



## **NATIONAL TRANSPORTATION SAFETY BOARD**

Office of Aviation Safety  
Western Pacific Region

### **AIRPLANE & STUDENT PILOT DOCUMENTS**

**WPR17FA215**

Accident Date: September 29, 2017

This document contains 7 embedded images

## **A. ACCIDENT**

Location: Brinnon, Washington  
Date: September 29, 2017  
Aircraft: Piper PA28-140, N9549W  
NTSB IIC: Michael Huhn

## **B. ACCIDENT SUMMARY**

On September 29, 2017, about 2213 Pacific daylight time, a Piper PA-28-140, N9549W, was destroyed when it impacted trees and terrain near Brinnon, Washington during a night cross-country flight. The student pilot received serious injuries, and the certificated flight instructor (CFI) received fatal injuries. The instructional flight was conducted in accordance with visual flight rules (VFR) under the provisions of Title 14 Code of Federal Regulations Part 91.

## **C. DOCUMENT SUMMARY**

Among the documents recovered from the wreckage were the flight school's airplane log sheets, and the student pilot's paper flight plan and annotated Sectional chart. Copies of these documents are presented below.

### **1.0 Airplane Log Sheets**

These pages are contained in a binder, and are used to catalog the airplane's flight dates, times, fuel status, and rental pilots for each flight. These sheets are filled out by the rental pilots. The three pages presented (Figures 1 to 3) include the airplane usage from August 28, 2017 through the accident flight. According to these sheets, the accident student pilot flew the airplane five times during that period, not including the accident flight. The accident flight was not cataloged in these sheets.

\* Full is 1" from top of tank

| Name                         | Date | Out Time | In Time | Total | Fuel              | Notes                          |
|------------------------------|------|----------|---------|-------|-------------------|--------------------------------|
| Vince M                      | 8/28 | 57:18    | 57:46   | .58   | take              | refilled to previous           |
| Matt/Bill C.<br>INTRO TO FLT | 8/28 | 57:17    | 58:65   | .88   |                   | caused 10 GALS (FORGOT WALLET) |
| Christian/Neil               | 8/29 | 58:65    | 60:91   | 2.26  | 16 +<br>15.57(89) | Full                           |
| Brandon Palmer               | 8/29 | 60:91    | 61:94   | 1.03  | 5.6921            |                                |
| B. Wood                      | 8/9  | 61:97    | 63:33   | 1.36  |                   | FULL                           |
| B. Wood                      | 9/9  | 63:33    | 63:85   | .55   |                   |                                |
| BRENT W                      | 9/10 | 63:85    | 67:23   | 3.38  |                   | Full TO TABS                   |
| Brandon Palmer               | 9/11 | 67:23    | 68:47   | 1.24  | 8.7               | right full                     |
| Youtsler                     | 9/11 | 68:47    | 70:72   | 2.25  | 22.8              | Full                           |
| Youtsler                     | 9/12 | 70:72    | 73:62   | 2.90  | 21.01             | Full 1 In From Top             |
| Vince M                      | 9/15 | 73:62    | 75:48   | 1.86  |                   | full                           |

Figure 1 - Airplane Usage Sheet (1 of 3)

not TABS \* FULL SHOULD BE 1" from TOP \*

| Name            | Date | Out Time | In Time | Total | Fuel | Notes                                                         |
|-----------------|------|----------|---------|-------|------|---------------------------------------------------------------|
| TOM FOLLETT     | 9/16 | 76.48    | 76.96   | 1.48  | 7.2  | Full to take                                                  |
| Youtsler        | 9/16 | 76:96    | 79:03   | 2.07  | 18.5 | Full to 1"                                                    |
| Richard Sanders | 9/18 | 79:03    | 79:84   | .81   | 8.98 | Full to 1"                                                    |
| R. Carl Sanders | 9/19 | 79:84    | 80:21   | .37   |      | Full to 1"                                                    |
| S. Lemmer       | 9/19 | 80:21    | 80:64   | .43   | 3.2  |                                                               |
| BRENT W         | 9/22 | 80:64    | 82:03   | 1.39  | 14.7 | you're welcome to EVER<br>LEFT THE RIGHT SIDE BECAUSE THE TAB |
| Youtsler        | 9/22 | 82:03    | 83:33   | 1.3   | 9.5  | Full to 1"                                                    |
| Brandon Palmer  | 9/22 | 83:33    | 84:76   | 1.53  | 10.6 | full                                                          |
| Jeff POLANS     | 9/23 | 84:77    | 87:61   | 2.84  | 19.5 | 1" from top (B)                                               |
| Youtsler        | 9/23 | 87:61    | 88:72   | 1.11  | 8.4  | Full to 1"                                                    |
| BRENT W         | 9/24 | 88:72    | 89:72   | 1     | 8.2  | Full                                                          |

Figure 2 - Airplane Usage Sheet (2 of 3)

Next oil change due T.T. 5514.7!

| Name           | Date    | Out Time | In Time | Total | Fuel       | Notes                                                                  |
|----------------|---------|----------|---------|-------|------------|------------------------------------------------------------------------|
| Brandon Palmer | 9/26/17 | N/A      | N/A     | 0.0   | N/A        | changed oil & filter @ T.T. 5489.7<br>Bats Phillip 20w50 & 4oz camgear |
| DR OT BOAT     | 9/27/17 | 89.72    | 89.87   | .15   | N/A        | did not fly. Only getting<br>25 rpm drop on left mag                   |
| Richard Santa  | 9/28/17 | 89.87    | 91.72   | 1.85  | full       | ran great!                                                             |
| Brandon Palmer | 9/28/17 | 91.72    | 93.25   | 1.53  | full (2)   | left tank not full (it was 1" above top)<br>Right tank full. Ran great |
| Neil Youtsker  | 9/29/17 | 93.25    | 93.98   | .73   | full (7.6) | She flew real good!                                                    |
|                |         |          |         |       |            |                                                                        |
|                |         |          |         |       |            |                                                                        |
|                |         |          |         |       |            |                                                                        |
|                |         |          |         |       |            |                                                                        |
|                |         |          |         |       |            |                                                                        |
|                |         |          |         |       |            |                                                                        |
|                |         |          |         |       |            |                                                                        |
|                |         |          |         |       |            |                                                                        |
|                |         |          |         |       |            |                                                                        |

Figure 3 - Airplane Usage Sheet (3 of 3)

## **2.0 Student Pilot Flight Plan**

The student pilot had created a written flight plan (Figure 4) for his original flight. In an interview with the NTSB, the student pilot stated that the originally-discussed flight route was to be SHN - PLU - PAE - OS9 - SHN, but that he forgot to include PLU in his flight plan. The actual route flown that evening was SHN - PAE - OS9 - (SHN).

A handwritten flight plan that was found in the wreckage indicated a route of SHN -Tahuya - PWT - Indianola - PAE - OS9 - PWT - SHN. The pilot stated that this was his document.

Tahuya is a town situated about 1/2 mile west northwest of a direct track from SHN to PAE. PWT is situated about 1 mile east southeast of a direct track from SHN to PAE. Indianola is a town that lies directly under a direct track from SHN to PAE.

PWT is situated about 5 miles east of a direct track from OS9 to SHN.

The pilot-entered altitude for every leg was 3,500 feet.

The direct track from OS9 to SHN traverses a region of mountainous terrain. On both the Sectional Aeronautical chart used by the pilot, and the Seattle Terminal Area chart, multiple peaks and regions either directly under or within 2 miles of that track have elevations in excess of 3,500 ft, and two peaks less than 1 mile from the direct route are prominently charted as having elevations of 3,440 and 3,513 feet.

The track OS9 - PWT - SHN lies about 5 miles east of the noted high terrain and charted peaks, and generally provides about 3,000 feet more terrain clearance than the direct OS9 - SHN route.

## **3.0 Flight Route Plotted on Sectional Chart**

The student pilot had lined in a route of flight on a Sectional Aeronautical chart (Figures 5 and 6). The lines were thin pen or pencil, gray-black in color, and not readily discernible on the chart. These chart lines included the following straight-line segments:

SHN - PAE

PAE - OS9

OS9 - SHN

There were no lines on the chart to denote the following route segments that were in the pilot's handwritten flight plan discussed above:

SHN - PWT - PAE

OS9 - PWT - SHN

The accident location was on the direct track from OS9 to SHN, on a ridgeline depicted on the chart as having an elevation above 3,500 ft, and within 1 mile of the 3,440 ft charted peak.

For reference purposes, Figure 7 presents the ground-based radar track of the entire flight overlaid on the Sectional Aeronautical chart.

2813  
24.6  
+12 Run 8  
179  
85  
+16  
179  
+13  
191

| Check Point    | VOR<br>Freq.<br>Ident. | Course | Altitude | Wind           |      | TC  | TH  | MH | CH  | GS<br>Est.<br>Act. | Dist.<br>Leg.<br>Rem. | Time<br>ETE<br>ATA | Fuel<br>Leg.<br>Rem. | Hours | Airport Diagram |
|----------------|------------------------|--------|----------|----------------|------|-----|-----|----|-----|--------------------|-----------------------|--------------------|----------------------|-------|-----------------|
|                |                        |        |          | Dir.<br>Source | Vel. |     |     |    |     |                    |                       |                    |                      |       |                 |
| Departure SHN  |                        |        | 3,500    | 273            | 22   | 43  | 32  |    | 22  | 19                 | 9                     | 6:30               | 3.5                  |       |                 |
| Top of Climb   |                        |        |          |                |      | -10 | -16 |    |     |                    |                       |                    |                      |       |                 |
| T4HUYA         |                        |        | 3,500    | 273            | 22   | 43  | 32  |    | 22  | 19                 | 13                    | 6:30               | 1.5                  |       |                 |
| PWT            |                        |        | 3,500    |                |      | -11 | -16 |    |     |                    |                       |                    |                      |       |                 |
|                |                        |        | 3,500    | 277            | 22   | 43  | 32  |    | 22  | 19                 | 20                    | 10:00              | 2.0                  |       |                 |
|                |                        |        |          |                |      | -11 | -16 |    |     |                    |                       |                    |                      |       |                 |
| INDIANOLA      |                        |        |          | 273            | 22   | 43  | 32  |    | 22  | 19                 | 12                    | 8:00               | 26.5                 | 1.5   |                 |
| PAE            | 110.6                  |        | DEST     |                |      | -11 | -16 |    |     |                    |                       | 9:36               |                      |       |                 |
|                |                        |        | 3,500    | 273            | 22   | 273 | 277 |    | 276 | 88                 | 24                    | 18:30              | 3.5                  |       |                 |
|                |                        |        |          |                |      | -1  | -16 |    |     |                    |                       | 9:52               |                      |       |                 |
| DS9            |                        |        | 3,500    | 273            | 22   | 195 | 207 |    | 191 | 109                | 34                    | 19:00              | 3.5                  |       |                 |
| PWT            |                        |        |          |                |      | +12 | -16 |    |     |                    |                       |                    |                      |       |                 |
| SHN            |                        |        | DEST     | 273            | 22   | 195 | 207 |    | 191 | 109                | 19                    | 10:30              | 2.0                  |       |                 |
|                |                        |        |          |                |      | +12 | -16 |    |     |                    |                       |                    | 16.0                 |       |                 |
| Top of Descent |                        |        |          |                |      |     |     |    |     |                    |                       |                    |                      |       |                 |
| Arrival        |                        |        |          |                |      |     |     |    |     |                    |                       |                    |                      |       |                 |

TOTALS: 16.0

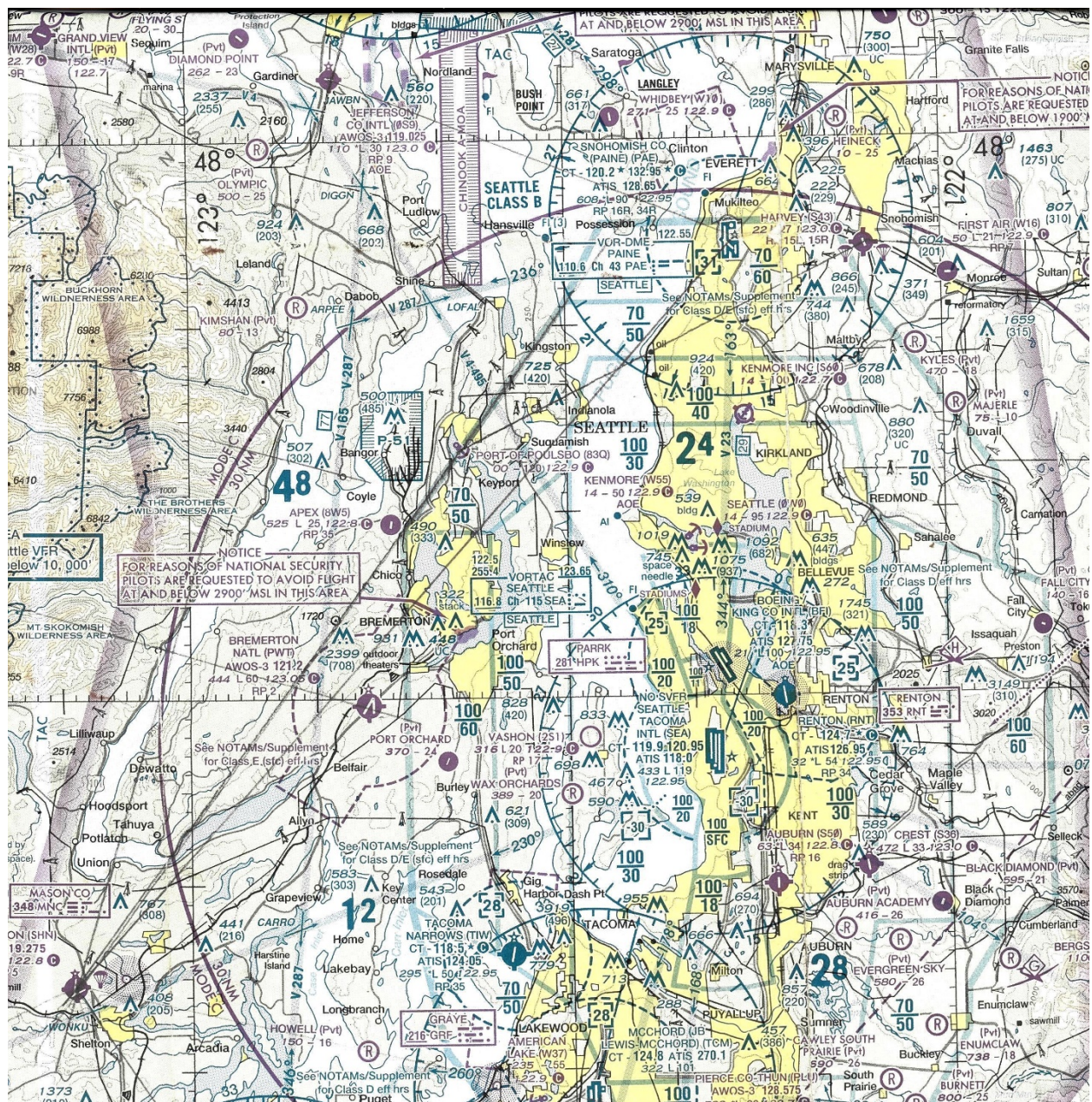
CLOSE FLIGHT PLAN WITH \_\_\_\_\_

| Departure  | Destination | Departure | Destination | Clearance/Notes | Approach(s)         |
|------------|-------------|-----------|-------------|-----------------|---------------------|
| ATIS Code  |             | ATIS      | ATIS        | C               | Approach            |
| Wind       |             | Cln.      | App.        | R               | Alternate           |
| Visibility |             | Gnd.      | Twr.        | A               | Reserve             |
| Ceiling    |             | Twr.      | CTAF        | F               | Total Fuel Required |
| Altimeter  |             | CTAF      | Unic.       | T               |                     |
| Approach   |             | Unic.     | FSS         |                 |                     |
| Runway     |             | FSS       | Gnd.        |                 |                     |
|            |             | Dep.      |             |                 |                     |

|                |  |
|----------------|--|
| Date           |  |
| A/C#           |  |
| From           |  |
| To             |  |
| TAS            |  |
| Total Distance |  |
| GPH            |  |
| Time Off       |  |

**Schapp**  
Aviation

Figure 4 - Student Pilot's Handwritten Flight Plan



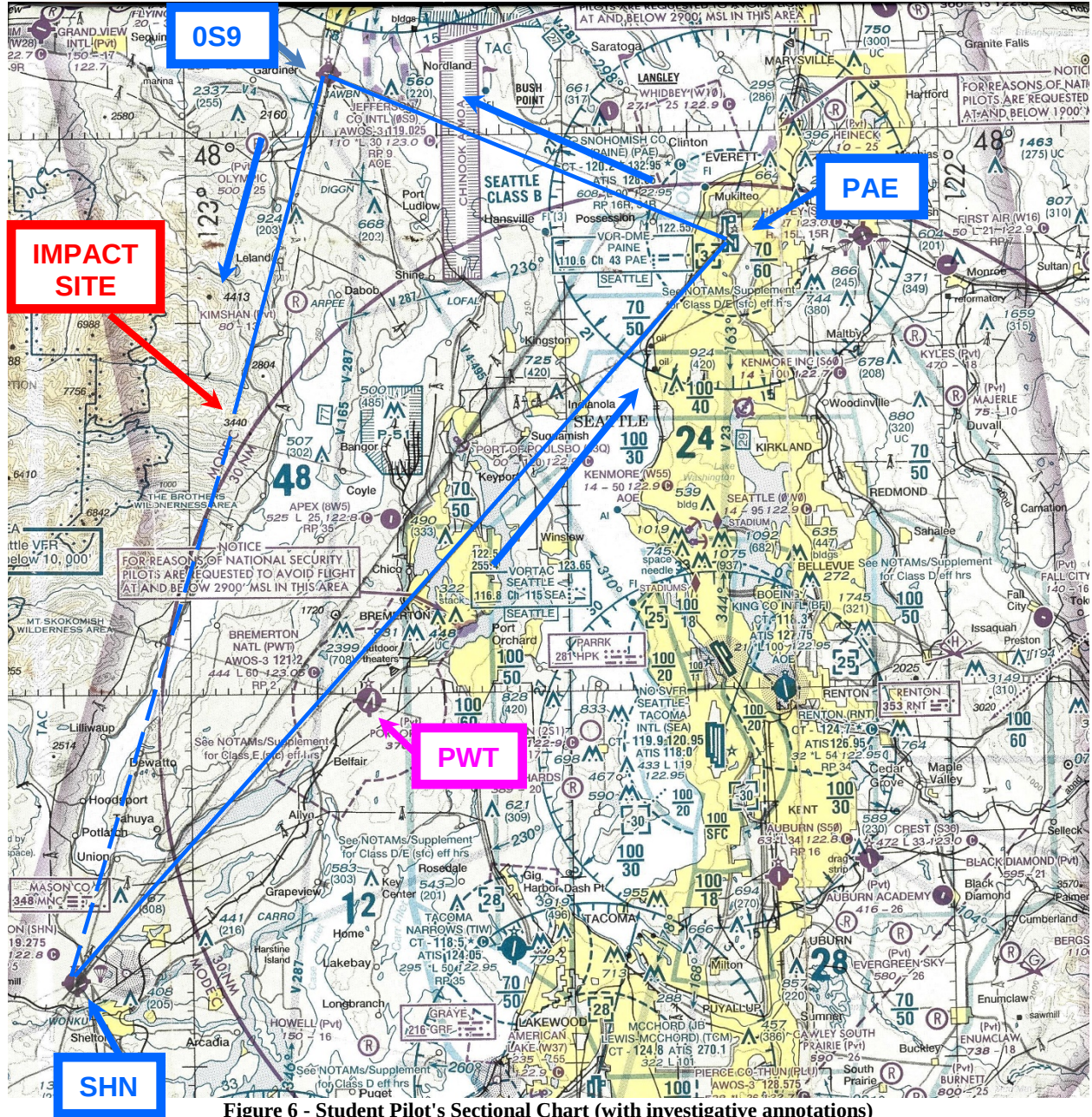


Figure 6 - Student Pilot's Sectional Chart (with investigative annotations)



Figure 7 - Ground-Based Radar Track