

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of: *

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CESSNA 152 II, N24515 *

FORT RICE, NORTH DAKOTA * Accident No.: CEN18FA277

JULY 17, 2018 *

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Interview of: JEFF SIEGER

Pilot, North Dakota Game and Fish

Mandan Municipal Airport
Mandan, North DakotaFriday,
July 20, 2018

APPEARANCES:

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National Transportation Safety Board

DUSTY JOSTAD, Operations Inspector
Federal Aviation Administration
Flight Standards District Office, Fargo, North Dakota

TROY HELGESON, Air Safety Investigator
Lycoming Engines

HENRY SODERLUND, Air Safety Investigator
Textron Aviation

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I N T E R V I E W

(12:55 p.m.)

MR. HODGES: All right. We are recording now. We are doing the CEN18FA277 interviews in Mandan, North Dakota at Mandan Municipal Airport. Today is Friday, July 20th, 2018. The time is 12:55 Central Daylight Time.

I'm Mike Hodges with the NTSB the investigator in charge.

MR. JOSTAD: Dusty Jostad, FAA Fargo FSDO.

MR. SIEGER: Jeff Sieger, North Dakota Game and Fish Department.

MR. HELGESON: Troy Helgeson, Lycoming Engines.

MR. SODERLUND: Henry Soderlund, Textron Aviation.

MR. HODGES: And does anybody have any objection to recording this interview?

MR. JOSTAD: No, I don't.

MR. SIEGER: No.

MR. HELGESON: No.

MR. SODERLUND: No.

MR. HODGES: And today we are going to be interviewing Jeff, who is a game warden pilot with the North Dakota Game and Fish.

INTERVIEW OF JEFF SIEGER

BY MR. HODGES:

Q. Jeff, can you please tell us what your current position is, please?

A. Game warden pilot for the North Dakota Game and Fish

1 Department, the only one. I cover the whole state.

2 Q. Okay.

3 A. Based out of Bismarck.

4 Q. Bismarck, okay. And then what did you do prior to working
5 for Game and Fish?

6 A. I operated a personal aerial survey business. I did aerial
7 photography on the side when I wasn't surveying.

8 Q. Can you just give me just a brief explanation of your
9 aviation background just with certificates and approximate hours?

10 A. Commercial, single/multi-instrument rating, tailwheel
11 endorsement. I've got about 1410 hours currently.

12 Q. And then you used to previously also work for Arbach
13 Enterprises?

14 A. I worked for Morningstar Photography.

15 Q. Okay. Okay. And then when --

16 A. As a private contractor. I was not an employee.

17 Q. Oh, okay.

18 A. So he hired that -- his company or that company hired my
19 company, a 1099.

20 Q. Okay. How long did you work with Morningstar for?

21 A. I worked half of summer until the fall of 2015. I think it
22 was 2015.

23 Q. Can you kind of explain how that setup with Arbach
24 Enterprises and Morningstar Photography, to the best of your
25 knowledge, with --

1 A. Okay. How I think it works is Morningstar Photography
2 handles all of the photos that the pilots take. Tom was a part
3 owner. I don't remember the percentages of who owns it. There
4 was maybe four people and each owned a different percentage of the
5 business Morningstar. And then Tom handled the pilots and managed
6 them, and he flew also and I believe he had an aircraft the he
7 would rent back to another pilot at a dry rate. So that's where I
8 think Arbach Enterprises is because he had made a subset business
9 -- this is my speculation -- so that he could rent his time to
10 Morningstar as well as the other pilots and stuff. So I don't
11 think Morningstar owned any of the aircraft. They just handled
12 and managed the photos that came. And then I would get paid by
13 Morningstar not by Tom.

14 Q. Okay. And when you worked with Morningstar, what kind of
15 photos would you typically take when you'd go out?

16 A. What kind of photos?

17 Q. Yeah.

18 A. They primarily wanted you to take photos of active farms and
19 hobby farms. So farmsteads, cattle feed lots, that kind of stuff.
20 People who had horses in the back yard and maybe had four or five
21 acres. And they specifically targeted ones that were well kept
22 and people -- looked like someone cared for the property and they
23 were proud of it, so that you would take like an oblique -- like a
24 vanity shot so they could put on the wall in their house. So
25 that's what they would do. Or that's what they were selling most

1 of the time.

2 Q. You take the photos and then go visit the farm and try to
3 sell it or --

4 A. The salesmen would do that.

5 Q. The salesmen would do that?

6 A. In the off-season they offered me if I wanted to be a ground
7 salesperson I could do that. The salesmen, I believe, were -- I
8 don't know if they were contractors as well just as a traveling
9 salesman or if they were actual employees of Morningstar. I'm not
10 sure.

11 Q. How did you get compensated? Was it based upon --

12 A. Per photo.

13 Q. Per photo?

14 A. Yeah.

15 Q. Okay.

16 A. They didn't pay per flight hour or anything like that, so --
17 yeah, it was just per photo basis.

18 Q. So you weren't normally hired by the property people --

19 A. No.

20 Q. -- to take pictures?

21 A. It wasn't that way.

22 Q. You just took them and then --

23 A. And then they would print them. The Morningstar, they did a
24 full tour of the business. It was very professional. They had
25 these wet lab printers that they would print it all in-house. So

1 they would print out a 16 by 24 photograph and then the salesmen
2 had a little trailer that they would tow behind them with frames,
3 and they had a -- Morningstar had a number of frames that you
4 could choose from. So when they sold the picture to the person at
5 the door, they'd have their farm already in a frame, like a
6 display frame, and would say, hey, would you like to take a
7 picture or buy this picture of your farm? It's real nice. And
8 they would make orders. Like you can get however many you wanted
9 printed, different sizes. You can get 4 by 6. You can get
10 business cards, Christmas cards. And then they would sell you the
11 photo right up front and then you would place an order with them
12 if you wanted more stuff.

13 Q. When you were working with Morningstar and also Arbach
14 Enterprises at the time, do you remember how they were structured,
15 like how many pilots they had and how many aircraft, do you
16 remember, at the time?

17 A. Like I said, Tom had his own plane and then he owned another
18 one that he rented back. And the way I got hooked up with their
19 business is I was working at an airport in Waupaca, Wisconsin, and
20 their pilot had stopped in and I just talked to him. I said, are
21 you guys looking for people, and he said, yeah, actually we are.

22 When I started for them, he had -- not retired, but moved on
23 to another business venture. So I think there was maybe four or
24 five people including Tom and myself. So there was three other
25 guys. And that's I think. I'm not sure 100 percent.

1 Q. And then when you went out and did these flights taking these
2 photographs, were there any restrictions on you with, you know,
3 duty times or duty hours or anything of that nature?

4 A. Well, a lot of the photo quality depended on the light and
5 where the sun was and the angle of it. So they didn't want you
6 taking photos of like a front porch that was shaded because the
7 photo would come out with just the dark shadowed area. So there
8 was kind of a golden window of time that you would spend shooting
9 these photos that made the most sense. And usually that was like
10 from -- depending on the time of year, of course. Out here the
11 sun is up for a long time, so you kind of have an extended
12 shooting period here. But it was around like 9 a.m. till like 3
13 in the afternoon, would probably be the time when you were
14 actually shooting photos, not including the time to get from place
15 to place.

16 Q. Do you know like if, you know, like a new pilot got hired by
17 them, would they go through any sort of a training program on how
18 to do anything?

19 A. When I was hired, Tom had me come to Watertown because I was
20 in Waupaca. So I flew my plane to Watertown and spent 2 days with
21 him flying taking photos.

22 Q. Like on-the-job training?

23 A. Yeah. But it wasn't covered. Like I covered it under my own
24 payment in my own airplane, you know, expenses and whatnot.

25 Q. And then when they do this training or the actual photography

1 missions, it's actually using a handheld camera?

2 A. Yep, a DSLR camera with a long-eye lens. It was like -- I
3 think it was a 70 by 200. So it had some zoom capability to it.

4 Q. Is there like an optimum airspeed and altitude you guys use
5 for taking pictures?

6 A. It was different with every property because you had
7 different sizes of properties.

8 Q. Okay.

9 A. So in order to fit it in the frame of the picture you had to
10 change your altitude and your distance from the targets. And so
11 the photos when they print them out, I think they're 16 by 24
12 inches, they would crop them and then they would put a tag board
13 on them. So you had to kind of adjust the size of the -- I guess
14 the unusable space so that when they cropped the photo and zoomed
15 it in you still had everything that the farm owner would want in
16 the picture, all the buildings and the edges of the property and
17 whatnot.

18 Q. Okay.

19 A. So it could be anywhere from 300 AGL on up to like 1,000,
20 depending on if you had a really big farm that you needed to be
21 far away, really high. Another thing too is they wanted to make
22 sure that you got the most unobstructed picture. So you don't
23 want to take a picture of the front of someone's house with a
24 giant tree in the way. So if you were low, you know, you're
25 taking a picture that tree when the house is in the background, so

1 you would change your altitude and shoot over the tree.

2 Q. Okay.

3 A. And get the best angled picture of it without shooting the
4 top of the roof of the house or something like that. So it was a
5 lot of stuff that goes into --

6 Q. Yeah.

7 A. -- flying around. You don't just see a thing and just shoot
8 it and move on to the next one, because if you take a bad photo
9 someone's not going to buy it. You know, a lot of times they want
10 to make sure that you've got the animals in the photo because
11 people love their horses or their dogs, or if there's a playground
12 in the backyard or a pool or a trampoline and the kids would play
13 back there, they would want pictures of that so they could
14 commemorate it forever.

15 Q. Who picked the properties?

16 A. Pilots.

17 Q. The pilots, you just picked your own?

18 A. So that was part of like the training, and you would fly
19 around -- we did like a mark. They call them packs, which is 25
20 photos, which used to be the amount of photos you could fit on a
21 roll of film back when you were using physical film versus
22 digital. So you would take pictures and make a map while you were
23 doing it. Usually they would use like a county map. And you
24 would mark that after you take the photo. So the photo in the
25 roll -- let's say it was photo number 1 and you knew where you

1 were starting because you were following on the map as you're
2 flying. You would mark photo 1 here on this portion or this farm
3 and it coincides with photo number 1 in the camera. So when they
4 print the pack up, the salesman gets 24 photos in a folder and
5 then they have the map that you made. And then they would follow
6 up number 1 here is this farm, and they would go and find it and
7 go knock on their door.

8 Q. Okay.

9 A. So it was pertinent that you were as accurate as you could be
10 with the map and that you stayed within county lines because you
11 were assigned county by county.

12 Q. Okay.

13 A. So you'd get a county map and then they would want you to
14 make a pack or 25 photo group. That kind of made sense, so they
15 don't cross rivers and stuff because they're hard to get across
16 because there's only -- out here, especially, there's specific
17 places where you can only cross them in one spot. So don't shoot
18 a whole pack on opposite sides of the river because then the
19 salesman has to figure out how to get across, you know. Because
20 they would try to sell a pack a day is what they were -- their
21 goal was, to sell 25 photos or at least pitch 25 photos.

22 Q. Okay. I've never done aerial photography the way you guys
23 are describing it. And, you know, flying something like a small
24 airplane, is that a pretty challenging thing to do with holding
25 this big camera up and, you know, trying to fly and --

1 A. Not really. I mean sometimes it could be challenging, yes.
2 But if you were to break it up into stages of the process it's not
3 that bad.

4 Q. Okay.

5 A. I would say it's different for each pilot. They find out --
6 find the best ways to do it. But the way I did it was I'd find a
7 farm; I'd see it. Usually the best photo to take is from the
8 southeast or from the northwest, depending on how the houses and
9 stuff are set up and the way their doors of the barns and
10 everything were. So you fly over the building and fly away from
11 it and then -- this would be at an altitude like 500 AGL or
12 depending on what you needed the picture for or the size of the
13 picture.

14 So then I'd be looking over my shoulder to make sure that the
15 angle was good then I would do a turnaround. And then I would
16 make essentially like a run in on the farm on an angle. So then
17 where I shot was in front of my strut and in front of the door
18 post or the A-pillar on the aircraft. So that small triangle, I
19 would shoot out of that. So I'd have the camera pretty much down
20 here between my legs so it would be sitting on the lens.

21 So the camera would be sitting here, knee board with the map
22 on it. Make a run on the farm. And it would either be in a dive,
23 not a hard dive but a slow decent, or I would pitch the -- trim
24 the aircraft back a little bit so after I was shooting it would be
25 on a slow climb in a way. So then I'd take the photo and then put

1 the camera back down, pick the airplane up, turn up and away, and
2 then I'd mark the map.

3 Q. Okay.

4 A. Or if you knew that you were moving to another farm, because
5 a lot of times you're making quick decisions like that's a
6 shooter, that's a shooter, that farm's crap, I'm not shooting it.
7 So then you would mark picture 23 and 24 are going to be these two
8 farms because you knew where they were, and you'd shoot one and
9 then you'd set up, shoot the next one, move on. So a lot of times
10 you were planning your route as you were doing it. You might not
11 get to that farm until four or five pictures from now, but you at
12 least are doing a route in your mind. That's the way I did it.

13 So try to be as efficient as possible because they paid you
14 per photo not per hour. You're paying for your own fuel. So it
15 was advantageous to not go too far away from the farm before you
16 turned and made your run.

17 Q. Okay. Did they ever use, to your knowledge, like a two-
18 person crew, like one pilot and one guy --

19 A. One guy flies, one guy shoots the picture?

20 Q. Is that a common thing where it's all just one person and --

21 A. It's usually one person. Tom sat with me in the right seat.
22 I don't know. He told me he was a flight instructor but I
23 couldn't remember for sure. We didn't log it as dual given, I
24 don't think, but he was knowledgeable. He could fly from the
25 right seat and set you up for a picture without even seeing the

1 farm. Like, he was good. So I guess with practice you could do
2 that, but I don't think there'd be enough meat on the bone for two
3 people to make money while doing this.

4 When I started with him, I think I had about 400 hours maybe
5 and I had just bought my airplane and started flying on mirror
6 infrared farm surveys with the camera equipment mounted to the
7 struts like electronic crop dusting. So I did some of those
8 surveys for a guy over in Willmar, Minnesota. So I did a few
9 fields here in Hillsboro and stuff in North Dakota, and then I did
10 some in Wisconsin. And then to fill time and make some money, I
11 pick up this photo stuff.

12 Q. Okay.

13 A. So it was advantageous for the pilot to go -- to be not
14 overly aggressive but aggressive enough to get from farm to farm.

15 Q. Okay. Do you remember when you worked with him did they have
16 any sort of like training manuals or documents, like were there
17 any sort of like --

18 A. Something to follow?

19 Q. Yeah. Did they give you like documents to work with?

20 A. They gave me a document that had proper camera settings on
21 it --

22 Q. Okay.

23 A. -- to make sure the camera was set up or something for you to
24 reference. Like if you bumped a setting or something was off,
25 you'd go back and default your camera to the way that they wanted

1 the photo --

2 Q. You set the camera up?

3 A. Yes. So I used their camera and their lens, and what they
4 did was rented it to me for 25 cents a photo. So, essentially,
5 they paid for it up front and then they paid me \$5 a photo, and
6 then I'd send them a bill with the counties and how many packs I
7 took in each county. And it was just a simple triplicate receipt
8 book that you would get at like Office Max. That's how I kept my
9 booking. And then a jump drive with the camera photos on it.

10 So you'd send them all that stuff. Then I took 25 cents a
11 photo off for the payment of the lens. And they told me after it
12 was paid off in full -- they gave me a receipt for the lens with
13 the cost they paid. So after I accrued enough 25 cents per photo
14 and paid the lens off, the lens became mine. And then the same --
15 I don't know if they rented me the camera or not. I don't think
16 so. I was just using their body, camera body.

17 And so the second you sent in the map that you made or you'd
18 make a photo copy of the map if you were going to continue to
19 shoot it but you just wanted to get them the photos, they would
20 just cut you a check, direct deposit and then -- or direct
21 deposit.

22 Q. Do you know for the aerial photography industry are there any
23 sort of like manuals or guides out there on how to -- like best
24 safety practices, to your knowledge? Is there anything like
25 advisory circulars or industry documents, to your knowledge?

1 A. I think I've seen one book in a colleague's office that had
2 to do with photography and strictly was talking about aerial
3 photography, but I'm not sure if it was best practice for flying
4 airplane the way it is. I mean, if you look at the advisory
5 circulars that the FAA puts out, stall-spin awareness and G-
6 loading on the wings and stuff like that, all applies to what
7 you're doing.

8 Q. Yeah.

9 A. I mean, it's essentially low-level survey flying. And I went
10 to school at UND, got my ratings there, and transferred to the
11 University of Minnesota in Crookston and pursued a natural
12 resources aviation degree there, and I was trained by a survey
13 pilot that had been retired from the Fish and Wildlife Service.
14 So I might have had a little bit more of a leg up as far as low
15 level flying training because we did that at school.

16 Q. Did you ever have any interactions when you worked there with
17 any other employees of the company or did you see them at all or
18 interact with them at all?

19 A. When I first went down there for the 2-day training with Tom,
20 or actually I think it was 3 days because I got rained out 1 day,
21 I met the people I was going to be interacting with on the
22 telephone when I called the front desk and all the people that
23 were going to send me the maps. And they had I think seven
24 employees including the owners there.

25 Q. What is your overall impression of them?

1 A. They were good people.

2 Q. Good people?

3 A. Yep. They were there to support the business and it seemed
4 like they all cared about it.

5 Q. Did they ever -- did you ever felt pressure from them to go
6 fly at all or was there any sort of pressure?

7 A. I mean, Tom would call in and check up on me and say how many
8 packs did you get done today and how did things go and whatnot.
9 But I think that was just his -- he wanted to know how his boys
10 were doing --

11 Q. Sure.

12 A. -- out taking photos.

13 Q. Sure, sure. Do you know just like when you were there, you
14 know, if someone wanted to work for the company kind of what they
15 were looking for for standards? Were you ever in tune on that at
16 all?

17 A. Like minimum times?

18 Q. Yeah, yeah. Did you ever hear about that?

19 A. Well, it was -- it's kind of a low entry level, time building
20 gig really. You're going to be flying a lot of hours and that's
21 why a lot of people did it. And I don't think that's why -- I
22 think that's why a lot of people don't do it for a long time is
23 because it's physically taxing. At the end of the day, like your
24 eggs are scrambled, you know, your brain is kind of a little bit
25 messed up, just because it's just a lot of turning and pulling,

1 you know --

2 Q. Yeah.

3 A. -- you're putting some G's on the plane and put it on
4 yourself. I mean, you can fly less aggressively and don't bank as
5 hard and pull around as quick but you're not going to make as much
6 per hour doing that.

7 Q. Yeah.

8 A. So I don't know if like an outside pressure with taking as
9 many photos as you can makes people fly differently or if you just
10 get paid an hourly rate would be a little bit more relaxed. But
11 at the same time, it just puts a little more motivation on the
12 pilots to go out and take photos because you get paid per photo
13 versus lolly-dolling around flying for 6 hours because I'm getting
14 paid 100 bucks an hour or whatever.

15 Q. Yeah. You got paid per photo you took --

16 A. Yeah.

17 Q. -- not per photo they sold?

18 A. Exactly. So if you were taking crappy photos, I mean
19 eventually it comes out in the wash and they're looking at your
20 photos and like, hey, you got six farms here with broken roofs,
21 like nobody wants to buy that. Or you're taking pictures of
22 roofs, there's no good angle here. So like the salesman -- and it
23 comes back from the salesman. So the salesman report, they look
24 at the photo and they go, man, I can't sell this. They are going
25 to try to sell it because they're paid on commission. But if they

1 can't sell it, they're going to know who took the photo and
2 they'll be like, this pilot needs to figure his stuff out; he
3 needs to change his angles or needs to choose better farms or
4 something like that.

5 Q. Did you guys ever use like a formal like flight risk
6 assessment tool before you went out and flew? Was that a
7 common --

8 A. Flight risk assessment tool?

9 Q. Yeah, was that a common thing you and everybody else did?

10 A. I mean, I don't know, I kind of came in with my eyes open on
11 you're going to be flying low: There's towers, there's birds,
12 there's other aircraft. There's crop dusters everywhere in this
13 area, you know. If you are flying in and around local airports,
14 there's going to be traffic using there. So it's like use your
15 common sense, monitor your frequencies, keep your head on a
16 swivel, and be aware of all the risks involved. And, I mean, and
17 if you don't, that's just your fault.

18 Q. Yeah. Well, what would you say, I guess from -- like I said,
19 I've never done this job before, but like some of the top hazards
20 you would face like doing -- like there are towers, like fatigue
21 or --

22 A. Top hazards? I mean, there are long days in the plane. Like
23 I flew a 152 Taildragger and I still have it today. Sure it would
24 be tiring. And like a day like today, you wouldn't be able to
25 take photos that well because there's a lot of clouds. So you

1 didn't want shadow on the farm or you didn't want shadows in the
2 photo because it would look bad, the lighting would be off. So
3 there's nice days like today where you would be happy to take a
4 recreational airplane ride but you can't make any money today, so
5 a lot of times guys would just stay on the ground because there's
6 no sense in burning fuel that I'm paying for to take photos that
7 aren't going to sell or photos that they're not happy with.

8 Q. Yeah. Yeah. When, you know, they go out to these different
9 areas, who pays for like lodging and all that kind of stuff? Is
10 that for the individual or does the company pay for it?

11 A. The pilot.

12 Q. The pilot pays for all his own expenses?

13 A. I don't know. That's what it was when I worked there.

14 Q. Oh, okay.

15 A. I don't know if Tom started paying his pilots differently or
16 started covering expenses or what, but I mean as a business owner
17 and to make it work out for me, I would just dry lease an airplane
18 to people, just I think what -- is the way Tom is doing it. He
19 told me on the phone he owned five planes now. I talked to him 2
20 months ago.

21 Q. Okay.

22 A. So you dry lease an airplane, you're at least getting a fixed
23 hourly rate, and then he would have -- the pilots would be
24 responsible for oil changes and stuff and it wouldn't be like
25 bring a case of oil, bring a 3-gallon jug and -- you know, you'd

1 go out 2 weeks at a time sometimes, change oil on the ramp at the
2 end of the day if your airplane either had -- if it had an oil
3 filter or an oil screen, you do it every 25 to 50 hours.

4 Q. Would the company ever share like safety information with you
5 guys? Like, you know, one guy is flying out in Montana and had a
6 near miss or something like that, would they share that you who's
7 working in North Dakota, for example, would they share safety
8 information with all the pilots?

9 A. Yeah. Like that would come from Tom like with his little --
10 his checkups.

11 Q. Okay.

12 A. He's talking to guys and it might just come up informally.

13 Q. Okay.

14 A. But I don't -- they didn't have like a specified system of
15 passing information of reported almost crashes.

16 Q. Okay. What -- so, all these flights were done in Part 91
17 then, they were all --

18 A. Yeah. Yep.

19 Q. Does the company operate like a letter of authorization like
20 that or something?

21 A. Like low level waivers and stuff?

22 Q. Yeah. Do you remember if it had anything like that or --

23 A. I don't think so, because that would be back to the pilot.
24 You know the pilot's a contractor. Essentially they're their own
25 person flying the airplane. So it would be up to the pilot to

1 have a low level waiver for what they're doing, unless I'm
2 mistaken, but that would make the most sense to me. Morningstar
3 or Arbach Enterprises doesn't have a low level waiver for the
4 company. The people that are renting the planes from them would
5 have to have those, in my understanding of how it would work.
6 Correct me if I'm wrong.

7 Q. Are there any safety improvements you'd like to see
8 implemented with the aerial photography community? You have a lot
9 of experience with that area. Is there anything you'd like to see
10 implemented for the community as a whole to improve safety?

11 A. Sure. My experience with Tom, like I only flew for him for a
12 couple of months and maybe I took 5- or 600 photos. So I didn't
13 fly as much as I could have. I was going to school for aviation
14 maintenance at the time, so I kind of had different plans or
15 different goals.

16 But as far as the safety stuff goes, I mean people haven't
17 figured out new ways to crash airplanes. They're always doing the
18 same thing over and over again. I don't know if it comes back to
19 spin training, if we need to start putting that back into private
20 pilot stuff versus just having it be a CFI thing. I feel like if
21 people knew what the airplane was going to do right before a spin
22 and then brought into a spin, they would know how close they are
23 to it when they're just flying normally.

24 Yeah, I guess I don't know. I mean, you're down low you just
25 have to pay attention and it's multitasking at its finest. It's

1 division of attention. It's all those things that instrument-
2 rated pilots deal with or just any pilot in general. It's just
3 you can't not pay attention to one of the four things you have to
4 do for too long. If you're not paying attention to the airplane
5 while it's flying and you're paying attention to your map, trying
6 to figure out where you're at, you're not paying attention to the
7 horizon or knowing what the airplane's doing, you're not looking
8 at it, your kinesthetic feelings in that respect. I mean, you
9 just have to practice yourself up on that stuff. And if you're
10 not observant, then become observant, otherwise you're in the
11 river.

12 Q. Just before I go around the table for the rest of the group
13 questions, is there anything you'd like to bring up that you feel
14 is important to discuss that I didn't mention, anything of note?

15 A. I kind of touched on stall-spin awareness, forces in a turn.
16 I mean you preach and people memorize what needs to get done, but
17 like do they really understand the aerodynamics that's happening.
18 I don't know if that needs to be something more stressed in flight
19 training, or maybe the instructors don't really understand and
20 they're just blurting out what they were taught when they got
21 their ticket. Actual spin awareness or spin training for all
22 pilots from the beginning to the end. That way everybody is
23 trained up on it.

24 Because, I mean, I understand the FAA's stance on, well, a
25 spin comes from a stall and if we were just to teach people

1 correct stall recovery processes then we don't have to worry about
2 them ever getting into a spin, or more proper air pattern --
3 traffic pattern techniques. You know, the whole base to final
4 thing or the skidding versus slip and turn. Those are all areas
5 that maybe need to be stressed more.

6 MR. HODGES: Let's go around the table now. Do you have any
7 questions for him?

8 MR. JOSTAD: Yeah. Just one, Jeff.

9 BY MR. JOSTAD:

10 Q. Was there a particular airspeed and/or configuration that was
11 ideal for doing a photo mission?

12 A. Sure. That's a good question. I mean, that would be up to
13 the pilot. Obviously speed is a factor. You don't want to be
14 flying around at 70 knots with 10 degrees of flaps because you
15 need to get from farm to farm in quick time because you want to
16 minimize the time between taking photos so that you maximize your
17 dollars per hour with photos taken.

18 The way I did it was clean configuration. I had a 152, had a
19 Horton STOL kit on it, so it was really good at slow speeds and it
20 was really, really well at holding its momentum in turns. So I
21 could bank it tight and pull it around and I would not lose my
22 momentum around. It would just rail right around the turn
23 perfect.

24 I went on a flight with a guy a few years prior to doing
25 this. I think he was taking photos for Scott, and he was trying

1 to hire a safety pilot, so someone to sit right seat for \$10 an
2 hour while he took photos. And pretty much what he wanted you to
3 do is fly around with him all day long, and then when he would go
4 and pick his camera up, the person in the right seat, the safety
5 pilot who was rated for the aircraft would just hold the controls
6 and look out. And then when he was done taking his photos, you
7 release the controls and he would make his decision on where he
8 wanted to go next. I ended up not getting that position and went
9 to somebody else. But that brings up the point when you were
10 talking about earlier, maybe that's something you should do is
11 just have a safety pilot with you. One guy shoots for 4 or 5
12 hours and flies between farms and the next guy switch seats, who
13 knows.

14 But around -- to answer your question, Dusty, was like 85 to
15 90 knots maybe. I mean my 152 would cruise at 95. So if I'm
16 descending and climbing out of turns and stuff, I'm not going to
17 maintain 90 knots; 85, 80.

18 Q. Were there times that was advantageous to be a lot slower
19 taking the pictures so you have got more pictures on a pass or
20 anything or --

21 A. Yeah. Because sometimes you need to sit -- you'd sit and
22 look at a farm and look at the angle and you would say, oh, that
23 angle's not that good. Or what you don't want to do is or didn't
24 want to do is take, you know, a shot of the side of a building.
25 That's not exciting. But if you could fly it at such an angle

1 that you could catch the opening of the barn or the parking area
2 where you keep your tractor or something like that.

3 So there would be a specific angle were you could see the
4 most openings or the faces of the most buildings including the
5 front of the house where they park their truck and walk in the
6 house and everything like that, that you would sit there and look
7 at the farm and wait for that angle to come around. So, yeah,
8 sometimes going a little slower to give you some more time to kind
9 of set things up was helpful. As you became more adept at doing
10 it, you could make those assessments a lot quicker so you could
11 fly quicker.

12 So the whole \$5 a photo or money per photo, because they'd
13 give you a raise as far as like cents per photo, it worked out
14 really well on the photo company's end because the pilot will get
15 better and make more money. But it's not monetarily detrimental
16 to the photo company. You know, if the pilot takes a while to
17 take a pack of photos, that's on the pilot losing money. The
18 photo company still gets their photos. It costs the same price no
19 matter how long it takes the pilot to get the photos or not.

20 So, as the pilot becomes better, he can take the photos
21 quicker, they get more money. So it kind of -- like you train
22 yourself, you get more adept at doing it, you become happier
23 because your dollar per hour increases. The photo company is
24 happier because they're not shelling out a bunch of money for you
25 to take crappy photos and take a long time to do it. So I

1 understand why they pay per photo per hour.

2 But I don't know if they changed over to a lower hourly rate
3 where it still worked out in the end for them and then worked out
4 for the pilot, so that it took that time pressure off of trying to
5 get as many photos in as you could, if that would be helpful in
6 the mindset of the pilot when they're flying. I don't know. You
7 don't have to turn and pull and get to the next farm as quickly as
8 possible without wasting time and distance from the next target
9 because the time pressure is off. You know, but at the same time,
10 you have to respect who's paying you and say like you can't waste
11 time. You know, be respectful enough that you're not trying to
12 kill yourself to get to the next one and making it a danger or a
13 safety hazard, but at the same time it's working out for the
14 monetary way to do that.

15 I tried it with different flap settings and stuff but that --
16 clean works the best, it seems.

17 Q. Okay.

18 A. Because then sometimes you need to pitch the aircraft over
19 and change your altitude quick, you don't want to over speed your
20 flap settings and that stuff with the aircraft with those
21 restrictions.

22 MR. JOSTAD: Thank you.

23 MR. SIEGER: Yeah.

24 BY MR. HELGESON:

25 Q. Our guy seemed to be circling the river, maybe the sandbar.

1 Could there be any significance to that, that you know of?

2 A. No.

3 Q. That wouldn't be really a property down there --

4 A. Was it a sandbar he was circling? I mean, do you have photos
5 of -- aerial photos or like a Google map? Do you have a GPS point
6 where the aircraft hit?

7 Q. Yeah, I can show you once we're done recording. I can kind
8 of show you the general area.

9 A. Sure. If there was a farm, usually there's money and the
10 people that own land near the river and they're the ones that are
11 going to be more apt to buy a picture of their house. I think the
12 going rate for a photo framed and everything is around 300 bucks.
13 Now there's some negotiating that can happen where I think they
14 can sell it for as cheap as 90 or something like that and still
15 make money, but obviously the salesman wants to make the
16 commission as high as possible so they want you shooting pictures
17 where the money is. And if there was a farm -- maybe it looked
18 like he was circling the sandbar and maybe there was a farm a half
19 a mile in --

20 Q. Okay.

21 A. -- that he was trying to get a phot of. Because sometimes it
22 takes more than one pass.

23 Q. Yeah.

24 A. Or you'll go and you'll take the photo and you'll look at it
25 and you go, nah, that doesn't look that good. Then you'll delete

1 it and you'll go around again and try to make another pass. Or
2 you'll shoot the photo, look at it, be somewhat happy with it, and
3 as you're flying out and away -- what I was talking about earlier
4 with the whole angles of the farms and the faces of the barns and
5 stuff, you might see a whole better angle that's 100 percent
6 better than the photo that you took and you're not happy with this
7 and you want that. So you delete this and go back around, shoot
8 the same line, wait for the angle to come around, and then take
9 the photo at that other angle that you saw. Or you take a photo
10 and there's a cloud in it and you have to delete that. Circle,
11 wait for the cloud to leave, go in and shoot it.

12 MR. SODERLUND: Mind if I follow up? So could you
13 potentially be circling on one side of the farmstead, let's say
14 out to your west or something like that --

15 MR. SIEGER: Oh, yeah. Yep.

16 MR. SODERLUND: -- and all your circles may be leads to that
17 farmstead?

18 MR. SIEGER: Sure. So, like I mean it's all the sun angle
19 and you know you're going to approach from this way, it doesn't --
20 it's not advantageous to circle over here because then you still
21 got to pass the farm, turn and go. So if you would sit here and
22 just constantly circle on one side, let's say the southwest
23 quarter, and you're just waiting for the sun to leave. I can't
24 remember if it was cloudy that day or not. I don't think it was.
25 But, yeah, you would circle off one side.

1 I mean my other thing, too, is he's at 2- or 300 feet AGL
2 when he's taking these photos, I'm pretty sure. And you circle
3 and circle, and you're not paying attention, maybe he's -- because
4 a lot of times you'll circle if you're lost. You're trying to
5 figure out where you're at on the map so that you can bump to the
6 next farm. You'll circle because you don't want to fly anywhere
7 because you're just getting more lost. At least you know kind of
8 where you are, where you took that last photo at. So you might
9 circle and think about where to go next. You might circle and --

10 BY MR. HELGESON:

11 Q. And do your marking on your map?

12 A. Sure. Do the marking on the map so that you at least know
13 where you're at. You might circle and go to the bathroom in a
14 bottle, you know, or eat a sandwich or get something from behind
15 the airplane. Because like you don't want to fly somewhere and
16 not pay attention to where you're going kind of and look down and
17 go, crap, where the heck am I now? You got to waste time figuring
18 out where you're at.

19 Or was there anyone on the sandbar? Who knows if he was
20 looking at someone down there beached on the sandbar. I have no
21 idea, you know.

22 Like, were they planning on doing an autopsy on this guy?

23 Q. Yeah, yeah. That's (indiscernible) for an autopsy.

24 A. Okay. Because he was, what, 35 years old?

25 Q. Uh-huh.

1 A. Who knows, maybe he had some sort of condition happen to him
2 in flight and was circling and just slowly lost altitude until
3 whatever happened happened.

4 Q. Yeah. That's standard for all the fatal accidents, we do an
5 autopsy.

6 A. Sure. Because I mean I saw pictures of the aircraft. I was
7 responding to it. I got to the boat ramp. I was about to jump in
8 the boat and head out with the other warden, and they were calling
9 for air support. I know civil air patrol takes a long time to get
10 green lighted. The highway patrol aircraft was down for
11 maintenance. There was a civilian aircraft that was over the top
12 that was in communication, I guess.

13 I decided to go back to Bismarck to put up our game and fish
14 aircraft, ended up having issues with the engine running on that
15 on startup. So I didn't get to the scene. I saw one cell phone
16 picture from the warden, of the aircraft and it looked like to me
17 that the leading edges were just bludgeoned flat. It look like he
18 hit the water pretty much straight down. Witnesses had said that.
19 And, I mean, I would think that with the tight turning and
20 altitude that you're at, it was probably in a stall-spin, lost
21 control, and then unrecoverable at that altitude, either straight
22 down into the water or inverted at an angle.

23 Q. You've answered a lot of my questions. I assumed maybe you
24 were paid to do certain properties (indiscernible) --

25 A. See, that -- and you would think that would work when I first

1 hired up. I'm like, you know, so do people call you and like
2 request that you take photos and like -- some people do. If
3 you're close by it makes sense monetarily for that person to want
4 a photo of their farm. But let's say a guy in North Dakota calls
5 this aerial photography company in South Dakota, come take a
6 picture of my farm. Okay, sir, it's going to take me 3 hours to
7 get there, I need to take the photo, and then I take 3 hours home,
8 like I need -- that money needs to be covered somehow. So this
9 aerial photo is going to end up costing you a thousand bucks. So
10 sometimes people don't want to take that money.

11 But let's say I hold myself out as an aerial photographer in
12 that area and I have all the right business stuff that makes that
13 legal, someone can call me up and I operate out of Mandan and RDO
14 somewhere in Washburn that wants a photo to wall hang their
15 business front, like that wouldn't be out of the question. That's
16 monetarily valuable. That makes sense. But to fly five states to
17 go take someone's photo, I gladly will do it, but it's going to
18 cost a lot for the farmer. If the farmer wants to pay for it,
19 gladly I'll be there. But when you tell them how much it's going
20 to cost, they are going to do a back flip.

21 MR. HODGES: Do you have any questions, Henry?

22 BY MR. SODERLUND:

23 Q. When you're down 2- to 300 AGL shooting a property, what's
24 your -- do you have an estimated stand-off distance, like how
25 far --

1 A. About how far from the property line?

2 Q. Yeah.

3 A. Depending on property sizes, I spoke earlier, but anywhere
4 from like a half a mile, maybe more sometimes, depending on how
5 much zoom they wanted. And like the best -- I mean, it was a good
6 camera lens, expensive, almost 2,000 bucks brand new. They said,
7 you know, the best is to zoom all the way out and just zoom in
8 like a little bit to get where you want it, take the photo, head
9 off and out.

10 BY MR. HODGES:

11 Q. I have one last question for you before we finish up. When
12 you're flying, you've got that lens in that camera, is the window
13 removed or is it propped up or how does that happen?

14 A. The window is open.

15 Q. The window is open.

16 A. So the way it worked with my plane is I needed to remove the
17 keeper bar. On like on these Cessna, it's got a little spring in
18 there and the windows just kind of stay open 6 or 8 inches. Well,
19 mine, if you take it out and it goes all the way up to the door
20 keeper. And what I would do is I wrapped the door keeper in duct
21 tape and I put a little strip on my window so the rub doesn't put
22 a mark in my window.

23 Q. Okay.

24 A. And then the airstream would keep that window right up under
25 the wing. There is no keeper or anything like a Piper Cub would

1 have a window lock, you can lock it up.

2 Q. Yeah.

3 A. There was no need for that because it would just stay up.

4 A. Okay.

5 Q. And the window would stay open the whole time, or pilot
6 preference. If you wanted to open and close the window between
7 shots, you could, but it's 80 degrees out and you're 4- or 500
8 feet off the ground. It's hot out, you know.

9 MR. HODGES: Okay. Well, I'll go ahead and stop recording at
10 this point then.

11 (Whereupon, the interview was concluded.)

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CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: CESSNA 152 II, N24515
 FORT RICE, NORTH DAKOTA
 JULY 17, 2018
 Interview of Jeff Sieger

ACCIDENT NO.: CEN18FA277

PLACE: Mandan, North Dakota

DATE: July 20, 2018

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been transcribed
to the best of my skill and ability.


Letha J. Wheeler
Transcriber