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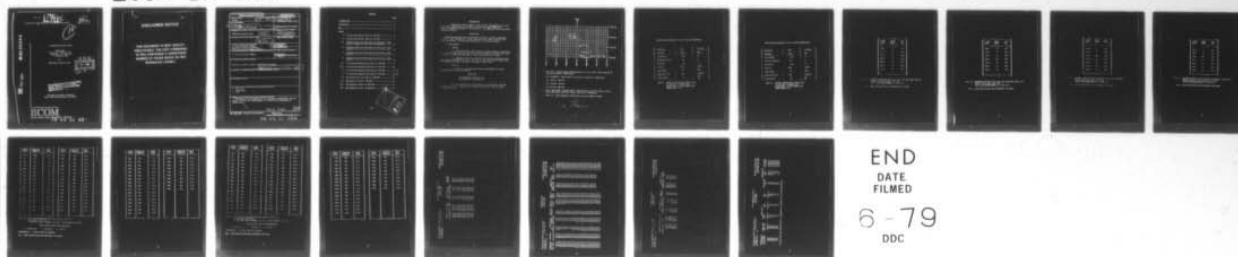
ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2
19303A GSRM MISSILE NUMBERS 1018 AND 1017 ROUND NUMBERS V-17 AN--ETC(U)
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METEOROLOGICAL DATA REPORT

19303A GSRS
Missile Nos. 1018 and 1017
Round Nos. V-17 and V-18
(1 February 1979)

by.

WSMR Meteorological Team

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WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 19303A GSRS, Missile Numbers 1018 and 1017, Round Numbers V-17 and V-18, are presented in tabular form.			

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Wind Direction
 Bufr Station
 WSD
 Mandatory Levels
 MRN

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INTRODUCTION

19303A GSRS, Missile Numbers 1018 and 1017, Round Numbers V-17 and V-18, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1404 and 1421 MST, 1 February 1979. The scheduled launch times were 1400 and 1415 MST.

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, 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.

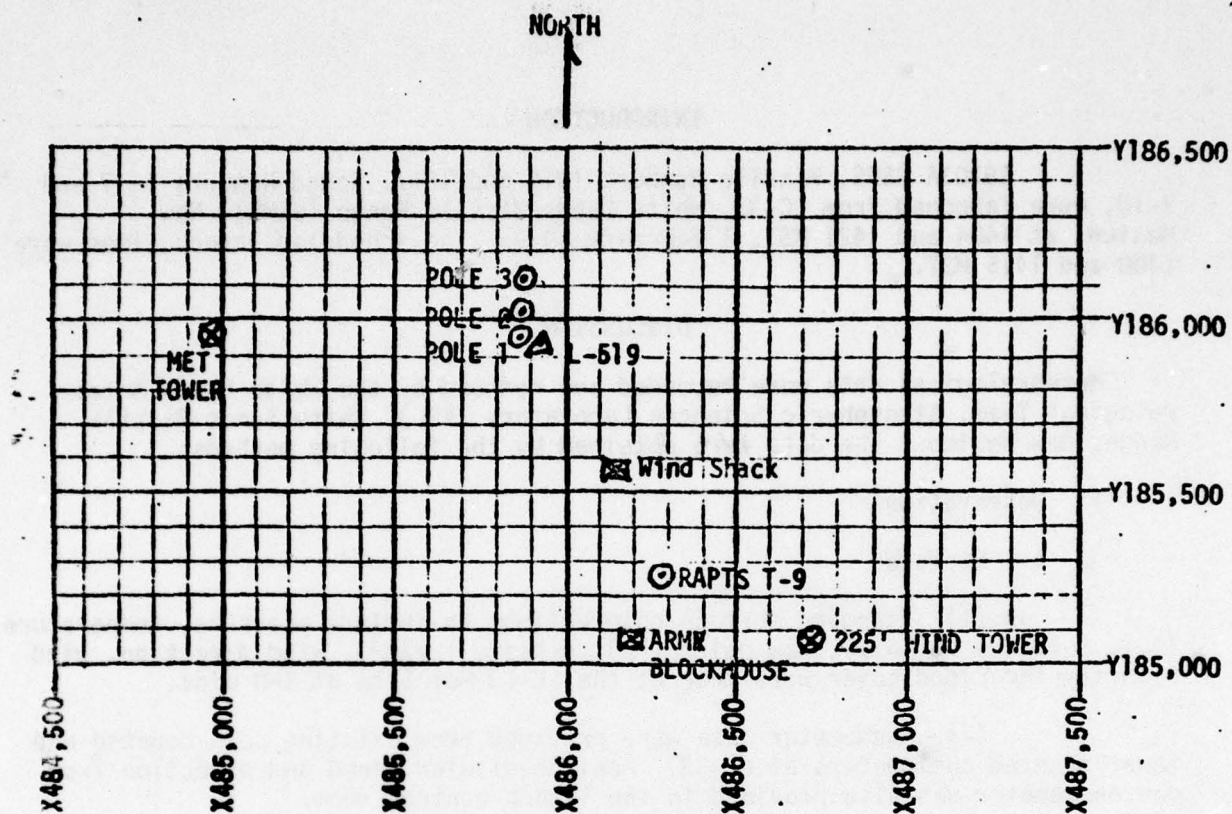
b. Upper Air

(1) Low level wind data were obtained from RAPT5-T-9 pibals observation at T-0 mins as follows:

SITE & ALT

LC-33 3000 feet (50 foot inc)
APA 3000 feet (100 foot inc)

(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.



1. MET TOWER - 4 Bendix Model T-120 Anemometers at 12 ft, 62 ft, 102 ft and 202 ft with E/A recorders in Wind Shack.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders in Wind Shack
 - (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

The data are presented in the following tabulations:

ELEVATION	3989	FEET/MSL
PRESSURE	875.7	MBS
TEMPERATURE	13.3	°C
RELATIVE HUMIDITY	30	%
DEW POINT	-4.0	°C
DENSITY	1061	GM/M ³
WIND SPEED	09	MPH
WIND DIRECTION	240	DEGREES
CLOUD COVER	1 3	CU Ci

TABLE I. SURFACE OBSERVATIONS TAKEN AT WSD
AT 1400 MST/1 FEBRUARY 1979
19303A GSRS, MISSILE NUMBER 1018
ROUND NUMBER V-17

The data are presented in the following tabulations:

ELEVATION	3989	FEET/MSL
PRESSURE	874.1	HBS
TEMPERATURE	13.8	°C
RELATIVE HUMIDITY	27	%
DEW POINT	-4.9	°C
DENSITY	1058	GM/M ³
WIND SPEED	11	MPH
WIND DIRECTION	240	DEGREES
CLOUD COVER	1	CU
	2	CI

TABLE II. SURFACE OBSERVATIONS TAKEN AT WSD
AT 1415 MST/1 FEBRUARY 1979
19303A GSRs, MISSILE NUMBER 1017
ROUND NUMBER V-18

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	M	255
-20.0	M	229
-10.0	M	230
-00.0	M	230
+10.0	M	225
+20.0	M	239
+30.0	M	230

TABLE III. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TWR LEVEL #1
FROM LC-33 AT 1404 MST/1 FEB 1979
19303A GSRS/ROUND NUMBERS V-17 AND V-18.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	12	253
-20.0	11	237
-10.0	11	240
-00.0	20	241
+10.0	19	238
+20.0	17	249
+30.0	18	244

TABLE IV. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TWR LVL #2
FROM LC-33 AT 1404/1 FEB 1979
19303A GSRS/ROUND NUMBERS V-17 AND V-18

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	11	258
-20.0	13	252
-10.0	08	227
00.0	20	242
+10.0	19	245
+20.0	12	254
+30.0	14	246

TABLE V. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TWR LEVEL 3
FROM LC-33 AT 1404 MST 1 FEB 1979
19303A GSRS/ROUND NUMBERS V-17 AND V-18

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	10	315
-20.0	10	255
-10.0	06	230
00.0	12	230
+10.0	14	255
+20.0	10	245
+30.0	12	243

TABLE VI. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, TWR LEVEL #4
 RELEASED FROM LC-33 AT 1404 MST/1 FEB 1979
 19303A GSRs/ROUND NUMBERS V-17 AND V-18

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	290	20	1800	241	24
100	240	18	1900	241	25
200	240	17	2000	241	26
300	240	15	2100	241	27
400	240	13	2200	242	28
500	240	11	2300	242	29
600	240	09	2400	242	31
700	240	11	2500	242	31
800	241	12	2600	241	34
900	242	13	2700	241	35
1000	242	14	2800	241	36
1100	243	15	2900	241	38
1200	243	16	3000	241	38
1300	242	17			
1400	242	19			
1500	242	20			
1600	241	21			
1700	241	23			

TABLE VII. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM APA
 AT 1406 MST/1 FEB 1979
 19003A GSRS, MISSILE NUMBER 1018 and 1017, ROUND NUMBER V-17 and V-18

PIBAL RELEASE POINT WSTM COORDINATES:

X = 481,408.00 Y = 267,771.00 Z = 3956.00

APPROXIMATELY: 16 MILES NORTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	242	20	1800	246	41
100	245	18	1900	245	42
200	248	17	2000	245	43
300	252	15	2100	244	44
400	255	13	2200	244	46
500	258	11.5	2300	243	47
600	260	10	2400	243	48
700	256	15	2500	242	49
800	253	19	2600	242	50
900	251	24	2700	241	51
1000	248	28	2800	241	52
1100	245	32	2900	240	53
1200	243	35	3000	241	55
1300	244	36			
1400	244	37			
1500	245	38			
1600	245	39			
1700	246	40			

TABLE VIII. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM APA
 AT 1415 MST/1 FEB 1979
 19303A GSRs, MISSILE NUMBER 1018 and 1017, ROUND NUMBER V-17 and V-18

PIBAL RELEASE POINT WSTM COORDINATES:

X = 481,408.00 Y = 267,771.00 Z = 3956.00

APPROXIMATELY: 16 MILES NORTH OF LAUNCHER

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	280	12.0	850	261	15.5
50	257	9.5	900	262	15.5
100	233	6.5	950	263	15.5
150	210	4.0	1000	264	15.5
200	186	1.0	1050	265	15.5
250	203	3.0	1100	265	15.0
300	222	4.5	1150	265	14.5
350	237	6.0	1200	265	14.0
400	254	7.5	1250	264	13.5
450	255	9.0	1300	263	12.5
500	255	10.0	1350	262	12.0
550	256	12.0	1400	260	11.0
600	256	13.5	1450	251	9.0
650	257	14.0	1500	242	7.0
700	258	14.5	1550	233	5.0
750	259	15.0	1600	223	2.5
800	259	15.0	1650	231	4.5

TABLE IX. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM LC-33
 AT 1412 MST/1 FEB 1979
 19303A GSRS, MISSILE NUMBERS 1018/1017, ROUND NUMBERS V-17/V-18

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3977.30

APPROXIMATELY: .25 MILES SOUTH OF LAUNCHER

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
1700	239	6.5
1750	247	8.5
1800	255	10.5
1850	253	11.0
1900	250	11.5
1950	248	12.0
2000	245	12.0
2050	247	12.5
2100	249	13.0
2150	251	13.5
2200	252	14.5
2250	254	14.0
2300	255	14.0
2350	256	14.0
2400	257	13.5
2450	257	13.0
2500	257	12.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
2550	257	12.0
2600	256	11.5
2650	257	11.5
2700	257	11.0
2750	257	11.0
2800	257	10.5
2850	259	11.0
2900	261	12.0
2950	263	13.0
3000	265	13.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	260	8.0	850	257	21.5
50	261	9.0	900	257	22.5
100	262	9.5	950	257	24.0
150	263	10.0	1000	257	25.0
200	264	10.5	1050	260	26.0
250	264	12.5	1100	263	26.5
300	264	14.5	1150	266	27.5
350	264	16.5	1200	269	28.0
400	264	18.0	1250	269	27.5
450	265	18.5	1300	269	27.0
500	265	18.5	1350	269	26.5
550	265	19.0	1400	269	25.5
600	265	19.0	1450	272	24.0
650	263	19.5	1500	275	22.5
700	261	19.5	1550	278	21.0
750	259	20.0	1600	281	19.5
800	257	21.5	1650	281	19.0

TABLE X. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM LC-33
 AT 1419 MST/1 FEB 1979
 19303A GSRS, MISSILE NUMBERS 1018/1017, ROUND NUMBERS V-17/V-18

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3977.30

APPROXIMATELY: .25 MILES SOUTH OF LAUNCHER

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
1700	280	18.0
1750	279	17.0
1800	278	16.0
1850	275	15.5
1900	271	15.0
1950	267	14.5
2000	263	14.0
2050	263	15.0
2100	263	16.0
2150	263	17.0
2200	262	18.0
2250	256	19.5
2300	250	20.5
2350	244	21.5
2400	238	22.5
2450	241	22.5
2500	244	22.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
2550	247	22.0
2600	250	21.5
2650	249	21.0
2700	247	20.5
2750	246	20.0
2800	244	19.5
2850	247	19.0
2900	249	18.0
2950	252	17.0
3000	254	16.0

STATION ALTITUDE 3909.00 FEET MSL
 1 FEB. 79
 ASCENSION NO. 65

SIGNIFICANT LEVEL DATA
 0320020068
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT
674.8	3989.0	13.5	-2.4	33.0
862.4	4361.6	10.9	-4.7	33.0
850.0	4777.7	10.4	-4.4	35.0
841.6	5048.4	8.8	-5.1	37.0
811.0	6049.6	5.9	-5.7	43.0
770.8	7407.4	2.0	-7.1	51.0
700.0	9928.7	-5.3	-10.3	68.0
664.4	11267.2	-8.9	-12.2	77.0
643.8	12066.7	-10.6	-15.2	69.0
627.6	12711.5	-10.4	-27.5	23.0
609.6	13447.8	-10.4	-28.0	22.0
583.0	14573.7	-11.9	-25.9	30.0
531.8	16880.8	-13.3	-30.4	22.0
523.4	17278.9	-13.9	-30.9	22.0
500.0	18414.9	-16.8	-33.0	23.0

STATION ALTITUDE 3989.00 FEET MSL
 1 FEB. 79 1405 HRS MST
 ASCENSION NO. 68

UPPER AIR DATA
 0320020068
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	874.8	13.5	-2.4	33.0	1060.8	660.3	255.0	15.0	1.000260
4000.0	874.5	13.4	-2.5	33.0	1060.7	660.2	254.9	15.0	1.000260
4500.0	858.7	10.8	-4.6	33.6	1051.6	657.0	250.6	15.6	1.000255
5000.0	843.1	9.1	-4.9	36.6	1038.7	655.1	246.7	16.4	1.000252
5500.0	827.7	7.5	-5.3	39.7	1025.5	653.2	245.6	16.4	1.000248
6000.0	812.5	6.0	-5.7	42.7	1011.9	651.6	253.4	14.4	1.000245
6500.0	797.4	4.6	-6.1	45.7	998.3	649.9	253.8	14.5	1.000241
7000.0	782.6	3.2	-6.6	48.6	984.9	648.2	252.4	15.2	1.000238
7500.0	768.1	1.7	-7.1	51.6	971.7	646.5	248.2	17.3	1.000234
8000.0	753.5	.3	-7.7	55.0	958.4	644.8	244.1	19.5	1.000231
8500.0	739.3	-1.2	-8.3	58.4	945.3	643.0	238.4	21.9	1.000227
9000.0	725.3	-2.6	-8.9	61.7	932.4	641.3	234.9	24.3	1.000224
9500.0	711.6	-4.1	-9.6	65.1	919.7	639.6	234.7	26.1	1.000220
10000.0	698.1	-5.5	-10.4	68.5	907.2	637.8	236.2	27.5	1.000217
10500.0	684.6	-6.8	-11.0	71.8	894.2	636.2	241.3	28.0	1.000213
11000.0	671.4	-8.2	-11.8	75.2	881.4	634.6	246.1	28.7	1.000210
11500.0	658.3	-9.4	-13.0	74.7	868.4	633.1	247.8	32.9	1.000206
12000.0	645.5	-10.5	-14.9	69.7	855.1	631.8	249.1	37.4	1.000201
12500.0	632.9	-10.5	-22.0	38.1	838.8	631.6	248.8	42.3	1.000193
13000.0	620.5	-10.4	-27.7	22.6	822.4	631.6	248.0	47.4	1.000187
13500.0	608.3	-10.5	-27.8	22.4	806.5	631.5	247.6	50.8	1.000183
14000.0	596.4	-11.1	-26.8	25.9	792.6	630.7	247.7	53.0	1.000180
14500.0	584.7	-11.8	-26.0	29.5	779.0	630.0	249.3	57.4	1.000178
15000.0	573.2	-12.2	-26.7	28.5	764.7	629.5	252.3	56.8	1.000174
15500.0	561.9	-12.5	-27.6	26.8	750.5	629.1	253.8	56.6	1.000171
16000.0	550.8	-12.8	-28.6	25.1	736.6	628.8	254.8	57.0	1.000167
16500.0	539.9	-13.1	-29.6	23.3	722.9	628.4	255.7	58.3	1.000164
17000.0	529.3	-13.5	-30.6	22.0	709.8	627.9			1.000161
17500.0	518.8	-14.5	-31.3	22.2	698.4	626.7			1.000158
18000.0	508.4	-15.7	-32.2	22.6	687.9	625.1			1.000156

STATION ALTITUDE 3999.00 FEET MSL
 1 FEB. 79 1405 HRS MST
 ASCENSION NO. 68

MANDATORY LEVELS
 0320020068
 WHITE SANDS

GEODETTIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4774.	10.4	-4.4	35.	248.4	16.0	
800.0	6411.	4.9	-6.0	45.	253.9	14.5	
750.0	8123.	-1.1	-7.6	56.	242.5	20.1	
700.0	9919.	-5.3	-10.3	68.	235.5	27.4	
650.0	11811.	-10.1	-14.2	71.	248.7	35.8	
600.0	13833.	-10.9	-27.1	25.	247.4	52.1	
550.0	16017.	-12.8	-28.7	25.	254.9	57.1	
500.0	18390.	-16.8	-33.0	23.			

STATION ALTITUDE 3989.00 FEET MSL
 1 FEB. 79 1405 HRS MST
 ASCENSION NO. 68

MRN MANDATORY LEVELS
 0320020068
 WHITE SANDS

GEODETTIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TN)	SPEED MPS	WIND DATA		E-W MPS	DEW PT DEP DEG C	TEMPERATURE		PRESSURE MILLIBARS
			N-S MPS	-9999.**			AIR DEG C		
561.	9999.**	9999.**	-9999.**	-9999.**	16	-16.8		5.000+2	
488.	255.	29.	8.	28.	16	-12.8		5.500+2	
422.	247.	27.	10.	25.	16	-10.9		6.000+2	
360.	249.	18.	7.	17.	04	-10.1		6.500+2	
302.	235.	14.	8.	12.	05	-5.3		7.000+2	
248.	243.	10.	5.	9.	08	-0.1		7.500+2	
195.	254.	7.	2.	7.	11	4.9		8.000+2	
146.	248.	8.	3.	8.	15	10.4		8.500+2	

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.