

Weather Reports and Records

ERA21LA058

Synoptic Conditions - A review of the National Weather Service (NWS) Surface Analysis Chart for 1000 EST (1500Z) depicted a low-pressure system at 1010-hectopascals (hPa) and associated with a frontal system off the east coast with a high-pressure system at 1022-hPa over southern Illinois with a ridge extending eastward. No surface boundaries were depicted over the region to cause any significant wind shifts. The station models over eastern Pennsylvania and Delaware depicted winds from the northwest at 5 to 10 knots, scattered to clear sky conditions, with temperatures in the 50's °F.

A review of the NWS National Composite Radar Mosaic for 1145 EST depicted no significant weather echoes over the route of flight or over Delaware surrounding the period.

Delaware Coastal Airport (KGED), Georgetown, Delaware, at an elevation of 53 ft, with a magnetic variation of 12° W, had an Automated Surface Observation System (ASOS) which was not augmented. The following hourly conditions were transmitted and disseminated on the national weather circuits.

METAR KGED 281254Z AUTO 00000KT 5SM BR FEW002 07/07 A3003 RMK AO2 SLP168 T00720072 \$=

METAR KGED 281354Z AUTO 00000KT 10SM CLR 11/09 A3004 RMK AO2 SLP171 T01110089 \$=

METAR KGED 281454Z AUTO VRB05KT 10SM CLR 13/07 A3005 RMK AO2 SLP173 T01330072 51012 \$=

METAR KGED 281554Z AUTO 33006KT 10SM CLR 14/05 A3005 RMK AO2 SLP173 T01440050 \$=

Accident 1645Z

METAR KGED 281654Z AUTO 28006G16KT 10SM CLR 15/05 A3003 RMK AO2 SLP169 T01500050 \$=

METAR KGED 281754Z AUTO 28013G18KT 10SM CLR 16/04 A3002 RMK AO2 SLP164 T01560039 10156 20061 58009 \$=

The ASOS high resolution 5-minute and 1-minute data was obtained from the NWS for the period immediately surrounding the time of the accident and are included below, and present what would have been broadcasted by the ASOS system locally. Five-minute ASOS observations issued from 1130 through 1200 EST surrounding the accident were as follows:

(11:30:31) 5-MIN KGED 281630Z AUTO 30008KT 10SM CLR 15/06 A3004 -50 53 0 310/08 RMK AO2 T01500056 \$

(11:35:31) 5-MIN KGED 281635Z AUTO 30005KT 10SM CLR 15/06 A3004 -50 53 0 310/05 RMK AO2 T01500056 \$

(11:40:31) 5-MIN KGED 281640Z AUTO 30009KT 10SM CLR 15/06 A3004 -50 53 0 310/09 RMK AO2 T01500056 \$

Accident 1645Z

(11:45:31) 5-MIN KGED 281645Z AUTO 29010G16KT 10SM CLR 15/05 A3003 -50 51 0 310/10G16 RMK AO2

T01500050 \$

(11:50:31) 5-MIN KGED 281650Z AUTO 32009G16KT 10SM CLR 15/05 A3003 -40 51 0 340/09G16 RMK AO2 SLP169 T01500050 \$

(11:55:31) 5-MIN KGED 281655Z AUTO 28008G16KT 10SM CLR 15/05 A3003 -40 51 0 290/08G16 RMK AO2 T01500050 \$

(12:00:31) 5-MIN KGED 281700Z AUTO 28008KT 10SM CLR 16/05 A3003 -40 49 0 300/08 RMK AO2 T01560050 \$

At 1145 EST the 5-min ASOS report for KGED was a wind from 290° at 10 knots gusting to 16 knots, visibility unrestricted at 10 miles or more, sky clear below 12,000 ft above ground level temperature 15° C, dew point temperature 5° C, altimeter 30.03 inches of mercury. Supplementary data: pressure altitude -50 ft, relative humidity 51%, density altitude 0 ft, magnetic wind from 310° at 10 knots gusting to 16 knots. Remarks; automated station with a precipitation discriminator, temperature 15.0° C, dew point 5.0° C.

Based on the aircraft landing on runway 4, which heading is listed as 045° magnetic or 033° true, based on the 5-min ASOS report for 1145 EST the wind was a direct left crosswind of 10 knots and up to 16 knots based on the peak gusts.

The 1-min ASOS data of the 2-minute average wind updated every 5-seconds, and reported every minute, and the maximum 5-second wind reported that minute for use in reporting wind gusts from 1130 through 1155 EST. Wind direction is reported in degrees true and speed in knots:

Time (EST) Wind Peak Gust

1130 297° 8 kt 312° 10 kt
1131 304° 8 kt 293° 11 kt
1132 307° 8 kt 286° 11 kt
1133 312° 8 kt 318° 10 kt
1134 312° 6 kt 343° 6 kt
1135 299° 5 kt 310° 7 kt
1136 306° 7 kt 326° 12 kt
1137 314° 9 kt 314° 13 kt
1138 312° 8 kt 304° 11 kt
1139 307° 8 kt 285° 12 kt
1140 299° 9 kt 297° 14 kt
1141 297° 11 kt 298° 16 kt
1142 297° 11 kt 310° 14 kt
1143 292° 9 kt 275° 12 kt
1144 294° 9 kt 282° 14 kt
1145 293° 10 kt 280° 14 kt
1146 301° 9 kt 319° 15 kt
1147 318° 10 kt 313° 16 kt
1148 323° 9 kt 328° 11 kt
1149 321° 7 kt 330° 12 kt
1150 323° 9 kt 336° 14 kt
1151 308° 9 kt 292° 11 kt
1152 286° 8 kt 283° 10 kt
1153 283° 7 kt 278° 8 kt
1154 280° 6 kt 286° 9 kt
1155 281° 8 kt 294° 10 kt

Terminal Aerodrome Forecast (TAF) - The NWS does not issue a TAF for KGED. The closest TAF to the accident site was issued for Salisbury-Ocean City Wicomico Regional Airport (KSBY), Salisbury, Maryland, located approximately 22 nm south at an elevation of 53 ft.

The TAFs that were issued during the period were as follows:

TAF KSBY 281147Z 2812/2912 34004KT P6SM SCT050 SCT100
FM281400 32006KT P6SM SCT080
FM281700 31010KT P6SM FEW060
FM290100 33002KT P6SM SKC=
AMD TAF KSBY 281504Z 2815/2912 32011G18KT P6SM SCT080
FM282300 VRB04KT P6SM SKC=

The initial TAF issued at 0647 EST expected from 0900 through 1200 EST winds from 320° at 6 knots, with visibility 6 miles or more, with scattered clouds at 8,000 ft agl. The forecast was amended at 1004 EST immediately prior to the accident airplane's departure from Lancaster (KLNS) to winds from 320° at 11 knots with gusts to 18 knots.