NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

December 7, 2015

Group Chairman's Factual Report

WEATHER STUDY

WPR15FA147

A. ACCIDENT

Location:	Lebec, California
Date:	April 14, 2015
Time:	About 0815 Pacific daylight time (1515 UTC[1])
Airplane:	Robert C. Hanson Pitts S2E; registration N75BH

B. METEOROLOGY GROUP

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C. SUMMARY

On April 14, 2015, about 0815 Pacific daylight time, an experimental amateur-built Pitts S2E airplane, N75BH, was destroyed when it collided with trees and mountainous terrain about 3 miles northeast of Lebec, California. The airplane was being operated as a visual flight rules (VFR) cross-country personal flight under Title 14, Code of Federal Regulations (CFR) Part 91, when the accident occurred. The airline transport pilot, the sole occupant, sustained fatal injuries. Instrument meteorological conditions (IMC) were reported in the area of the accident, and no flight plan had been filed. The accident flight originated at the Bakersfield Airport, Bakersfield, California about 0748, en route to Blythe, California.

D. DETAILS OF THE INVESTIGATION

The National Transportation Safety Board's (NTSB) Senior Meteorologist was not on scene for this investigation and conducted the meteorology phase of the investigation from the Washington D.C. office, collecting data from official National Weather Service (NWS) sources including the Weather Prediction Center (WPC) and the National Center for Environmental Information (NCEI). All times are Pacific daylight time (PDT) based upon the 24 hour clock, local time is +7 hours to UTC, and UTC=Z. Directions are referenced to true north and distances in nautical miles. Heights are above mean sea level (msl) unless otherwise noted. Visibility is in statute miles and fractions of statute miles. NWS airport and station identifiers use standard International Civil Aviation Organization (ICAO) 4-letter station identifiers versus International Air Transport Association (IATA) 3-letter identifiers which deletes the initial country code designator "K" for U.S. airports. Both codes are both used intermittently in this report.

[1] UTC – is an abbreviation for Coordinated Universal Time.

The accident site was located at latitude 34° 52.60’ N and longitude 118° 49.77’ W at an elevation of 4,000 feet.

E. FACTUAL INFORMATION

1.0 Synoptic Situation

The synoptic or large scale migratory weather systems influencing the area were documented using standard NWS charts issued by the National Center for Environmental Prediction (NCEP) located in Camp Springs, Maryland. These are the base products used in describing weather features and in the creation of forecasts and warnings. Reference to these charts can be found in the joint NWS and Federal Aviation Administration (FAA) Advisory Circular “Aviation Weather Services”, AC 00-45G.

1.1 NWS Surface Analysis Chart

The NWS Surface Analysis Chart for 0800 PDT (1500Z) on April 15, 2015 is included as figure 1 with the approximate accident site within the red circle. The chart depicted a low pressure system at 1019-hectopascals (hPa) over northern California with a cold front extending south and southwestward across the state. The accident site was located on the cold air side of the front, located west and north of the boundary with an increasing pressure gradient forming over the region. To the south of the front several stations reported visibility restrictions in haze and mist.

The closest station model to the accident site indicated a northwesterly wind of 5 knots, with partly cloudy skies, a temperature of 56° Fahrenheit (F), a dew point of 44° F, and a sea level pressure of 1028.6-hPa.

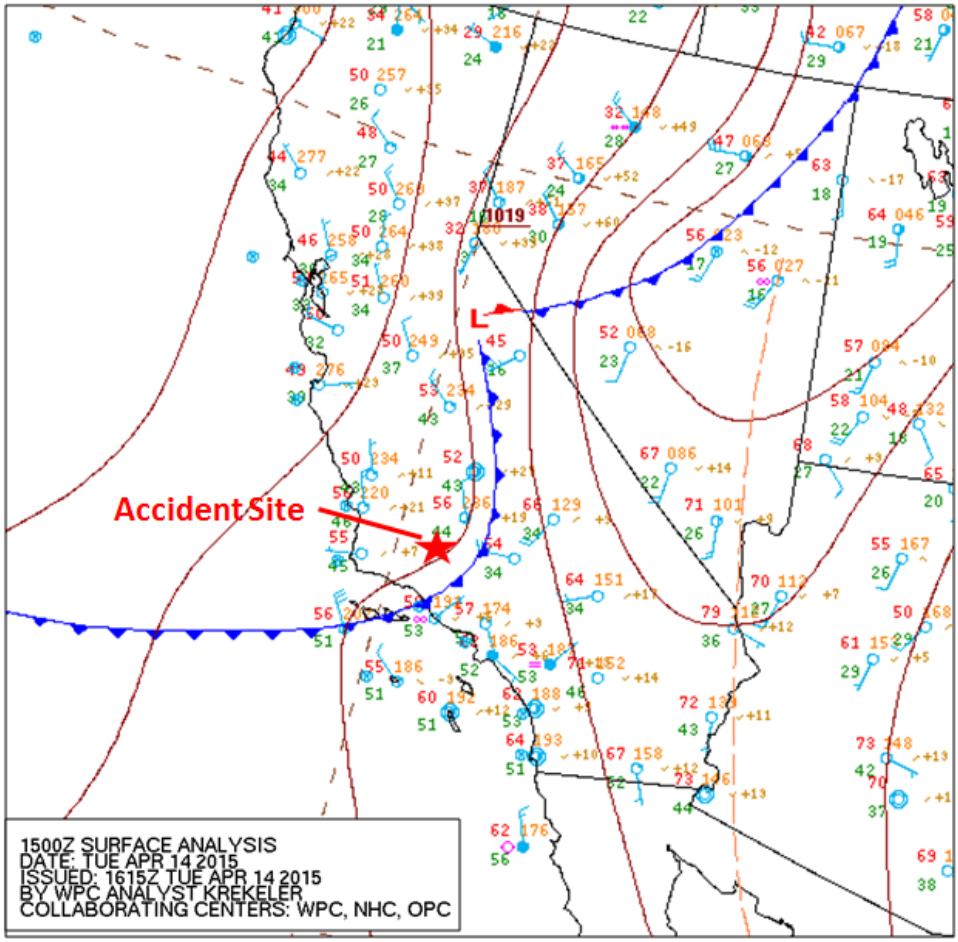

Figure 1 - NWS Surface Analysis Chart for 0800 PDT

A review of the National radar mosaic indicated no significant weather echoes over the region.

1.2 NWS Weather Depiction Charts

The southwest sections of the NWS Weather Depiction Charts for 0600 PDT (1300Z) and 0900 PDT (1600Z) on April 14, 2015 are included as figure 2 depicting the frontal system positions and general flight categories across the country[2]. The chart for 0600 PDT on the left

[2] As defined by the NWS and the FAA Aeronautical Information Manual (AIM) section 7-1-7 defines the following general flight categories:

- Low Instrument Flight Rules (LIFR*) – ceiling or lowest layer of clouds reported as broken, overcast or the vertical visibility into a surface based obscuration below 500 feet agl and/or visibility less than 1 statute mile.
- Instrument Flight Rules (IFR) – ceiling between 500 to below 1,000 feet agl and/or visibility 1 to less than 3 miles.
- Marginal Visual Flight Rules (MVFR**) – ceiling from 1,000 to 3,000 feet agl and/or visibility 3 to 5 miles.
- Visual Flight Rules (VFR) – ceiling greater 3,000 feet agl and visibility greater than 5 miles.

* By definition, IFR is a ceiling less than 1,000 feet agl and/or visibility less than 3 miles while LIFR is a sub-category of IFR.

**By definition, VFR is a ceiling greater than or equal to 3,000 feet agl and visibility greater than 5 miles while

depicted a large area of marginal visual flight rule conditions (MVFR) by an unshaded contour line over southwestern California extending immediately south and southwest of the accident site, with several smaller areas of instrument flight rule conditions within that area by a shaded contour line. By 0900 PDT the chart on the right indicated a larger area of MVFR conditions over the region and extended over the accident site.

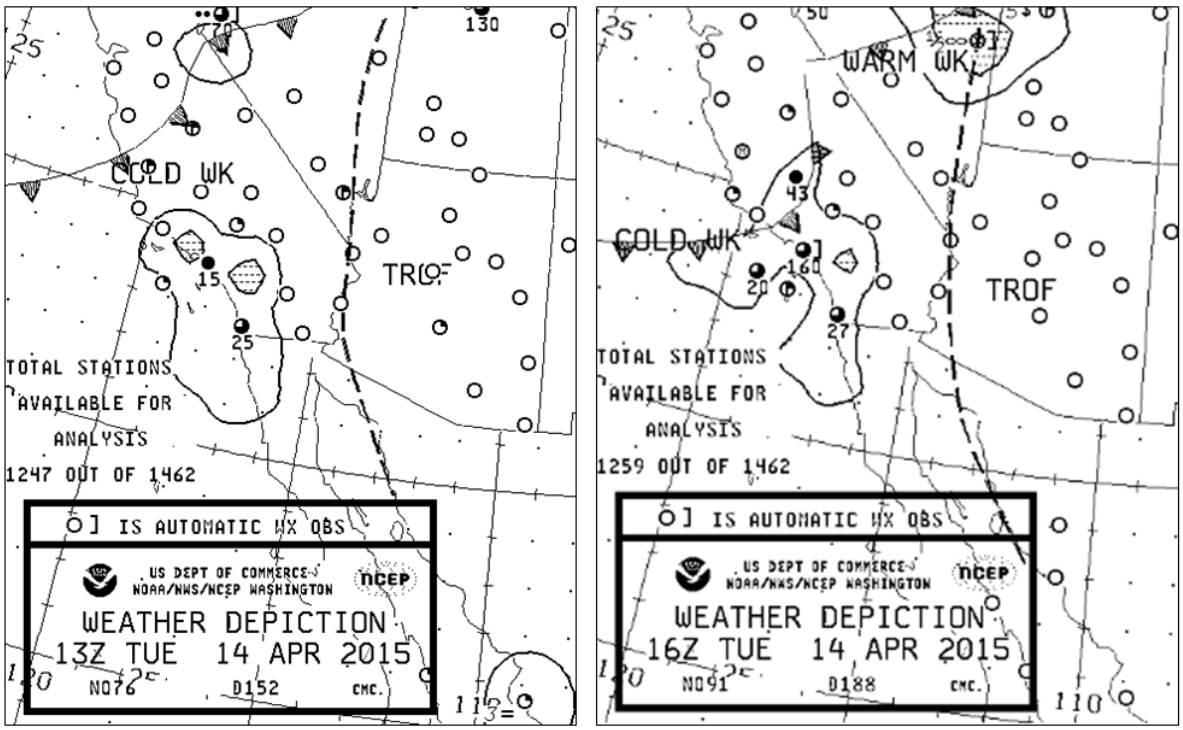

Figure 2 - NWS Weather Depiction Charts for 0600 PDT (1300Z) on the left and 0900 PDT (1600Z) on the right showing the general flight categories over the area.

2.0 Surface Observations

The official NWS Meteorological Aerodrome Reports (METARs) and special reports (SPECIs) surrounding the period were documented for the departure and the closest airport to the accident site. The cloud heights are reported above ground level (agl).

2.1 Sandberg (KSDB), CA

The closest weather reporting location to the accident site was from Sandberg (KSDB), CA, located approximately 10 miles southeast of the accident site, at an elevation of 4,521 feet. The location had an Automated Surface Observation System (ASOS) and reported the following conditions:

Sandberg special weather observation at 0813 PDT (1513Z), automated observation, wind from 340° at 25 knots gusting to 35 knots, visibility 1 mile in mist, ceiling overcast at 200 feet

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MVFR is a sub-category of VFR.

agl, temperature 6° Celsius (C), dew point 4° C, altimeter 30.18 inches of mercury (Hg). Remarks: automated observation system, peak wind from 340° at 35 knots occurred at 0813 PDT, temperature 5.6° C, dew point 3.9° C, maintenance indicator.

The raw observation and general flight category surrounding the period were as follows:

VFR METAR KSDB 141148Z AUTO 33023G34KT 10SM CLR 07/01 A3013 RMK AO2 PK WND 33035/1101 SLP166 T00670011 10133 20061 55002 $

VFR METAR KSDB 141248Z AUTO 33020G27KT 10SM CLR 06/02 A3014 RMK AO2 PK WND 32033/1208 SLP174 T00560022 $

VFR SPECI KSDB 141252Z AUTO 34022G27KT 10SM FEW008 06/02 A3014 RMK AO2 PK WND 33027/1250 T00560022

VFR METAR KSDB 141348Z AUTO 35013G22KT 10SM FEW004 05/03 A3013 RMK AO2 PK WND 33027/1250 SLP173 T00500028 $

LIFR METAR KSDB 141448Z AUTO 35016G31KT 10SM BKN004 06/03 A3017 RMK AO2 PK WND 34034/1436 PRESRR SLP188 T00610033 53009 $

LIFR SPECI KSDB 141456Z AUTO 35021G33KT 1 3/4SM BR BKN004 06/04 A3017 RMK AO2 PK WND 35033/1450 T00610039 $

LIFR SPECI KSDB 141502Z AUTO 34022G30KT 1SM BR OVC002 06/04 A3018 RMK AO2 PK WND 35033/1450 VIS 1/2V2 1/2 T00560039 $

LIFR SPECI KSDB 141507Z AUTO 33023G33KT 3/4SM BR OVC002 06/04 A3018 RMK AO2 PK WND 35033/1450 VIS 1/2V2 1/2 T00560039 $

LIFR SPECI KSDB 141513Z AUTO 34025G35KT 1SM BR OVC002 06/04 A3018 RMK AO2 PK WND 34035/1513 T00560039 $

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LIFR SPECI KSDB 141521Z AUTO 34030G35KT 2SM BR OVC002 06/04 A3017 RMK AO2 PK WND 34035/1520 VIS 3/4V5 T00560039 $

LIFR SPECI KSDB 141528Z AUTO 34030G38KT 8SM BKN002 OVC006 06/03 A3016 RMK AO2 PK WND 34038/1523 T00610033

LIFR METAR KSDB 141548Z AUTO 33031G43KT 10SM BKN004 07/03 A3016 RMK AO2 PK WND 33043/1544 CIG 002V008 SLP185 T00670028 $

IFR SPECI KSDB 141553Z AUTO 33032G43KT 10SM BKN006 07/03 A3016 RMK AO2 PK WND 35043/1549 CIG 003V008 T00670028 $

LIFR KSDB 141641Z AUTO 33027G38KT 6SM -RA BKN004 BKN008 OVC013 07/04 A3019 RMK AO2 PK WND 35044/1623 RAB27 CIG 002V007 P0000 T00670039 $

LIFR METAR KSDB 141648Z AUTO 35020G36KT 4SM HZ BKN004 OVC008 07/04 A3020 RMK A02 PK WND 35044/1623 RAB27E48 SLP197 P0000 T000670039$

LIFR SPECI KSDB 141651Z AUTO 35019G31KT 1 3/4SM -RA BR OVC004 07/04 A3020 RMKA02 VIS1/2V5 RAB50 P0000 T00670039$

2.2 Meadows Field Airport (KBFL), Bakersfield, CA

The next closest weather reporting location was from Meadows Field Airport (KBFL), Bakersfield, CA, located 34 miles north of the accident site at an elevation of 510 feet, the airport had an ASOS and reported the following conditions:

Bakersfield special weather observation at 0805 PDT (1505Z), wind from 340 at 6 knots, visibility 10 miles, ceiling broken at 2,700 feet agl, overcast at 4,500 feet, temperature 13 C, dew point 7 C, altimeter 30.24 inches of Hg.

The raw observations and general flight categories surrounding the period were as follows:

VFR METAR KBFL 141154Z AUTO 31009KT 10SM FEW034 12/06 A3018 RMK AO2 SLP215 T01220056 10194 20122 51026=

VFR METAR KBFL 141254Z AUTO 00000KT 10SM CLR 12/06 A3018 RMK AO2 SLP213 T01220056=

VFR METAR KBFL 141354Z 31008KT 10SM BKN031 OVC038 12/06 A3021 RMK AO2 PRESRR SLP225 T01220061=

VFR METAR KBFL 141454Z 34008KT 10SM SCT027 BKN045 13/07 A3024 RMK AO2 SLP236 T01330067 53019=

MVFR SPECI KBFL 141505Z 34006KT 10SM BKN027 OVC045 13/07 A3024 RMK AO2 T01330067=

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VFR SPECI KBFL 141550Z 31008KT 10SM FEW026 BKN043 OVC050 14/07 A3026 RMK AO2=

VFR METAR KBFL 141554Z 31011KT 10SM SCT024 BKN043 OVC050 14/07 A3026 RMK AO2 SLP242 T01440067=

VFR METAR KBFL 141654Z 32014KT 10SM BKN033 16/05 A3027 RMK AO2 SLP246 T01560050=

VFR METAR KBFL 141754Z 32012KT 10SM BKN037 17/06 A3026 RMK AO2 SLP245 T01670056 10172 20111 50002=

2.3 General William J. Fox Airfield (KWJF), Lanchaster, CA

The next closest weather reporting location was from General William J. Fox Airfield (KWJF), located in Lanchaster, CA, approximately 30 miles east of the accident site at an elevation of 2,351 feet. The airport had an ASOS and reported the following conditions surrounding the period:

General William J. Fox Airfield (KWJF) weather at 0756 PDT (1456Z), wind from 260° at 24 knots gusting to 31 knots, visibility 10 miles, sky clear below 12,000 feet, temperature 12° C, dew point 3° C, altimeter 30.11 inches of Hg. Remarks: automated observation system, peak wind from 260° at 31 knots occurred at 0751 PDT, sea level pressure 1018.8-hPa, temperature 11.7° C, dew point 3.3° C, 3-hour pressure tendency risen 0.9-hPa.

General William J. Fox Airfield (KWJF) weather observation at 0856 PDT (1556Z), wind from 270° at 30 knots gusting to 38 knots, visibility 3 miles in haze, sky clear below 12,000 feet, temperature 12° C, dew point 4° C, altimeter 30.12 inches of Hg. Remarks: automated observation system, peak wind from 270° at 39 knots occurred at 0841 PDT, sea level pressure 1019.4-hPa, temperature 11.7° C, dew point 4.4° C.

The raw observations and flight categories were as follows:

VFR METAR KWJF 141156Z 27028G34KT 10SM CLR 10/02 A3008 RMK AO2 PK WND 27034/1140 SLP176 T01000017 10161 20100 53007=

VFR METAR KWJF 141256Z 27022G29KT 10SM CLR 09/02 A3008 RMK AO2 PK WND 28034/1202 SLP180 T00940017=

VFR METAR KWJF 141356Z 26018KT 10SM CLR 09/03 A3009 RMK AO2 PK WND 27035/1309 SLP183 T00940033=

VFR METAR KWJF 141456Z 26024G31KT 10SM CLR 12/03 A3011 RMK AO2 PK WND 26031/1451 SLP188 T01170033 53009=

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MVFR METAR KWJF 141556Z 27030G38KT 3SM HZ CLR 12/04 A3012 RMK AO2 PK WND 27039/1541 SLP194 T01170044=

VFR METAR KWJF 141656Z 27030G35KT 10SM CLR 14/03 A3013 RMK AO2 PK WND 27038/1613 SLP198 T01390033=

VFR METAR KWJF 141756Z 28023G30KT 10SM CLR 15/03 A3015 RMK AO2 PK WND 27037/1706 SLP203 T01500028 10156 20089 53013=

2.4 Palmdale USAF Airfield (KPMD), Palmdale, CA

Palmdale USAF Plant 42 Airfield (KPMD), Palmdale, CA was located approximately 40 miles east-southeast of the accident site at an elevation of 2,543 feet. The station reported the following conditions:

Palmdale Airfield weather observation at 0753 PDT (1453Z), automated, wind from 280° at 7 knots, visibility 10 miles, sky clear below 12,000 feet, temperature 13° C, dew point 2° C, and altimeter 30.09 inches of Hg. Remarks; automated observation system, sea level pressure 1017.3-hPa, temperature 12.8° C, dew point 2.2° C, 3-hour pressure tendency risen 0.05-hPa.

Palmdale Airfield weather observation at 0853 PDT (1553Z), automated, wind from 290° at 26 knots gusting to 35 knots, visibility 10 miles, sky clear below 12,000 feet, temperature 13° C, dew point 4° C, and altimeter 30.13 inches of Hg. Remarks; automated observation system, peak wind from 300° at 36 knots at 0853 PDT, sea level pressure 1019.0-hPa, temperature 12.8° C, dew point 3.9° C.

The raw observations surrounding the period were as follows:

VFR METAR KPMD 141153Z AUTO 29025G36KT 10SM CLR 12/01 A3007 RMK AO2 PK WND 29036/1145 SLP164 T01170011 10172 20117 53003=

VFR METAR KPMD 141253Z AUTO 29011KT 10SM CLR 11/01 A3008 RMK AO2 PK WND 29033/1215 SLP169 T01060006=

VFR METAR KPMD 141353Z AUTO 27016G25KT 10SM CLR 10/03 A3009 RMK AO2 PK WND 28031/1327 SLP175 T01000028=

VFR METAR KPMD 141453Z AUTO 28007KT 10SM CLR 13/02 A3009 RMK AO2 SLP173 T01280022 50005=

Accident 1515Z

VFR METAR KPMD 141553Z AUTO 29026G35KT 10SM CLR 13/04 A3013 RMK AO2 PK WND 30036/1523 SLP190 T01280039=

VFR METAR KPMD 141653Z AUTO 30024KT 10SM CLR 14/03 A3013 RMK AO2 PK WND 29040/1614 SLP188 T01440033=

VFR METAR KPMD 141753Z AUTO 31029G36KT 10SM CLR 16/03 A3012 RMK AO2 PK WND 31036/1752 SLP187 T01610028 10161 20100 50012=

3.0 Upper Air Data

The NWS North American Mesoscale (NAM) numerical model was run for 0800 PDT (1500Z) on April 14, 2015 over the accident site was plotted on a standard Skew-T log P diagram[3] utilizing RAOB[4] software from the surface to 500-hPa or 18,000 feet is included as figure 3.

The NAM sounding indicated conditions favorable for low stratiform clouds with the lifted condensation level (LCL) or approximate base of the clouds at 700 feet agl, with cloud tops near 5,000 feet based on the relative humidity greater than 80% through that layer. A strong low-level temperature inversion was noted from the LCL to approximately 7,500 feet, where temperature increased with height. The freezing level was identified at 11,733 feet with no indications of any potential icing conditions above. The wind profile indicated wind from the west-northwest at 10 knots at the surface with little variation in direction with height with increasing wind speeds. The mean 0 to 6 kilometer or 18,000 feet wind was from 290° at 31 knots. The sounding supported the formation of mountain wave activity downstream of the

[3] Skew T log P diagram – is a standard meteorological plot using temperature and the logarithmic of pressure as coordinates, used to display winds, temperature, dew point, and various indices used to define the vertical structure of the atmosphere.

[4] RAOB – (The complete Rawinsonde Observation program) is an interactive sounding analysis program developed by Environmental Research Services, Matamopras, Pennsylvania.

higher terrain with potential moderate to severe turbulence between 7,500 and 8,500 feet. The sounding data is also included in tablet form as figure 4.

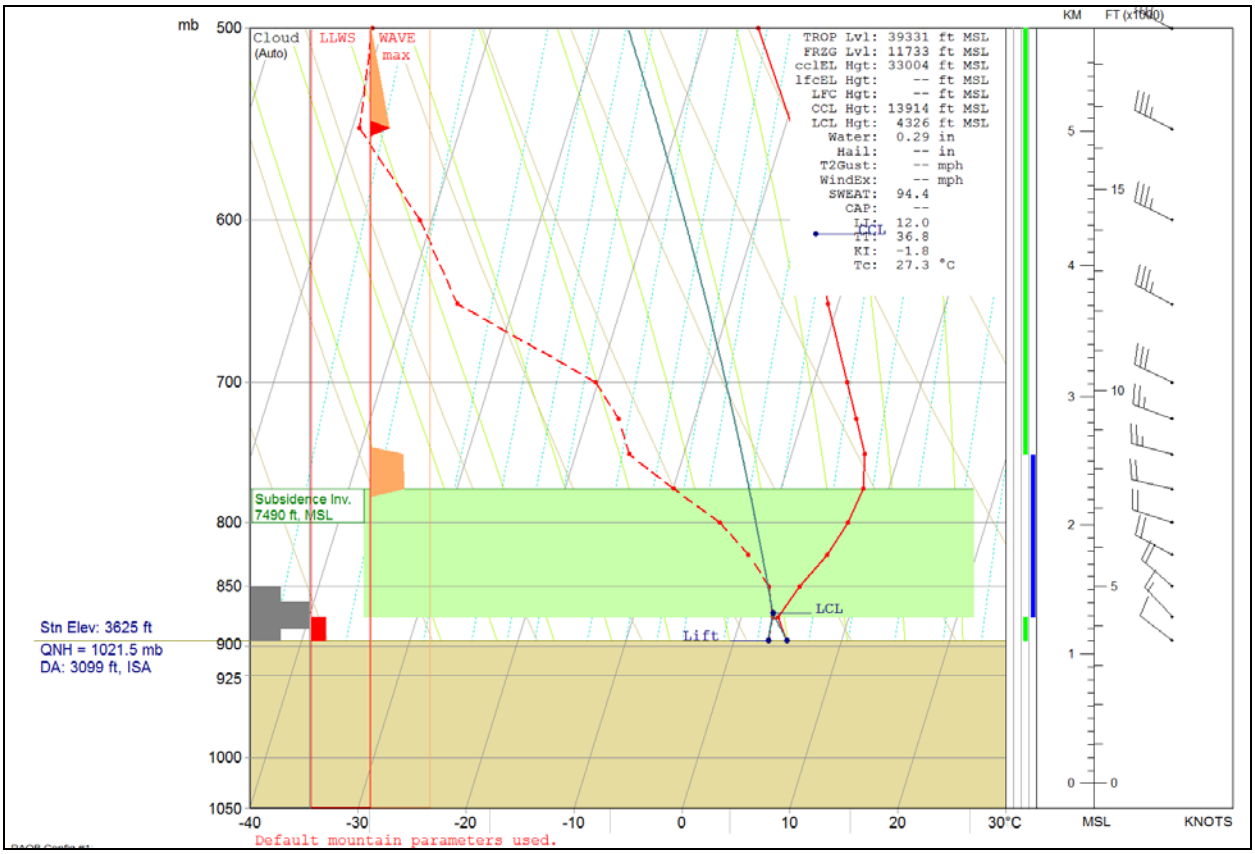

Figure 3 - North American Mesoscale numerical model for 0800 PDT

Height (ft-MSL)	Pres (mb)	T (C)	Td (C)	RH (%)	DD / FF (deg / kts)	CAT (AF)	LLWS	Icing - Type (S-F clouds)	Wave/x—W—Turb nm	fpm	max
3625	895	4.9	3.2	89	310 / 8		LIGHT				
4229	875	3.4	2.9	97	319 / 14						
5003	850	4.5	1.7	82	313 / 18						
5804	825	6.2	-1.1	59	300 / 19						
6633	800	7.2	-4.7	42	289 / 20						
7490	775	7.6	-9.9	28	284 / 22				2.19	838	MD-SV
8374	750	6.8	-15.0	19	286 / 23	LGT			3.30	968	MD-SV
9284	725	5.0	-17.0	19	292 / 25	LGT					
10219	700	3.1	-20.2	16	297 / 28						
12173	650	-0.9	-35.2	5	300 / 33						
14253	600	-4.7	-41.1	4	298 / 34						
16479	550	-9.2	-49.3	2	298 / 34				7.51	779	LT-MD
18869	500	-15.3	-51.0	3	299 / 38						

Figure 4 - NAM sounding data

4.0 Satellite Data

The Geostationary Operational Environmental Satellite number 15 (GOES-15) data was obtained from an archive at the Space Science Engineering Center (SSEC) at the University of

Wisconsin-Madison (UW) in Madison, Wisconsin, and processed using the Safety Board's Man-computer Interactive Data Access System (McIDAS) software. Both the infrared long wave and visible band imagery were obtained surrounding the time of the accident. The infrared long wave imagery (band 4) at a wavelength of 10.7 microns (μm) provided standard satellite image with radiative cloud top temperatures with a resolution of 4 km. The visible imagery (band 1) at a wavelength of 0.65 μm provided a resolution of 1 km.

Figure 4 is the GOES-15 infrared image at 0830 PDT (1530Z) at 2X magnification and with a standard MB temperature enhancement curve applied to high light the higher and colder cloud tops typically associated with convection and high cirriform clouds. The accident site and other weather reporting locations are also identified on the image. The image depicts the accident site under a stratiform layer of low clouds. The radiative cloud top temperature over the accident site was 274° Kelvin (K) or 0.8° C, which corresponded to cloud tops near 11,500 feet based on the NAM sounding.

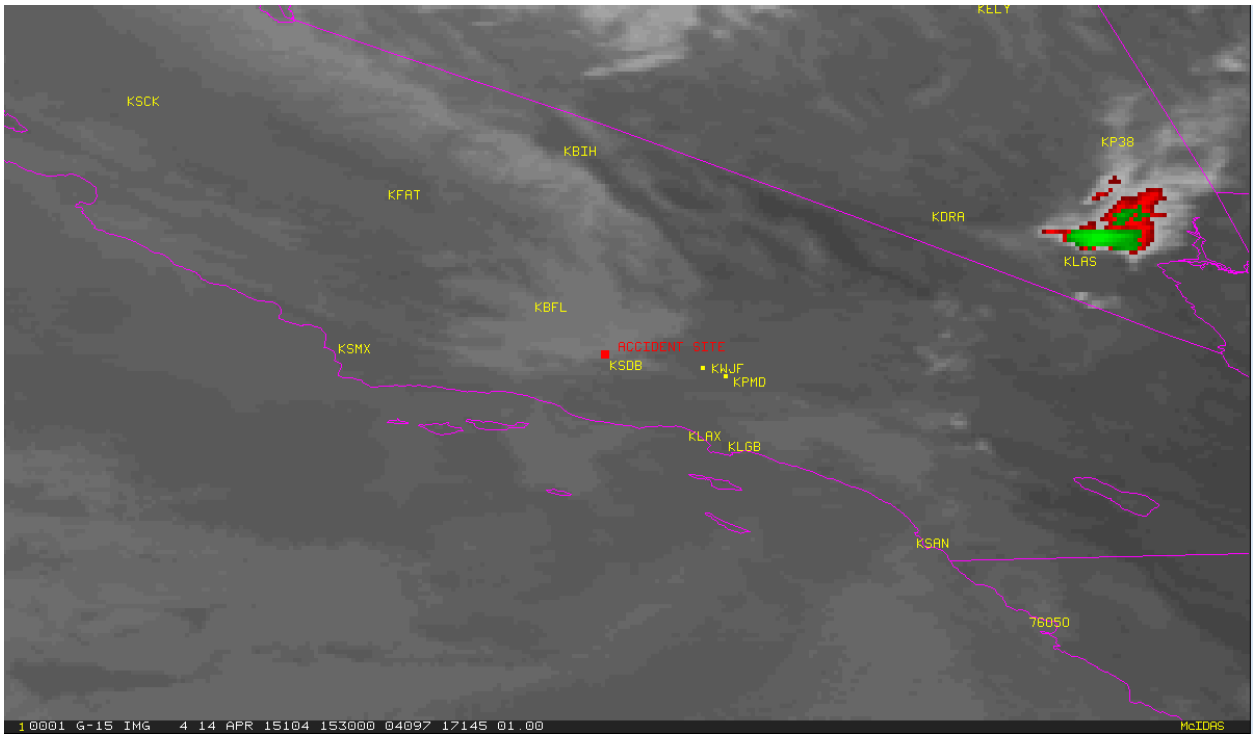

Figure 5 - GOES-15 infrared image at 1530 PDT at 2X magnification

Figure 6 is the GOES-15 visible image at 4X magnification over the region. The low stratiform clouds are clearly identifiable in the Sandberg area and extended northward towards Bakersfield. Further to the east over the Palmdale and Lancaster area strong winds are causing some blowing dust/sand over the area.

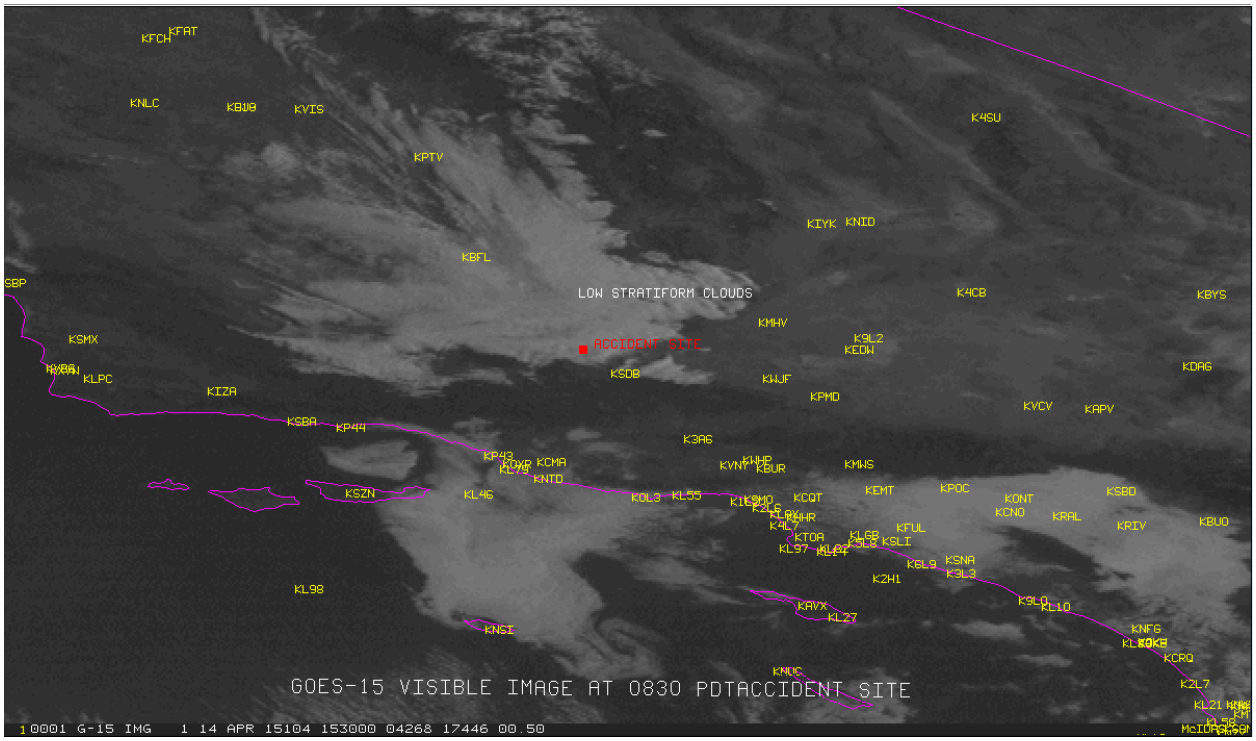

Figure 6 - GOES-15 visible image at 4X magnification at 0830 PDT

5.0 Pilot Reports

There were numerous high altitude reports of turbulence during the period for mountain wave activity during the period. The following low-level reports were also noted during the period:

PSP UA /OV PSP /TM 1542 /FLUNKN /TP CL60 /TB MOD 130-BLO /RM DURG CLIMB NORTHBND=

LGB UA /OV LGB180005 /TM 1626 /FLUNKN /TP C206 /SK OVCUNKN-TOP030=

OAK UA /OV OAK360004 /TM 1635 /FL025 /TP C172 /TB MOD=

BFL UA /OV BFL180010 /TM 1716 /FL085 /TP BE36 /SK OVC-TOP065 /TA 10 /WV 30032KT /TB NEG=

A pilot report over Bakersfield at 1016 PDT from a pilot in a Beechcraft (B36) reported overcast clouds with tops near 6,500 feet, a temperature of 10° C at 8,500 feet with winds from 300° at 32 knots, and smooth conditions.

6.0 Terminal Aerodrome Forecast

The closest Terminal Aerodrome Forecasts for the departure airport and the accident site were from Meadows Field Airport (KBFL), Bakersfield located 34 miles north and from Palmdale USAF Plant 42 Airfield (KPMD) approximately 40 miles east-southeast of the accident site. A

TAF is valid for a 5-mile radius of the airport center point. The forecasts issued and amended during the period were as follows for the 2 airports:

TAF KBFL 141126Z 1412/1512 31010KT P6SM SKC
FM150600 VRB04KT P6SM SKC=

TAF AMD KBFL 141445Z 1415/1512 31010KT P6SM BKN030
TEMPO 1415/1418 SCT030
FM141800 31010KT P6SM SKC
FM150600 VRB04KT P6SM SKC=

The initial forecast for Bakersfield issued at 0426 PDT was for northwest winds at 10 knots, visibility unrestricted, with sky clears. The forecast was amended at 0745 PDT to include ceiling broken at 3,000 feet agl, with the cloud layer expected to temporarily become scattered during the period.

TAF KPMD 141120Z 1412/1512 27015KT P6SM SKC
FM141800 27018G28KT 6SM BLDU SKC
FM142100 27025G35KT 3SM BLDU SKC
FM150400 27015G25KT P6SM SKC
FM150800 26010KT P6SM SKC=

TAF AMD KPMD 141400Z 1414/1512 27015G25KT P6SM SKC
FM141800 27022G32KT 6SM BLDU SKC
FM142100 27030G40KT 3SM BLDU SKC
FM150400 27015G25KT P6SM SKC
FM150800 26010KT P6SM SKC=

The initial forecast for Pamdale at 0420 PDT expected westerly winds at 15 knots, visibility unrestricted and skies clear. After 1100 PDT the winds were expected over 25 knots with visibility restricted in blowing dust. The forecast was also amended at 0700 PDT immediately increasing the winds gusting to 25 knots with blowing dust and winds over 30 knots after 1100 PDT.

7.0 Area Forecast

The Area Forecast (FA) is a forecast of visual Flight Rules (VFR) clouds and weather conditions over an area as large as the size of several states. It must be used in conjunction with the AIRMET Sierra (IFR) bulletin for the same area in order to get a complete picture of the weather. The area forecast together with the AIRMET Sierra bulletin are used to determine forecast enroute weather and to interpolate conditions at airports which do not have a terminal forecast (TAF) issued. The NWS Aviation Weather Center (AWC) located in Kansas City, Missouri, issues the FA at regular intervals and issues specials reports as necessary usually in the form of an AIRMET. The San Francisco (KSFO) regional forecast that was current at the time of the accident was issued at 0345 PDT and valid through 1600 PDT. The forecast was as follows:

FAUS46 KKCI 141045
FA6W
SFOC FA 141045
SYNOPSIS AND VFR CLDS/WX
SYNOPSIS VALID UNTIL 150500
CLDS/WX VALID UNTIL 142300...OTLK VALID 142300-150500
WA OR CA AND CSTL WTRS
.
SEE AIRMET SIERRA FOR IFR CONDS AND MTN OBSCN.
TS IMPLY SEV OR GTR TURB SEV ICE LLWS AND IFR CONDS.
NON MSL HGTS DENOTED BY AGL OR CIG.
.
SYNOPSIS...ALF...11Z TROF EXTDS FM BC-WA-OR-CNTRL CA-NRN NV. WK RDG EXTDS FM ALTA-ERN MT-ERN WY. 05Z UPR LOW OVR SE ID WITH TROF EXTDG FM NRN ID-NE NV-UT-NRN AZ-WRN CO. WK RDG BLDG OFF SRN CA CST. ...SFC...11Z LOW PRES OVR CNTRL MT WITH WRMFNT EXTDG OVR CNTRL-ERN MT. LOW PRES SRN ID WITH ASSOCD CDFNT FM SRN ID-NRN NV-CNTRL CA. WK TROF BC-WA CST. SCNDRY WK TROF WY-CO PLAINS. HI PRES NRN NM AND NRN CA CSTL WTRS. 05Z CDFNT WL EXTD FM ERN MT-ERN WY-CNTRL CO-NRN NM-NERN AZ. WRMFNT OFF BC CST. HI PRES BLDG INTO WRN OR.
.
NRN CA...STS-SAC-TVL LN NWD
CSTL SXNS...
N 1/2...SCT015 BKN050 TOP FL200. WDLY SCT -SHRA. 18Z SCT050. WND NW G25KT. OTLK...VFR.
S 1/2...SCT040 SCT100. 14Z WND NW G25KT. OTLK...VFR.
SAC VLY...SCT100 SCT-BKN CI. WND W G25KT. 17Z WND NW 20G30KT. OTLK...VFR.
SHASTA-SISKIYOUS-NERN CA...BKN100 TOP FL250. WDLY SCT -SHRASN. WND W G25KT. 18Z SCT100 BKN150. WND NW G25KT. OTLK...VFR.
NRN SIERNEV...BKN100 TOP FL250. ISOL -SHRASN. WND SW 25G35KT. BECMG 1417 SCT120 SCT150. WND NW G25KT. OTLK...VFR.
.
CNTRL CA
CSTL SXNS...
N 1/2...SCT020 BKN030 TOP 100. BECMG 1417 SCT CI. 21Z WND W G25KT. OTLK...VFR WND.
S 1/2...BKN015-020 TOP 030. BECMG 1417 SCT025 SCT CI. OTLK...VFR.
SAN JOAQUIN VLY...SCT150 SCT-BKN CI. WND NW G25KT. OTLK...VFR.
SRN SIERNEV...SCT150 SCT CI. WND SW G25KT. 14Z WND W 25G40KT. 21Z SKC OR SCT CI. WND NW G25KT. OTLK...VFR.
.
SRN CA..VBG-NID-60NNW BIH LN SWD
CSTL SXNS...BKN010-015 TOP 030. OCNL VIS 3-5SM BR/HZ. BECMG 1619 SCT020 SCT CI. OTLK...VFR...02Z MVFR CIG.
INTR MTNS-MOJAVE-SRN DESERTS...SKC OR SCT CI. 14Z WND SW 20G30KT. OCNL VIS 5SM BLDU. OTLK...VFR WND.
IMPERIAL-COACHELLA VLYS...SKC OR SCT CI. 16Z WND SW 20G30KT. OTLK...VFR WND.

8.0 In-Flight Weather Advisories

The NWS issues in-flight weather advisories designated as Severe Weather Forecast Alerts (AWW's), Convective SIGMET's (WST's), SIGMET's (WS's), Center Weather Advisories (CWA's), and AIRMET's (WA's). In-flight advisories serve to notify en route pilots of the possibility of encountering hazardous flying conditions, which may not have been forecast at the time of the preflight briefing. Whether or not the condition described is potentially hazardous to a particular flight is for the pilot to evaluate on the basis of experience and the operational limits of the aircraft.

The NWS had the following AIRMETs and SIGMETs current over California surrounding the period:

WAUS46 KKCI 140845 2015104 0845
WA6T
SFOT WA 140845
AIRMET TANGO UPDT 1 FOR TURB AND STG SFC WNDS VALID UNTIL 141500
.
AIRMET TURB...CA AND CSTL WTRS
FROM 20S BTY TO 20SSE EED TO 40E TRM TO 20SE MZB TO 20SW RZS TO 40E EHF TO 20S BTY
MOD TURB BLW 150. CONDS CONTG BYD 15Z ENDG 15-18Z.
.
AIRMET TURB...WA OR CA ID MT WY NV UT CO AZ NM AND CSTL WTRS
FROM 50E YDC TO 50WSW YXC TO 50NNW GGW TO 20E CYS TO 20ENE PUB
TO 20E ALS TO 20SW SJN TO 20SSE EED TO 20S BTY TO 20SW RZS TO
140WSW SNS TO 140WSW FOT TO 60W OED TO EUG TO 20N HUH TO 50E YDC
MOD TURB BLW FL180. CONDS CONTG BYD 15Z THRU 21Z.
.
OTLK VALID 1500-2100Z...TURB WA OR CA ID MT WY NV UT CO AZ NM AND CSTL WTRS
BOUNDED BY 90E YDC-50WSW YXC-30SSW YQL-50NNW ISN-70SW RAP-30NNW
BFF-GLD-20SE PUB-20S SJN-30ENE BZA-20S MZB-30SSW LAX-50W RZS-50W
PYE-60WNW ENI-20W FOT-30ESE BTG-90E YDC
MOD TURB BLW FL180. CONDS CONTG THRU 21Z.
....

WAUS46 KKCI 141124 AAA 2015104 1125
WA6S
SFOS WA 141124 AMD
AIRMET SIERRA UPDT 2 FOR IFR AND MTN OBSCN VALID UNTIL 141500
.
AIRMET IFR...CA AND CSTL WTRS
FROM 50NW RZS TO 40SW HEC TO 40ESE MZB TO 150SW MZB TO 220SW MZB
TO 160SW RZS TO 50NW RZS
CIG BLW 010/VIS BLW 3SM BR. CONDS CONTG BYD 15Z ENDG 15-18Z.
.
AIRMET MTN OBSCN...CA
FROM 70SSE SNS TO 60W HEC TO 30WSW TRM TO 60S TRM TO 20S MZB TO
30NNW MZB TO LAX TO 30W RZS TO 70SSE SNS
MTNS OBSC BY CLDS/BR. CONDS CONTG BYD 15Z ENDG 15-18Z.
.
OTLK VALID 1500-2100Z...MTN OBSCN WA OR CA ID MT WY NV UT
BOUNDED BY 20SSW YQL-40SE GTF-80SSW LWT-30ENE JAC-30S SLC-30SE
ELY-30ESE MOD-80WNW RZS-20WSW ENI-20NW FOT-70WNW OED-HQM-20WSW

TOU-20NE HUH-20SSW YQL
MTNS OBSC BY CLDS/PCPN/BR. CONDS CONTG THRU 21Z.
....
WAUS46 KKCI 141318 AAA 2015104 1320
WA6T
SFOT WA 141318 AMD
AIRMET TANGO UPDT 2 FOR TURB AND STG SFC WNDS VALID UNTIL 141500
.
...SEE SIGMET YANKEE SERIES...UPDT
.
AIRMET TURB...WA OR CA ID MT WY NV UT AZ AND CSTL WTRS
FROM YDC TO 50WSW YXC TO 40NNW ISN TO 50S MTU TO 20WNW EED TO 140SW SNS TO 140WSW FOT TO 140W FOT TO 170WSW ONP TO 140W TOU TO YDC
MOD TURB BTN FL180 AND FL410. CONDS CONTG BYD 15Z THRU 21Z.
.
AIRMET TURB...CA AND CSTL WTRS
FROM 20S BTY TO 20SSE EED TO 40E TRM TO 20SE MZB TO 20SW RZS TO 40E EHF TO 20S BTY
MOD TURB BLW 150. CONDS CONTG BYD 15Z ENDG 15-18Z.
.
AIRMET TURB...WA OR CA ID MT WY NV UT CO AZ NM AND CSTL WTRS
FROM 50E YDC TO 50WSW YXC TO 50NNW GGW TO 20E CYS TO 20ENE PUB TO 20E ALS TO 20SW SJN TO 20SSE EED TO 20S BTY TO 20SW RZS TO 140WSW SNS TO 140WSW FOT TO 60W OED TO EUG TO 20N HUH TO 50E YDC
MOD TURB BLW FL180. CONDS CONTG BYD 15Z THRU 21Z.
.
AIRMET STG SFC WNDS...CA CSTL WTRS
FROM 40WSW PYE TO 100W RZS TO 150WSW RZS TO 130WSW PYE TO 40WSW PYE
SUSTAINED SURFACE WINDS GTR THAN 30KT EXP. CONDS DVLPG 09-12Z. CONDS CONTG BYD 15Z THRU 21Z.
.
OTLK VALID 1500-2100Z...TURB WA OR CA ID MT WY NV UT CO AZ NM AND CSTL WTRS
BOUNDED BY 90E YDC-50WSW YXC-30SSW YQL-50NNW ISN-70SW RAP-30NNW BFF-GLD-20SE PUB-20S SJN-30ENE BZA-20S MZB-30SSW LAX-50W RZS-50W PYE-60WNW ENI-20W FOT-30ESE BTG-90E YDC
MOD TURB BLW FL180. CONDS CONTG THRU 21Z.
....

WSUS06 KKCI 141319 2015104 1318
WS6Y
SFOY WS 141319
SIGMET YANKEE 1 VALID UNTIL 141719
CA NV
FROM 40E FMG TO 30NNE LAS TO 30NW HEC TO SAC TO 40E FMG
OCNL SEV TURB BTN FL320 AND FL420. DUE TO WNDSHR ASSOCD WITH JTST AND MTN WV ACT. RPTD BY ACFT. CONDS CONTG BYD 1719Z.
....

WAUS46 KKCI 141445 2015104 1431
WA6T
SFOT WA 141445
AIRMET TANGO UPDT 3 FOR TURB AND STG SFC WNDS VALID UNTIL 142100
.

...SEE SIGMET YANKEE SERIES...

.

AIRMET TURB...WA OR CA ID MT WY NV UT CO AZ AND CSTL WTRS&
FROM 50WSW YXC TO 30SSE YQL TO 70S YYN TO 50ENE SHR TO 20WNW DVC
TO 30ESE EED TO 30NE TRM TO 50E LAX TO 40W RZS TO 40W PYE TO
30SW OED TO 60ESE LKV TO 50WSW YXC
MOD TURB BTN FL180 AND FL420. CONDS CONTG BYD 21Z THRU 03Z.

.

AIRMET TURB...WA OR CA AND CSTL WTRS
FROM 20W YDC TO 50SW BKE TO 60ESE LKV TO 30SW OED TO 40WSW PYE
TO 140WSW FOT TO 140W TOU TO 20W YDC
MOD TURB BTN FL270 AND FL410. CONDS CONTG BYD 21Z THRU 03Z.

.

AIRMET TURB...CA AND CSTL WTRS
FROM 50ENE EHF TO 30S EED TO BZA TO 20S MZB TO 60W RZS TO 50ENE
EHF
MOD TURB BLW 150. CONDS CONTG BYD 21Z THRU 03Z.

.

AIRMET TURB...CA MT WY NV UT CO AZ NM
FROM 30W BIL TO 50E BIL TO 30ENE SHR TO 70E DDY TO 40ESE PUB TO
50WNW TCS TO 30SSE EED TO 50ENE EHF TO 40NW SAC TO 40SE OED TO
50SE REO TO 60SW BPI TO 30NNW JAC TO 30W BIL
MOD TURB BLW FL180. CONDS CONTG BYD 21Z THRU 03Z.

.

AIRMET TURB...WA OR ID MT
FROM 40NNW MLP TO 70WSW HLN TO 20NNW JAC TO 60SW BPI TO 50SE REO
TO 40SE OED TO 30SW YKM TO 20NE EPH TO 40NNW MLP
MOD TURB BLW 150. CONDS CONTG BYD 21Z THRU 03Z.

.

AIRMET STG SFC WNDS...CA CSTL WTRS
FROM 50SW PYE TO 110SW LAX TO 200SSW RZS TO 120SW PYE TO 50SW PYE
SUSTAINED SURFACE WINDS GTR THAN 30KT EXP. CONDS CONTG BYD 21Z
THRU 03Z.

.

OTLK VALID 2100-0300Z
AREA 1...TURB WA OR CA ID NV UT AZ AND CSTL WTRS
BOUNDED BY YDC-40SSE EPH-40ENE DRK-60SSE EED-50SE EHF-60SE SNS-
50SW EUG-30NW TOU-YDC
MOD TURB BTN FL270 AND FL410. CONDS CONTG THRU 03Z.

.

AREA 2...TURB ID MT WY NV UT CO AZ NM
BOUNDED BY 70S YYN-70SW RAP-20WNW RSK-40ENE DRK-40WSW BVL-40SSE
LKT-50SE YXC-70S YYN
MOD TURB BTN FL180 AND FL420. CONDS CONTG THRU 03Z.

.

AREA 3...TURB WA OR ID MT
BOUNDED BY 40SW YQL-50SSE GTF-50SW BPI-50SE REO-60ESE LKV-20SSW
PDT-40SSW YXC-40SW YQL
MOD TURB BLW 150. CONDS CONTG THRU 03Z.
....

Figures 7 and 8 are the Graphic AIRMET Sierra for IFR and mountain obscuration conditions and AIRMET Tango for turbulence valid at 0800 PDT.

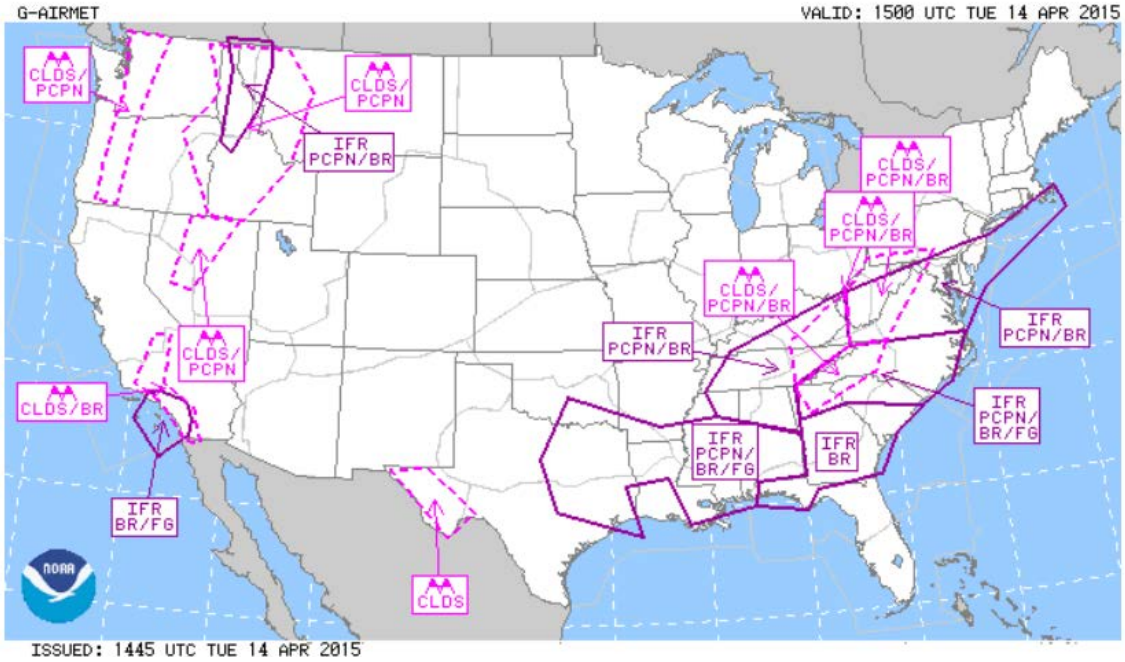

Figure 7 - G-AIRMET Sierra for IFR and mountain obscuration conditions valid at 0800 PDT

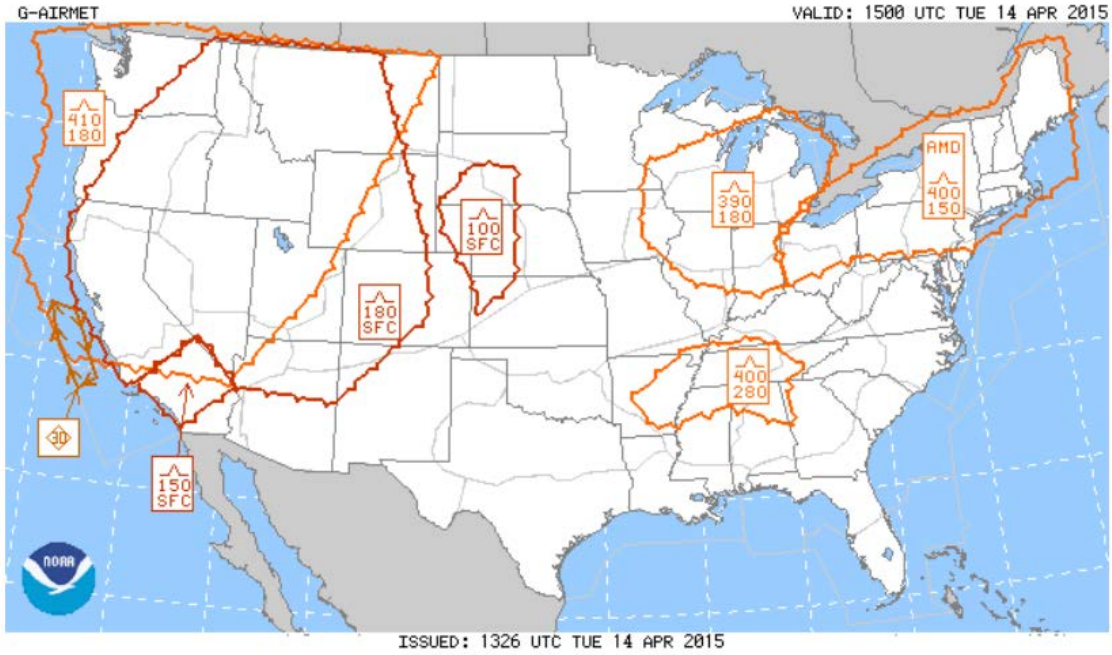

Figure 8- G-AIRMET Tango for turbulence valid for 0800 PDT

9.0 Winds and Temperature Aloft Forecast

The NWS Winds and temperature aloft forecast valid during the period was as follows:

DATA BASED ON 141200Z
VALID 141800Z FOR USE 1400-2100Z. TEMPS NEG ABV 24000

FT	3000	6000	9000	12000	18000	24000	30000	34000	39000	45000	53000
WJF		2920+09	3024+06	3025+01	3138-16	3141-30	264146	264654	275259		
SBA	0213	3416+09	3231+06	3126+01	3137-15	3145-30	283146	274154	275059	283556	282463
FAT	3212	3427+02	3135+01	3043-04	3061-18	3071-31	305848	296052	275254	282857	302260
ONT	2505	2915+11	2816+06	3017+00	3129-15	2831-29	264345	264654	264959		
BLH	2111	2218+14	2220+07	2322-01	2525-16	2724-28	262844	263252	263860	273659	272463

10.0 Astronomical Data

The United Stated Naval Observatory website provided the following astronomical data for Bakersfield, CA on April 14, 2015:

SUN

Beginning of civil twilight	0559 PDT
Sunrise	0629 PDT
Takeoff	0748 PDT
Accident	0815 PDT

Submitted by:

Donald Eick
NTSB Senior Meteorologist