg. (Calculated Relative Humidity 78%).

2050 EDT .. Winds 250 degrees at 3 knots; visibility 8 miles; skies clear; temperature 25 degrees C; dew point 22 degrees C; altimeter setting 30.05 inches of Hg. (Calculated Relative Humidity 83%).

Westhampton Beach, New York (KFOK)

KFOK is located about 12 nautical miles north of the accident site.

1945 EDT .. Winds 240 degrees at 4 knots; visibility 4 miles; haze; 6,000 feet scattered; temperature 23 degrees C; dew point 19 degrees C; altimeter setting 30.08 inches of Hg.; total sky cover 3/8. (Calculated Relative Humidity 78%).

2045 EDT .. Winds calm; visibility 6 miles; haze; 6,000 feet scattered; temperature 22 degrees C; dew point 19 degrees C; altimeter setting 30.09 inches of Hg.; total sky cover 3/8. (Calculated Relative Humidity 83%).

Upper Air Data

Upper Air Data from Eglin AFB for April 28, 2000 at 1900 CDT is contained in Attachments 3 and 4. Upper Air Data from Upton, New York for July 17, 1996 at 2000 EDT is contained in Attachments 5 and 6.

Attachment 7 contains a Skew T Log P plot for Eglin AFB for April 28, 2000 at 1900 CDT and Upton, New York for July 17, 1996 for 2000 EDT.

Table A is a listing of the average wind speed in knots (Avg WS), average wind direction in degrees true (Avg WD), average temperature in degrees C (Avg T), average dew point temperature in degrees C (Avg DPT), and average relative humidity in percent (Avg RH). The averages are calculated from upper air data from the surface to about 14,000 feet. Upper air data locations are Upton, New York (July 17, 1996 at 2000 EDT) and Eglin AFB (July 28, 2000 at 1900 CDT).

TABLE A

Location	Avg WS	Avg WD	Avg T	Avg DPT	Avg RH
Upton, NY	14.4	302.8	11.7	0.8	47.0
Eglin AFB	27.4	301.1	8.8	-9.2	27.0

Satellite Data

Geostationary Operational Environmental Satellite (GOES) 8 data were reviewed using McIDAS.

Attachments 8 and 9 contain GOES 8 infrared images (Channel 4) for 1915 CDT and 1945 CDT. The images are color enhanced (see color bar to right of image). The images are at a 1 kilometer (blow up) resolution. HRT indicates the location of Hurlburt Field (left justified).

Attachment 10 ... GOES 8 visible image for 1832 CDT. The image is contrast stretched. The image is at a 1 kilometer resolution. HRT indicates the location of Hurlburt Field.

Astronomical Data

Approximate Location: Missile Launch Site
Date: April 28, 2000

Time (CDT)	Sun's Altitude	Sun's Azimuth
1925	-0.6	287.8
1930	-2.0	288.4
1935	-3.2	289.1
1940	-4.3	289.7
1945	-5.3	290.4
1950	-6.3	291.0
1955	-7.3	291.7
2000	-8.3	292.4

Sunset 1923 CDT
End of Civil Twilight 1949 CDT

Attachments 11 and 12 ... Listing of astronomical data for the location of the launch site.

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Approximate Location: TWA 800 Accident Site
Date: July 17, 1996
Time: About 2031 EDT
Sun's Altitude -2.9 degrees

Sun's Azimuth 301.0 degrees
Sunset 2019 EDT
End of Civil Twilight 2051 EDT

Gregory D. Salottolo
National Resource Specialist
Meteorology
May 3, 2000

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SURFACE WEATHER OBSERVATIONS
(METAR/SPECI)

LATITUDE	LONGITUDE	STATION ELEVATION	TIME CONVERSION	MAG to TRUE	DAY (LST)	MONTH	YEAR	STATION (or grid coord) & STATE or COUNTRY
30°23N	86°45W	+8 Feet (MSL)	(LST to (+) / UTS) -6 Hrs.	+ 0 Deg.	28	APR	2000	A13 EGLIN AFB, FL

SYNOPTIC DATA

TIME (UTC) (41) Mid (LST) to:	TIME (LST) (42) Mid to:	NO (43)	PRECIP (water equiv.) (44)	SNOW FALL (45)	SNOW DEPTH (46)
		(1)			
		(2)			
		(3)			
		(4)			
Mid (LST)	Mid (LST)				

SUMMARY OF THE DAY

24-HR MAX TEMP (oC) (66)	PRECIP. (water equiv.) (68)	SNOW FALL (69)	SNOW DEPTH (70)
24-HR MIN TEMP (oC) (67)	**SPEED (knots) (71)**	**DRCTN (true) (72)**	**TIME (UTC) (70)**

ACTIVE RNWY AND EQUIP CHANGE

TIME (UTC)	RNWY No.

(90) REMARKS, NOTES, AND MISCELLANEOUS PHENOMENA (all times UTC)

ALL OBS INCLUDE: SLPNO ESTMD ALSTG/STN PRES
MCN # 5161
PIBALS 0
TIME CHECK
MSN CMPLT

TYPE (1)	TIME (UTC) (2)	WIND DRCTN (true) (9A)	WIND SPEED (knots) (10)	MAX WIND (knots) (11)	VARIABILITY (true) (9B)	VISIBILITY METERS (4A)	VISIBILITY MILES (4B)	RUNWAY VISUAL RANGE LOCAL (4C)	WEATHER AND OBSTRUCTIONS TO VISION (6)	SKY CONDITION (3)	TEMP (oC) (7)	DEW POINT (oC) (8)	ALSTG (Inches) (12)	STA PRESSURE (Inches) (17)	TOTAL SKY CVR (21)	OBS INIT (18)
SP	0015	270	10				7SM			FEW080	22	16	A2989	29.890	2	JEP
(13) RMK (RH 72%) (2220)																
L	0030	270	10				7SM			FEW080	22	16	A2989	29.890	2	JEP
(13) RMK (RH 69%) (2220)																
SP	0045	270	11				7SM			FEW080	22	16	A2990	29.895	2	JEP
(13) RMK (RH 71%) (2220)																
SP	0100	300	05				7SM			FEW080	22	16	A2991	29.905	2	JEP
(13) RMK (RH 68%) (2220)																
SP	0115	330	04				7SM			FEW080	22	16	A2992	29.920	2	JEP
(13) RMK (RH 69%) (2220)																
(13) RMK																
(13) RMK																
(13) RMK																
(13) RMK																
(13) RMK																
(13) RMK																
(13) RMK																
(13) RMK																

KHRT 281655Z 23014G20KT 210V280 7SM FEW030 SCT060 BKN100 24/12 A2991 RMK SLP128 8/570 9/410 WR//
KHRT 281755Z 24017G24KT 7SM FEW030 SCT060 25/14 A2991 RMK SLP128 60000 8/100 9/300 57008 WR//
KHRT 281855Z 21018G25KT 7SM FEW030 SCT060 25/17 A2990 RMK SLP125 8/100 9/300
KHRT 281955Z 21012KT 200V260 7SM SCT040 25/17 A2988 RMK PK WND 22026/13 SLP118 8/100 9/300
KHRT 282055Z 24013G20KT 180V280 7SM SCT040 25/15 A2987 RMK SLP115 8/100 9/300 57014
KHRT 282155Z 24008G22KT 210V280 7SM SCT040 24/16 A2987 RMK SLP115 8/100 9/300
KHRT 282255Z 22007KT 200V260 7SM SCT040 24/14 A2988 RMK SLP118 8/100 9/300
KHRT 282355Z 26005KT 7SM SCT080 23/14 A2989 RMK SLP122 8/070 9/030 53007
KHRT 290055Z 27012KT 7SM SCT080 22/14 A2992 RMK SLP130 8/070 9/040
KHRT 290155Z 31006KT 7SM SCT080 22/09 A2995 RMK SLP140 8/070 9/030
KHRT 290255Z 36006KT 7SM FEW080 18/10 A2999 RMK SLP154 8/070 9/020 53032

KVPS 281655Z 25008KT 7SM FEW045 SCT070 BKN100 24/10 A2990 RMK SLP125 8/170 9/230
KVPS 281755Z 21014KT 190V250 7SM FEW045 SCT070 SCT300 25/12 A2988 RMK SLP118 8/171 9/211 58017
KVPS 281855Z 24013G24KT 200V270 7SM FEW045 SCT070 26/13 A2988 RMK PK WND 20026/43 SLP116 8/170 9/210
KVPS 281955Z 21018G25KT 190V260 7SM FEW045 FEW070 25/13 A2986 RMK PK WND 22026/22 SLP111 8/170 9/110
KVPS 282055Z 23014G23KT 200V260 7SM FEW045 25/11 A2985 RMK SLP108 8/100 9/200
KVPS 282255Z 24011G19KT 210V270 7SM SCT045 24/11 A2987 RMK SLP113 8/100 9/300
KVPS 282355Z 22009KT 200V260 7SM FEW045 23/12 A2988 RMK SLP118 8/100 9/200 53010
KVPS 290055Z 30003KT 7SM SCT070 22/12 A2991 RMK SLP129 8/070 9/030
KVPS 290156Z 33004KT 7SM FEW070 20/09 A2995 RMK SLP140 8/070 9/010
KVPS 290255Z 36008KT 7SM FEW070 19/09 A2998 RMK SLP151 8/070 9/010 52032

SOUNDING # 1 IDN= 72221 DAY=2000120 TIME= 0 VALID LEVELS= 50

Idn	Id	Station Name	St	Co	Lat	Lon	Elev
722210	KVPS	EGLIN AFB/VALPARAIS	FL	US	30:29N	086:32W	26

Level Type	Pressure [MB]	Temp [C]	Dew Point [C]	Dir [deg]	Speed [KTS]	Height [FT]	Theta [K]	Mix [g/kg]
SFC	1020.0	22.8	12.8	280.0	5.8	85.3	294.3	9.147
MAND	1000.0	22.0	11.0	275.0	10.9	650.9	295.2	8.274
SIGW	987.8	21.3	9.9	280.0	12.8	997.4	295.5	7.782
SIGW	953.6	19.3	6.8	325.0	15.9	1998.0	296.4	6.499
SIGT	939.0	18.4	5.4	330.1	16.9	2433.6	296.9	5.999
MAND	925.0	17.2	5.2	335.0	17.9	2855.2	296.9	6.006
SIGW	920.2	16.8	5.1	335.0	18.8	2998.7	296.9	5.991
SIGW	887.6	13.9	4.3	330.0	17.9	3999.3	297.0	5.885
MAND	850.0	10.4	3.4	315.0	16.9	5196.1	297.1	5.758
SIGW	824.9	8.2	2.6	310.0	16.9	6000.7	297.2	5.587
SIGW	794.8	5.4	1.5	300.0	17.9	7001.3	297.4	5.379
SIGW	765.8	2.6	.5	295.0	22.0	8002.0	297.6	5.175
SIGT	748.0	.8	-.2	291.8	26.4	8632.9	297.7	5.048
SIGT	740.0	.4	-3.5	290.4	28.4	8916.7	298.2	3.993
SIGW	737.7	.9	-8.3	290.0	28.9	8999.3	298.9	2.771
SIGT	736.0	1.2	-11.8	290.2	29.6	9059.7	299.5	2.102
SIGT	716.0	4.2	-37.8	292.9	38.1	9790.8	305.2	.206
MAND	700.0	3.8	-36.8	295.0	44.9	10375.7	306.7	.233
SIGT	689.0	3.0	-36.4	293.7	46.6	10785.7	307.2	.247
SIGT	680.0	4.8	-36.2	292.7	48.1	11126.0	310.4	.255
SIGW	657.4	3.5	-36.2	290.0	51.9	12001.3	311.9	.265
SIGT	625.0	1.6	-36.1	293.3	49.2	13309.0	314.3	.279
SIGW	608.5	.0	-36.1	295.0	47.8	14002.6	314.8	.287
SIGW	563.2	-4.8	-36.1	295.0	46.8	16003.9	316.3	.311
MAND	500.0	-12.1	-36.1	290.0	49.9	19084.7	318.3	.351
SIGW	481.5	-14.6	-37.5	290.0	49.9	20003.3	318.6	.318
MAND	400.0	-27.1	-44.1	295.0	49.9	24524.6	319.8	.189
SIGW	392.0	-28.6	-46.2	295.0	49.9	25003.3	319.7	.153
SIGT	388.0	-29.3	-47.3	294.8	50.0	25241.9	319.7	.137
SIGT	374.0	-29.9	-57.9	293.9	50.3	26102.4	322.3	.048
SIGW	315.2	-39.2	-66.4	290.0	51.9	30006.6	325.5	-----
MAND	300.0	-41.9	-68.9	290.0	54.8	31130.9	326.3	-----
SIGT	291.0	-43.7	-68.7	290.9	55.7	31805.4	326.6	-----
SIGW	251.2	-49.7	-74.7	295.0	59.8	35006.6	331.7	-----
MAND	250.0	-49.9	-74.9	290.0	60.8	35109.8	331.9	-----
MAND	200.0	-58.3	-80.3	290.0	63.9	39808.8	340.5	-----
SIGT	196.0	-58.9	-80.9	290.0	64.6	40225.5	341.5	-----
MAXW	189.0	-57.6	-80.3	290.0	65.9	40978.0	347.1	-----
SIGT	185.0	-56.9	-79.9	290.0	65.9	41420.7	350.4	-----
SIGW	179.8	-57.6	-----	290.0	65.9	42007.9	352.2	-----
MAND	150.0	-61.9	-----	285.0	54.8	45730.1	363.5	-----
TRO1	141.0	-64.9	-----	280.0	59.8	46977.7	364.7	-----
SIGW	121.3	-64.3	-----	280.0	56.9	50009.8	381.8	-----
SIGW	115.4	-64.1	-----	280.0	57.9	51010.5	387.7	-----
SIGW	104.4	-63.7	-----	295.0	45.8	53011.8	399.6	-----
SIGT	88.3	-63.1	-----	-----	-----	56387.9	420.5	-----
SIGT	80.5	-65.3	-----	-----	-----	58245.6	427.3	-----
SIGT	72.8	-62.1	-----	-----	-----	60270.0	446.5	-----
SIGT	72.4	-61.7	-----	-----	-----	60381.9	448.1	-----
SIGT	59.0	-60.9	-----	-----	-----	64550.1	476.9	-----

Parcel Definition for 100 mb Boundary Layer: 0000 UTC 29 Apr 2000120

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--------------------------------------------------------------------------
    Dewpoint Temperature (TD)                       =      8.4 C
    Potential Temperature (Th)                      =    295.9 K
    Equivalent Potential Temperature (ThE)          =    315.0 K
    Mixing Ratio (MIX)                              =      7.1 g/kg

Stability Indices and Levels:
-----------------------------
    Lifted Condensation Level (LCL)                 =      814 mb
    Temperature at LCL (TLCL)                       =      5.9 C
    Level of Free Convection (LFC)                  =      774 mb
    Equilibrium Level (EL)                          =      737 mb
    Convective Temperature (CVT)                    =     22.7 C
    Forecast Maximum Temperature (FMAX)             =     27.5 C

    K Index (KI)                                    =    -14.7
    Lifted Index (LI)                               =      7.1
    Severe WEAther Threat Index (SwI)               =    124.6
    Showalter Index (ShI)                           =      8.3
    Total Totals Index (TTI)                        =     38.0

    Precipitable Water (PW)                         =     18.2 mm

Energy Analysis:
----------------
    Helicity (HELI)                                 =      -32 m**2/s**2
    Convective Available Potential Energy (CAPE)    =       10 J/kg
    Convective Inhibition (CIN)                     =      298 J/kg

    Theta-E for Forecast Maximum Temperature        =      318 K
    CAPE for Forecast Maximum Temperature           =       26 J/kg

    Maximum Theta-E at or below 300 mb              =      325 K
    Pressure Level of Maximum Theta-E               =      315 mb
    CAPE for Maximum Theta-E                        =    -----

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UALIST:  Done
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SOUNDING # 1 IDN= 72501 DAY= 96200 TIME= 0 VALID LEVELS= 55

Idn	Id	Station Name	St	Co	Lat	Lon	Elev
725010		UPTON	NY	US	40:52N	072:52W	20

Level Type	Pressure [MB]	Temp [C]	Dew Point [C]	Dir [deg]	Speed [KTS]	Height [FT]	Theta [K]	Mix [g/kg]
SFC	1015.0	27.8	20.8	240.0	4.9	65.6	299.7	15.432
MAND	1000.0	27.2	18.2	255.0	8.9	499.7	300.4	13.280
SIGW	982.9	26.1	16.9	270.0	12.8	997.4	300.7	12.407
SIGW	949.4	23.9	14.2	280.0	15.0	1998.0	301.5	10.795
MAND	925.0	22.2	12.2	285.0	16.9	2747.6	302.0	9.705
SIGW	916.8	21.5	11.9	285.0	17.9	2998.7	302.1	9.602
SIGW	884.9	18.6	10.7	290.0	18.8	3999.3	302.2	9.198
MAND	850.0	15.4	9.4	305.0	19.8	5134.1	302.3	8.752
SIGW	823.8	13.5	8.0	310.0	21.0	6000.7	303.0	8.182
SIGW	794.5	11.3	6.3	315.0	18.8	7001.3	303.8	7.560
SIGT	793.0	11.2	6.2	315.3	18.7	7055.0	303.9	7.527
SIGW	766.0	10.3	-1.4	320.0	15.9	8002.0	305.9	4.513
SIGT	757.0	10.0	-4.0	323.3	14.9	8326.7	306.6	3.758
SIGT	748.0	9.2	1.2	326.5	13.9	8652.7	306.8	5.591
SIGW	738.5	8.4	1.7	330.0	12.8	8999.3	307.1	5.852
SIGT	723.0	7.2	2.4	332.9	12.3	9575.5	307.6	6.311
SIGW	711.7	6.3	.9	335.0	11.8	10000.0	308.0	5.769
MAND	700.0	5.4	-.6	325.0	11.8	10447.0	308.5	5.241
SIGT	686.0	5.2	-12.8	320.1	11.8	10989.0	310.0	2.081
SIGW	685.7	5.2	-12.9	320.0	11.8	11000.7	310.1	2.063
SIGT	676.0	4.4	-16.6	310.5	13.4	11381.8	310.5	1.543
SIGW	660.4	3.3	-17.0	295.0	15.9	12001.3	311.3	1.532
SIGW	636.0	1.5	-17.6	290.0	16.9	13002.0	312.7	1.514
SIGT	634.0	1.4	-17.6	290.8	17.1	13085.6	312.8	1.512
SIGW	612.3	.8	-20.4	300.0	18.8	14002.6	315.2	1.229
SIGT	586.0	.0	-24.0	302.9	21.2	15159.7	318.3	.938
SIGW	567.3	-1.9	-23.0	305.0	22.9	16003.9	319.0	1.059
SIGW	545.9	-4.2	-21.8	315.0	30.9	17001.3	319.8	1.222
SIGT	530.0	-5.9	-20.9	315.0	33.3	17770.6	320.5	1.363
MAND	500.0	-9.3	-28.3	315.0	37.9	19259.0	321.7	.743
SIGW	485.5	-10.4	-30.2	310.0	38.9	20003.3	323.1	.643
SIGW	466.6	-11.8	-32.7	305.0	39.8	21003.9	325.1	.526
SIGT	465.0	-11.9	-32.9	304.8	39.8	21091.3	325.2	.517
MAND	400.0	-22.5	-35.5	295.0	39.8	24797.3	325.8	.466
SIGW	396.5	-23.0	-36.0	295.0	39.8	25003.3	325.9	.448
SIGW	363.9	-27.9	-40.6	295.0	39.8	27004.6	327.5	.305
SIGW	319.9	-35.2	-47.5	305.0	38.9	30006.6	329.6	.164
SIGW	306.5	-37.7	-49.8	315.0	36.9	31007.2	330.2	.135
MAND	300.0	-38.9	-50.9	315.0	36.9	31503.6	330.6	.124
SIGT	286.0	-41.9	-51.9	300.8	36.2	32573.0	330.8	.119
SIGW	280.4	-42.7	-52.9	295.0	35.9	33005.2	331.5	.110
SIGW	256.0	-46.5	-57.3	280.0	40.8	35006.6	334.7	.074
MAND	250.0	-47.5	-58.5	280.0	42.0	35527.7	335.5	.067
MAND	200.0	-58.1	-67.1	310.0	47.8	40254.6	340.8	-----
SIGT	182.0	-56.5	-65.5	313.6	56.3	42211.6	352.7	-----
SIGW	175.1	-57.2	-66.2	315.0	59.8	43008.5	355.4	-----
SIGW	151.4	-59.9	-68.9	300.0	49.9	46010.5	365.9	-----
MAND	150.0	-60.1	-69.1	300.0	49.9	46205.5	366.6	-----
SIGT	133.0	-61.9	-70.9	312.9	45.4	48658.7	376.2	-----
SIGW	124.5	-60.8	-69.8	320.0	42.9	50009.8	385.4	-----
SIGW	118.5	-59.9	-68.9	320.0	38.9	51010.5	392.4	-----
SIGT	117.0	-59.7	-68.7	318.9	37.6	51275.3	394.3	-----
MAND	100.0	-62.1	-71.1	305.0	22.0	54478.8	407.8	-----

SIGT	93.3	-62.5	-71.5	-----	-----	55884.5	415.1	-----
SIGT	25.9	-49.7	-62.7	-----	-----	82625.5	635.3	-----

Parcel Definition for 100 mb Boundary Layer: 0000 UTC 18 Jul 1996200

Dewpoint Temperature (TD)	=	15.6 C
Potential Temperature (Th)	=	301.1 K
Equivalent Potential Temperature (ThE)	=	332.2 K
Mixing Ratio (MIX)	=	11.6 g/kg

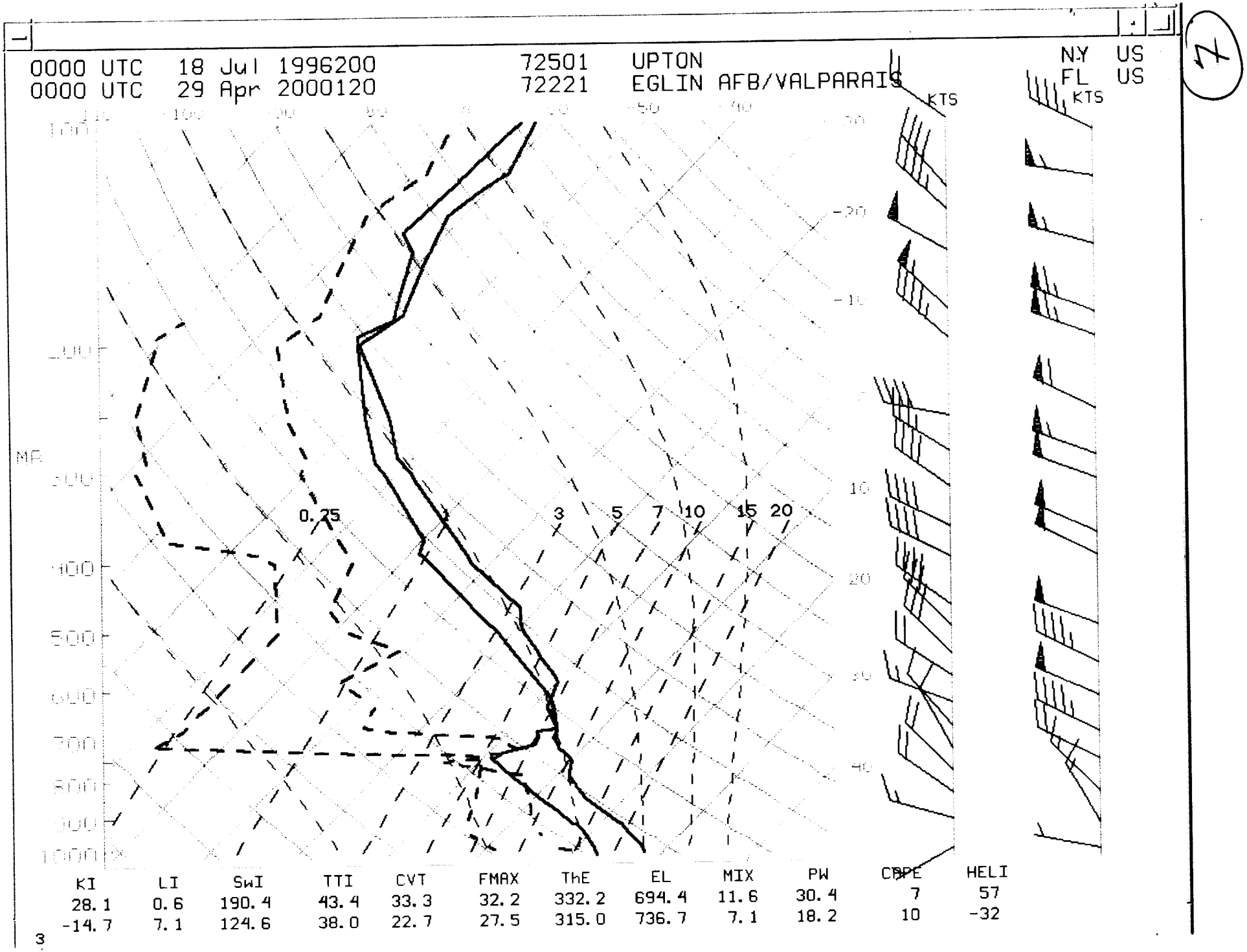
Stability Indices and Levels:

Lifted Condensation Level (LCL)	=	841 mb
Temperature at LCL (TLCL)	=	13.4 C
Level of Free Convection (LFC)	=	718 mb
Equilibrium Level (EL)	=	694 mb
Convective Temperature (CVT)	=	33.3 C
Forecast Maximum Temperature (FMAX)	=	32.2 C
K Index (KI)	=	28.1
Lifted Index (LI)	=	0.6
Severe WEAther Threat Index (SwI)	=	190.4
Showalter Index (ShI)	=	3.6
Total Totals Index (TTI)	=	43.4
Precipitable Water (PW)	=	30.4 mm

Energy Analysis:

Helicity (HELI)	=	57 m**2/s**2
Convective Available Potential Energy (CAPE)	=	7 J/kg
Convective Inhibition (CIN)	=	230 J/kg
Theta-E for Forecast Maximum Temperature	=	335 K
CAPE for Forecast Maximum Temperature	=	16 J/kg
Maximum Theta-E at or below 300 mb	=	341 K
Pressure Level of Maximum Theta-E	=	1015 mb
CAPE for Maximum Theta-E	=	1505 J/kg

UALIST: Done

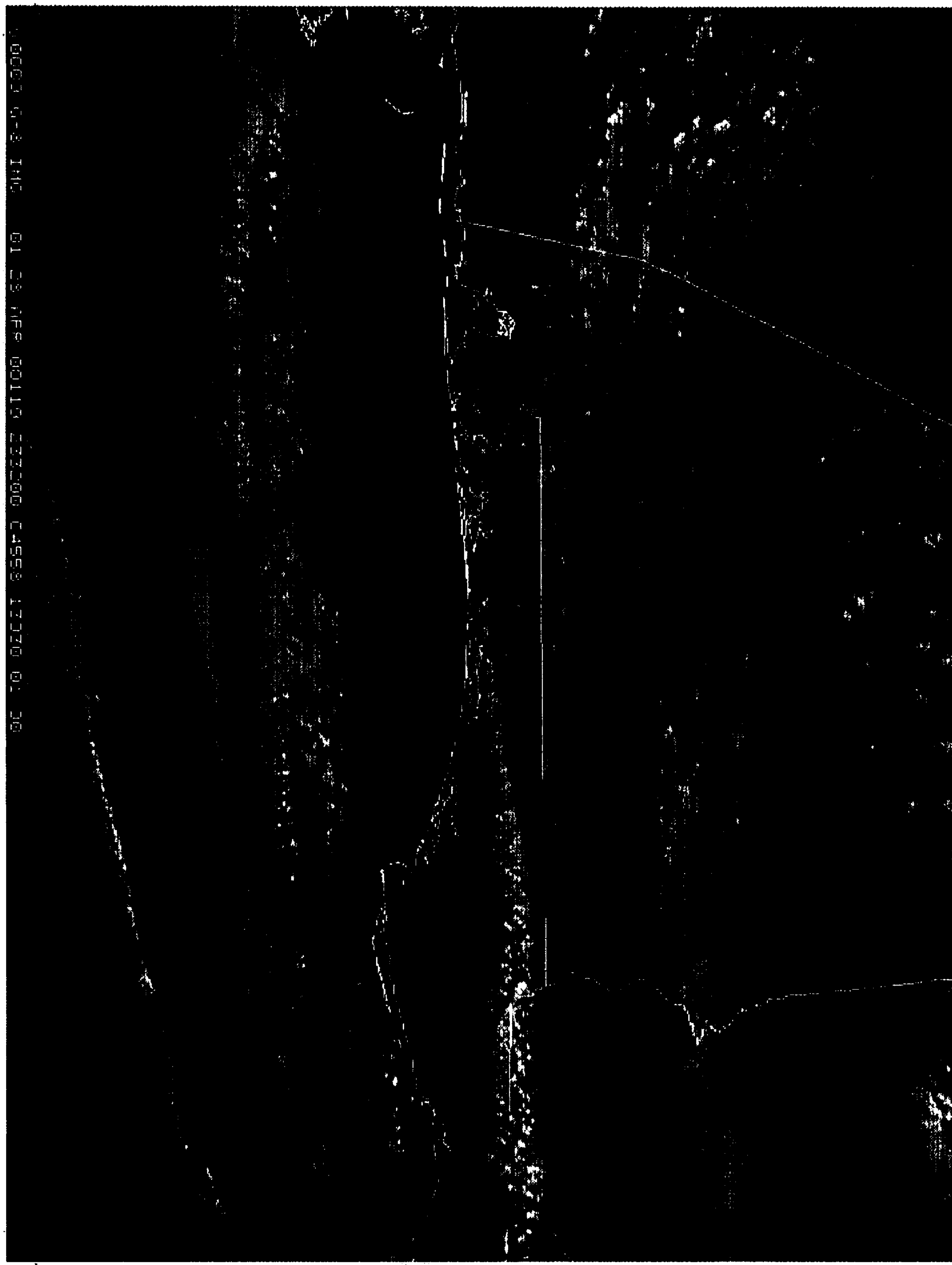

0000 UTC 18 Jul 1996200
0000 UTC 29 Apr 2000120
72501 UPTON NY US
72221 EGLIN AFB/VALPARAIS FL US
KTS
KTS
MB
0.25
3
5
7
10
15
20
KI LI SwI TTI CVT FMAX ThE EL MIX PW CAPE HELI
28.1 0.6 190.4 43.4 33.3 32.2 332.2 694.4 11.6 30.4 7 57
-14.7 7.1 124.6 38.0 22.7 27.5 315.0 736.7 7.1 18.2 10 -32
3


Temp [K]
330
325
320
315
310
305
300
295
290
285
280
275
270
265
260
255
250
245
240
235
230
225
220
215
210
205
200
195
190
185
180
175
170
165
160
HRT

8


GVAR
Temp [K]
330
325
320
315
310
305
300
295
290
285
280
275
270
265
260
255
250
245
240
235
230
225
220
215
210
205
200
195
190
185
180
175
170
165
160
0015 G-8 IMG 04 23 APR 00120 004500 04557 13033 01.00

6



SUN AND MOON POSITIONS BETWEEN SELECTED HOURS

Location :
Ref. No. : Missile Test 4/28/94

Latitude : 30,24 N Longitude : 86,39 W

UTC Differential : 5 Hours
Time Zone : CDT

Magnetic Variation : 0

All data computed for an altitude of 0 Feet MSL

Time	Sun's Altitude	Sun's Azimuth	Moon's Altitude	Moon's Azimuth	% Of Moon's Illumination
1920	00.4	287.1	-63.7	305.8	29 %
1921	00.3	287.2	-63.8	306.2	29 %
1922	00.1	287.4	-64.0	306.6	29 %
1923	-00.1	287.5	-64.2	306.9	29 %
1924	-00.3	287.6	-64.3	307.3	29 %
1925	-00.6	287.8	-64.5	307.7	29 %
1926	-00.8	287.9	-64.7	308.1	29 %
1927	-01.1	288.0	-64.8	308.5	29 %
1928	-01.4	288.1	-65.0	308.9	29 %
1929	-01.7	288.3	-65.1	309.3	29 %
1930	-02.0	288.4	-65.3	309.8	29 %
1931	-02.3	288.5	-65.5	310.2	29 %
1932	-02.6	288.7	-65.6	310.6	29 %
1933	-02.8	288.8	-65.8	311.0	29 %
1934	-03.0	288.9	-65.9	311.5	29 %
1935	-03.2	289.1	-66.1	311.9	29 %
1936	-03.4	289.2	-66.2	312.4	29 %
1937	-03.6	289.3	-66.4	312.8	29 %
1938	-03.8	289.4	-66.5	313.3	29 %
1939	-04.1	289.6	-66.7	313.7	29 %
1940	-04.3	289.7	-66.8	314.2	29 %
1941	-04.5	289.8	-67.0	314.7	29 %
1942	-04.7	290.0	-67.1	315.1	29 %
1943	-04.9	290.1	-67.3	315.6	29 %
1944	-05.1	290.2	-67.4	316.1	29 %
1945	-05.3	290.4	-67.6	316.6	29 %
1946	-05.5	290.5	-67.7	317.1	29 %
1947	-05.7	290.6	-67.8	317.6	29 %
1948	-05.9	290.8	-68.0	318.1	29 %
1949	-06.1	290.9	-68.1	318.6	29 %
1950	-06.3	291.0	-68.3	319.1	29 %
1951	-06.5	291.2	-68.4	319.7	29 %
1952	-06.7	291.3	-68.5	320.2	29 %
1953	-06.9	291.5	-68.7	320.7	29 %
1954	-07.1	291.6	-68.8	321.3	29 %
1955	-07.3	291.7	-68.9	321.8	29 %
1956	-07.5	291.9	-69.0	322.4	29 %
1957	-07.7	292.0	-69.2	323.0	29 %
1958	-07.9	292.1	-69.3	323.5	29 %
1959	-08.1	292.3	-69.4	324.1	29 %
2000	-08.3	292.4	-69.5	324.7	29 %

2001	-08.5	292.6	-69.6	325.3	29 %
2002	-08.7	292.7	-69.8	325.9	29 %
2003	-08.9	292.8	-69.9	326.5	29 %
2004	-09.1	293.0	-70.0	327.1	29 %
2005	-09.3	293.1	-70.1	327.7	29 %
2006	-09.5	293.3	-70.2	328.3	29 %
2007	-09.7	293.4	-70.3	328.9	29 %
2008	-09.9	293.5	-70.4	329.6	29 %
2009	-10.1	293.7	-70.5	330.2	29 %
2010	-10.3	293.8	-70.6	330.8	29 %
2011	-10.5	294.0	-70.7	331.5	29 %
2012	-10.7	294.1	-70.8	332.1	29 %
2013	-10.9	294.2	-70.9	332.8	29 %
2014	-11.1	294.4	-71.0	333.5	29 %
2015	-11.3	294.5	-71.1	334.1	29 %
2016	-11.5	294.7	-71.2	334.8	29 %
2017	-11.7	294.8	-71.3	335.5	29 %
2018	-11.9	295.0	-71.3	336.2	29 %
2019	-12.0	295.1	-71.4	336.9	29 %
2020	-12.2	295.3	-71.5	337.6	29 %

No Compensation For Non-Level Horizons

Standard Corrections for Atmospheric Refraction and Parallax