



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

APPROACH and GPS INFORMATION

WPR16LA093

Accident Date: April 17, 2016

This document contains 8 embedded images

A. ACCIDENT

Location: Avalon, CA (KAVX)
Date: April 17, 2016
Aircraft: Cessna 172K, N7133G, Serial # 17258833
NTSB IIC: Michael Huhn

B. SUMMARY

KAVX was equipped with a PVASI (pulsating visual approach slope indicator) system for approaches to runway 22. The slope of the nominal approach path was set to 3 degrees. According to airport and CalTrans representatives, they had no indications that the system was not operational or correctly aligned at the time of the accident. The PVASI is documented separately.

According to the pilot, he was unaware of the PVASI system, and did not observe or use it during his approach to runway 22.

A Stratus handheld GPS device was recovered in the wreckage. The pilot reported that he had used the device for navigation on the flight; therefore it was sent to the NTSB Recorders Laboratory for data download. The device contained the GPS-derived flight track data, including altitude, for the entire flight. The data download is documented separately.

C. GPS-DERIVED FLIGHT TRACK

The GPS data file for the flight began when the airplane was parked in its spot at Long Beach Airport (LGB), Long Beach, CA, and ended at the accident location. The data is consistent with the pilot stopping to conduct an engine run-up, and then departing on runway 25R. The airplane flew a right downwind leg until it was just east of LGB, and then turned approximately south towards AVX.

The pilot reported that he utilized air traffic control (ATC) flight following services, and that they assigned him some headings and altitudes enroute for traffic avoidance purposes. When the airplane was about 10 miles from the mainland shore, it began an essentially straight and direct track towards AVX. When the airplane was approximately 2.5 miles from the AVX runway 22 threshold, the track turned more southbound, and then southwest to join the extended runway centerline about 1.4 miles from the threshold. The airplane then tracked directly towards the runway until the pilot attempted to go-around, when he deviated to the right. Flight duration from takeoff to accident was approximately 24 minutes.

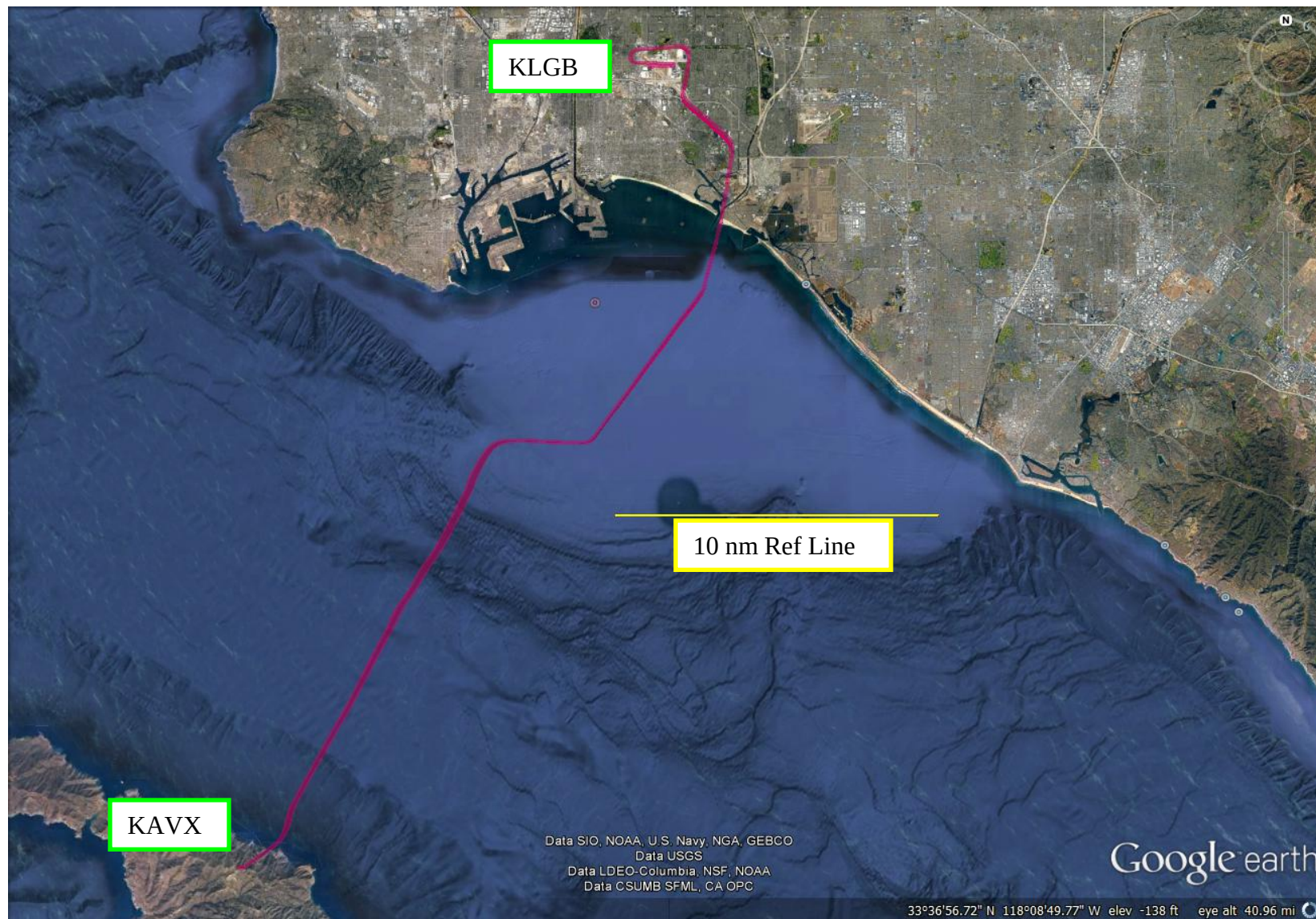


Figure 1 - Entire Flight

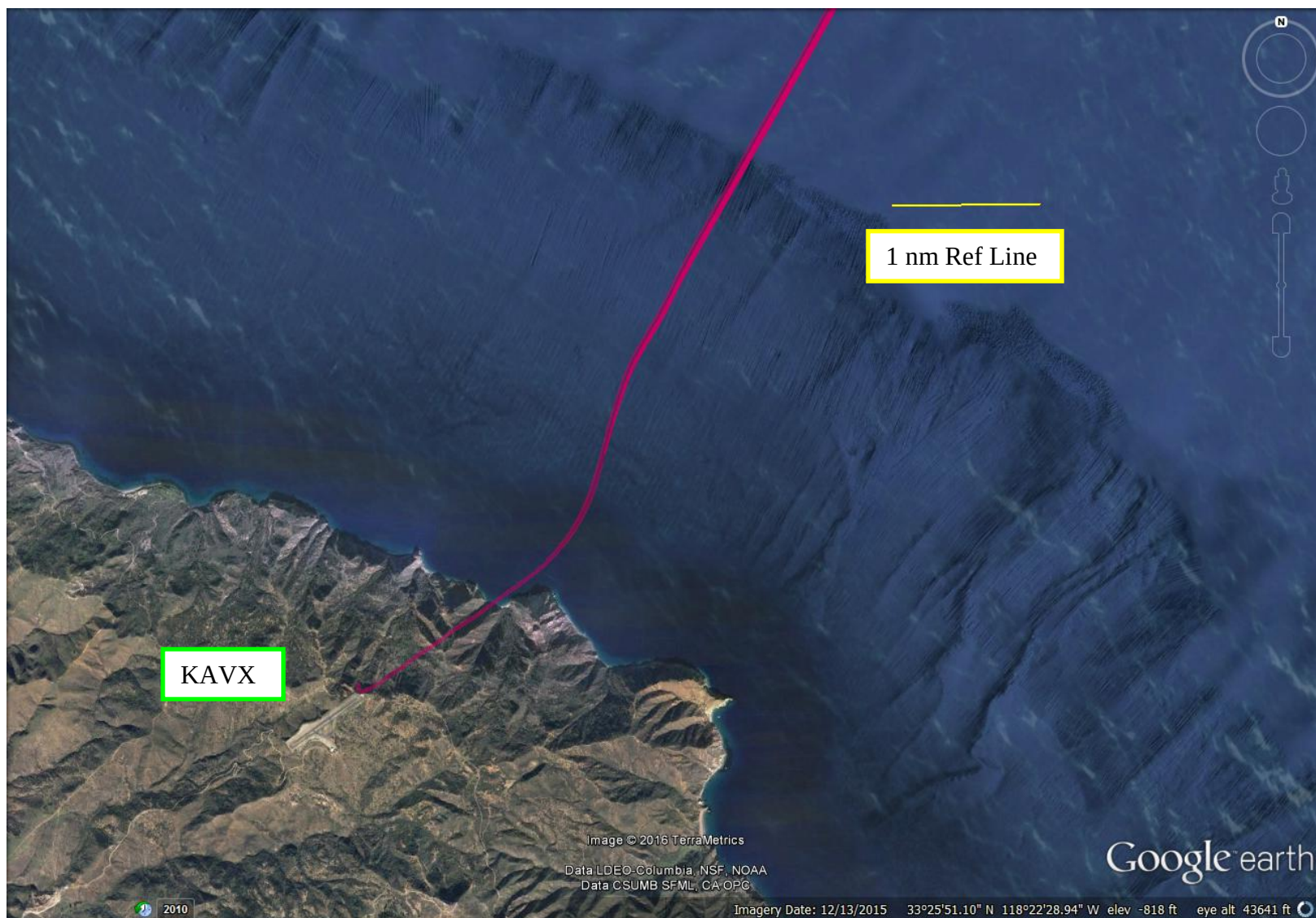


Figure 2 - Track with Final Approach Course Alignment Correction

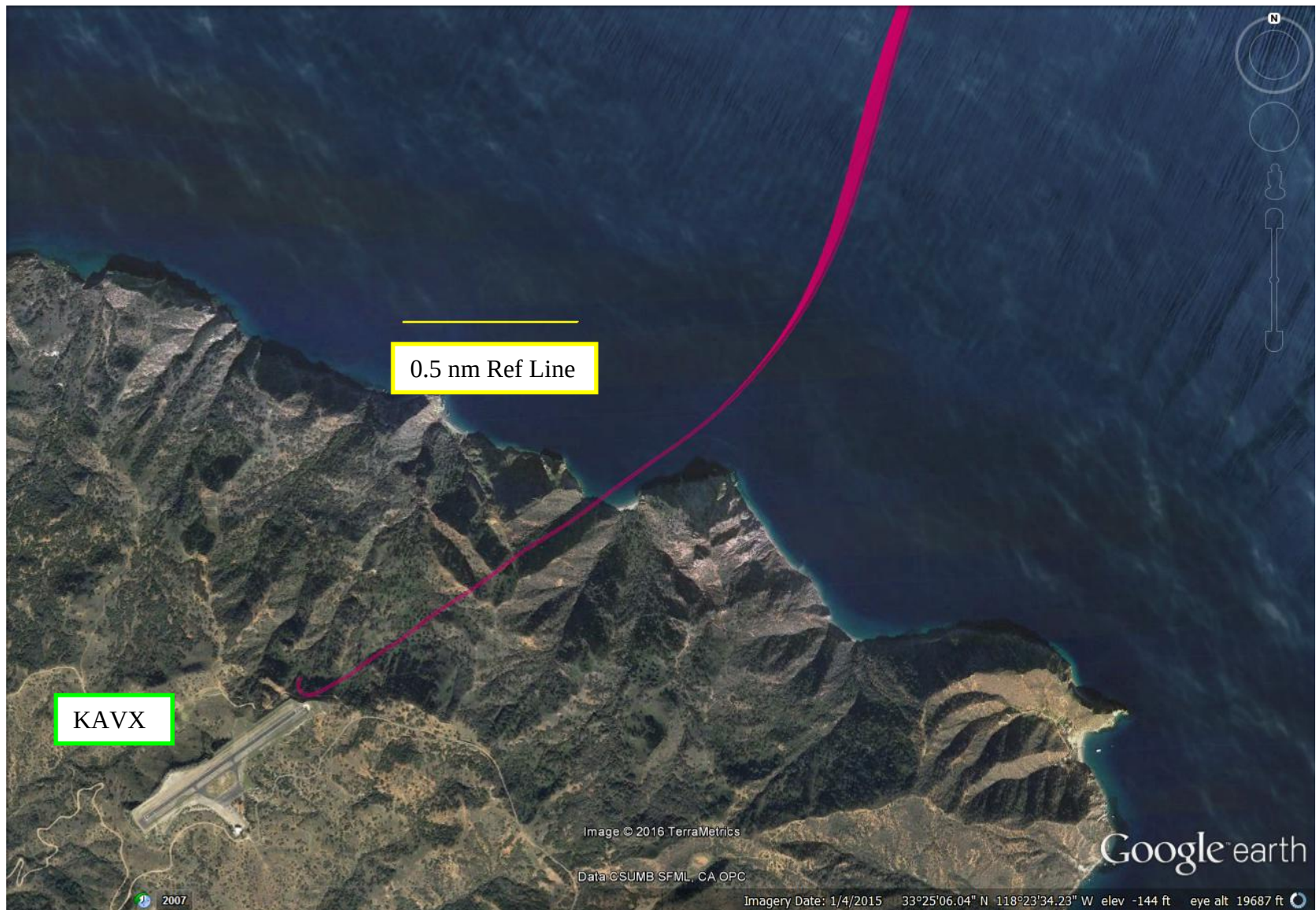


Figure 3 - Final Approach Segment



Figure 4 - Final and Missed Approach Segments

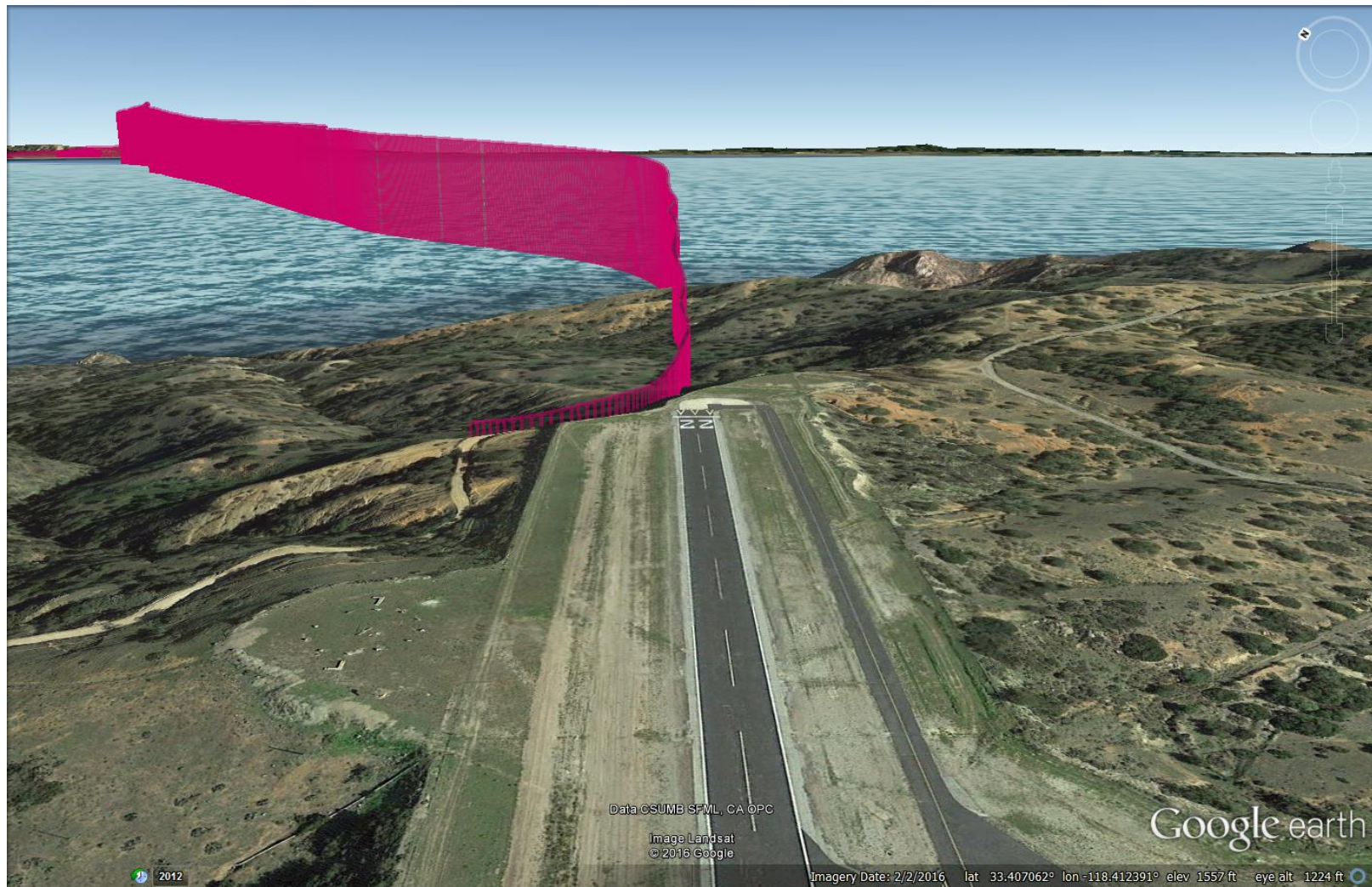


Figure 5 - View Up Approach Path

D. FLIGHT PATH and PVASI GUIDANCE

About 70 seconds prior to the accident, the airplane joined the final approach course, at a GPS altitude of about 2,000 feet. At that location, the PVASI nominal approach path altitude was approximately 2,100 feet, and the airplane was in the zone where the pilot would have seen the pulsating red light, indicating that he was well below the desired approach path. The airplane descended away from the nominal approach path, and the rest of the approach remained in the flashing red light zone. For the final mile of the approach, the airplane was situated approximately 150 feet below the nominal PVASI approach path.

The GPS-derived groundspeed of the airplane was about 100 knots when it joined the final approach course. The groundspeed decreased steadily to about 35 knots, until about 8 seconds prior to the accident, when it began increasing steadily to about 55 knots, reached immediately before the accident. The speed increase was approximately coincident with the airplane descending below the runway 22 threshold elevation, and the deviation to the right of the approach course, which is consistent with the pilot's description of his attempted go-around.

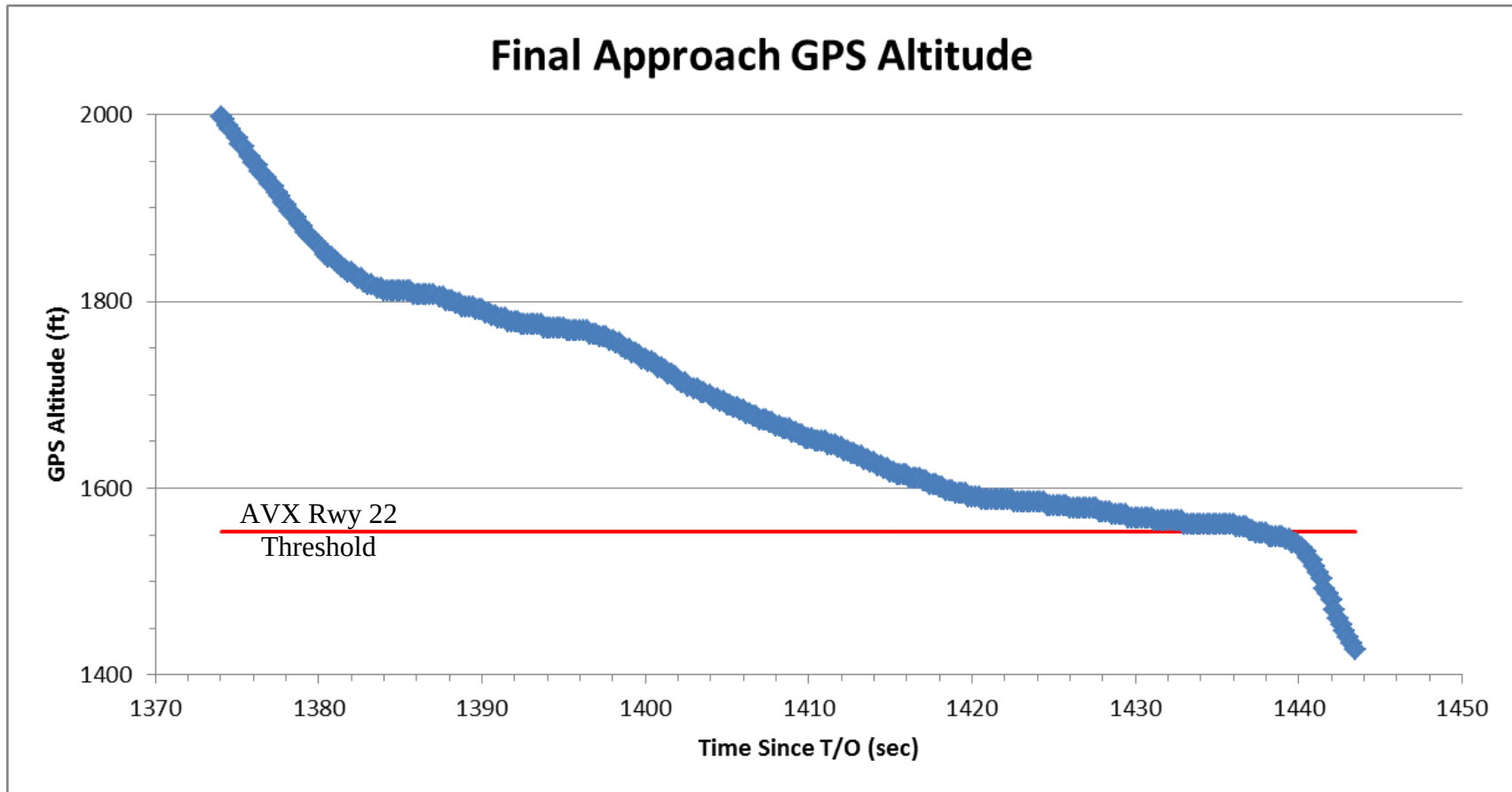


Figure 6 - GPS Altitude and Runway Elevation

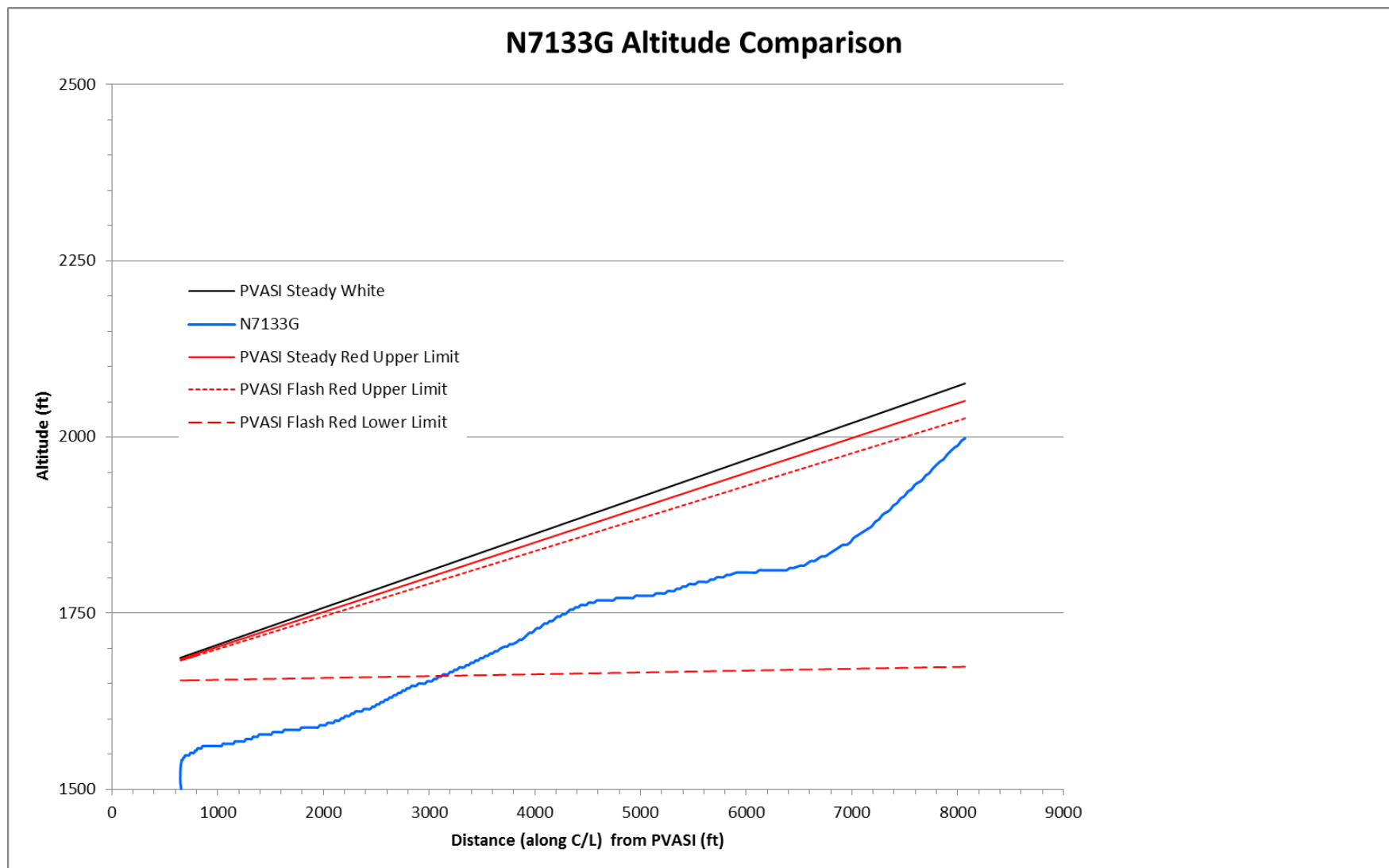


Figure 7 - Flight Track and PVASI Indication Zones

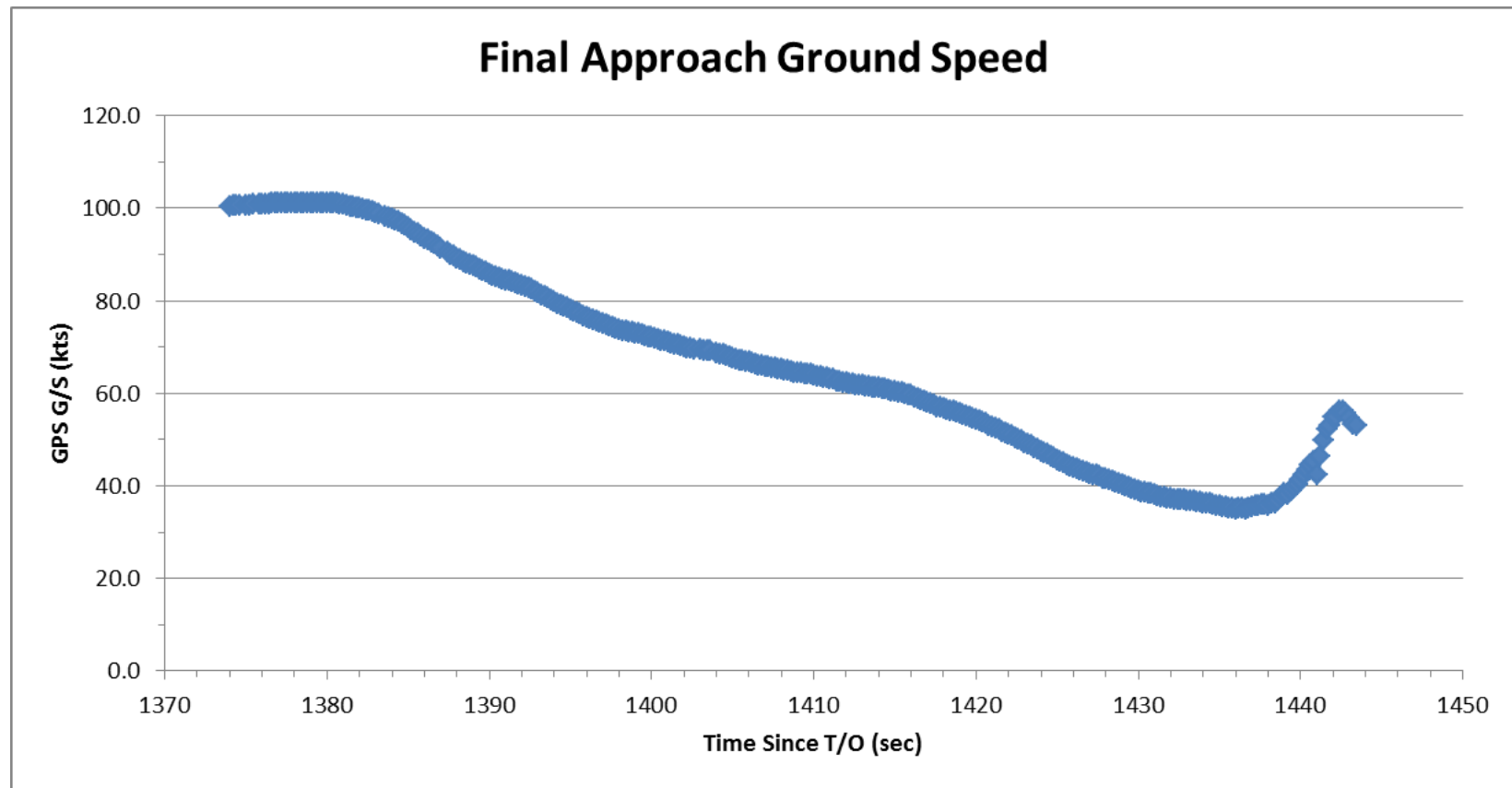


Figure 8 - Ground Speed