NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

ACCIDENT RESPONSE INFORMATION

NTSB Accident: WPR12GA106
Accident Date: February 15, 2012

This document contains 3 embedded images

A. ACCIDENT

Location: Moran Junction, WY
Date: February 15, 2012
Aircraft: Bell 407, N407HL, Serial # 53869
NTSB IIC: Michael Huhn

B. SUMMARY

This report documents the event timelines and the response to the helicopter accident. Most information was provided by the Teton County Sheriffs Office (TCSO), which was the SAR agency for the snowmobile accident and the operator of the accident helicopter.

Accident response and communications was coordinated by the TCSO dispatch office.

The Teton County Sheriffs Office (TCSO) utilized a commercially-provided tracking system ("Guardian Mobility") which was intended to enable the dispatchers to track the helicopter, and also to determine when the helicopter was no longer being tracked by the system (such as after an accident). According to dispatchers, they were not made aware of the accident by the "Automatic Flight Following" (AFF) system.

C. EVENT TIMELINE & SELECTED PARTICIPANTS

The following information was gleaned from the TCSO Dispatch records. Excerpts of those records are provided in the public docket for this accident.

1.0 Timeline

TIME (MST)	EVENT
~1115	Snowmobile accident
1148	TCSO notified of snowmobile accident
1200	TCSO decision to send helicopter
1225	N407HL departs
1301	N407HL accident
1340	SAR base concern re lack of contact w N407HL
1350	TCSO becomes aware of N407HL accident. Snowmobilers lost sight of helicopter and called in re possible accident
1415	First post-accident contact b/t N407HL crew and TCSO. Pilot Johnson climbed hill w radio and called (TCSO?)
1545	Second helicopter ("N2HX") departs
1610	Personnel (deputies etc) responding to snowmobile accident arrive at N407HL site

1622	TCSO first responders arrive at N407HL accident via snowmobiles

2.0 Aircraft Identified in Dispatch Records

REGISTRATION	TYPE, OWNER , OPERATOR Etc
N2240W	Bell 47/RR250 (Owner: R Savage)
N407HL	Bell 407/Accident helicopter
N91LF	Agusta 109 (Portneuf Medical Center "Life Flight"). Did not transport any patients
N2HX	Bell 407 (Owner: Helicopter Express)
N9BC	American Legend TX-3 (FL based; validity/relevance undetermined)
N160AM	Bell 407 (unk Optr)

3.0 Personnel or Other References

Designator	Explanation
223	Deputy Slade Ross operations…snowmobile team
247	Deputy Latimer Gyetvai helped at staging
C10	Kimmi Kussy investigator…she added attachments 1-4
SR7	SAR coordinator Doug Meyer Incident commander
22-2	Captain Tripp Wilson worked in Incident command
22-1	Sheriff Jim Whalen
2TJ	Not determined
209	Deputy Tom Combs rescue operations
Supp-1, 2 etc	Supplements to report
Atta-1/2/3/4	Attachments to report

D. GUARDIAN MOBILITY

Guardian Mobility is a private company based in Canada which provides a variety of aviation services. At the time of the accident, the TCSO and the accident helicopter were equipped for and utilizing the "Automatic Flight Following" (AFF) tracking service.

Use of AFF services requires that the aircraft be physically equipped with a GPS-based tracking device, and that the aircraft operator have an active contract with Guardian Mobility for the AFF services. Conceptually, the tracking device uploads the current aircraft position, altitude and

average speed via satellite every 2 minutes, that information is processed by Guardian Mobility software, and then operators can access and monitor that Guardian Mobility-provided real-time tracking information via the internet.

Verbatim Excerpts from the Guardian Mobility website:

"Guardian Mobility is the provider of global tracking, voice and data communications and data management solutions to the aviation marketplace. Guardian has developed a full range of products and services targeted at assisting aircraft operators increase safety and efficiency, reduce costs and improve reporting.

Starting in 2002, Guardian has developed solutions to facilitate 2-way text messaging and automatic data communications between the aircraft and the ground...

Guardian's solutions include hardware, flexible airtime plans and easy-to-use web-based software to access your information. Whether you need flight following information for regulatory compliance, safety or scheduling, messaging for crew coordination or, aircraft sensor information for record-keeping, Guardian Mobility has a solution for you.

Guardian's products are approved for government-mandated Automatic Flight Following (AFF) and are used by fleet operators worldwide. Guardian now supports hundreds of operators representing thousands of aircraft around the globe."

E. TCSO DISPATCHER INFORMATION

The accident helicopter, N407HL had the tracking device installed. TCSO had an account with Guardian Mobility for aircraft AFF services, and the TCSO dispatch facility was equipped to enable the TCSO dispatchers to access and monitor the real-time tracking information from the subject helicopter. The two TCSO dispatchers on duty during the flight were monitoring that flight, yet neither dispatcher was made aware of the accident via the tracking system.

The tracking system itself is passive with regard to incident or accident notification. The TCSO personnel first have to access and/or log onto the system on their computers, and then they must actively monitor the system display, which depicts certain aircraft parameters. According to the manager of the TIDC, AFF does not provide alerts to dispatchers. "Aircraft are depicted on the screen in blue if they are active and in red if they have lost communication (i.e. have landed in a spot where satellite communication is not positive) or if they have gone down. The flight follower would not receive an alert, they would just have to see that the aircraft turned red on the screen."

According to a TCSO supervisor:

"Our dispatch center uses the AFF system as a tool to track our aviation resources. Since the US Government owns and manages this system, we do not have access to records or historical data, we can only see real time information. I do not know who to contact to secure records. Access

to the system is installed on a server within the Teton County Sheriff's Office and available to all dispatchers in the Communications Center. The dispatchers working during the event and using the system were Terri Anderson and Valerie Blair."

The following recount was provided by dispatcher Terri Anderson:

"I initiated my AFF flight follow for the heli. About 10 min later, HL [N407HL, the accident helicopter] stated they were close to getting a LAT/LONG and would be landing momentarily and that they might lose radio comms. HL announced its landing 15 minutes after that. At about 30 minutes after the announcement, I heard IC Meyer trying to raise HL on the ENET Rosies frequency. My flight follow still showed HL inactive from when they landed the first time. I had not heard any radio traffic from HL. At this point, 22-47 had called and gave me more information about the party that was with/looking for the victim. We also confirmed that we have not heard from HL. We continued to hear IC Meyer on the radio. I heard Valerie talking to IC Meyer on the phone stating that her AFF flight follow was showing HL as active. At this point, I realized that flight follow was not accurate for one of us and that we might have a problem. We cannot rely on flight follow. I[t] was not updating like it should, we had conflicting aircraft status, and neither Valerie or I ever had a "lost contact" beacon pop up on our screen."

The following recount was provided by dispatcher Valerie Blair:

"Flight following was not working correctly throughout the call, 407HL never showed "lost contact" which essentially is what we should have scene when the ship crashed. It was not updating correctly when we got other resources in the area, according to the radio traffic, we had two other ships on togwotee, however Flight following was not accurately showing their locations. One of the Helicopters was showing at the Idaho/Wyoming state line throughout the entire call. I logged back into flight following to monitor 420RL on 2/20 and it still wasn't working properly. After I logged in and out 3 more times, it finally was consistent with Terri's."

F. TIDC MANAGER INFORMATION

The manager of the TIDC provided the following clarifying information regarding the AFF system, and the events of the day.

There was no "alert" to TIDC since AFF doesn't send one. What might have been the case, is that AFF seemed to be working correctly at TIDC. There are probably numerous reasons why it may work correctly at one agency and not at another at the same time (networks, etc). At TIDC (and I would imagine TSCO), AFF is used in conjunction with 15 minute radio check-in's. At TIDC, location is obtained via AFF at the time of each check-in and an "ops normal" response is typical from the pilot when they are called on the radio by TIDC. For the most part, AFF works consist[e]ntly, but the program is not infallible. Sometimes it doesn't update in a timely manner and occasional

false inactive statuses are shown. It's up the the dispatcher flight following to observe the inactive status and to try make contact with the aircraft.

Neither the TCSO nor TIDC typically provide redundant flight following for the other. However ... if a TIDC (or a TCSO) dispatcher were in AFF flight following their own aircraft, and were to observe the other agency aircraft as having turned inactive (red), ... they might likely call the other agency to confirm there wasn't a[n] issue.

No changes made at TIDC [subsequent to the accident]. AFF is the program used in conjunction with 15 min radio check-in's used to flight follow aircraft. Overall, it works well. TIDC dispatchers take required federal aviation training (NPS RM-60, Chapter 14) AFF has since been upgraded to a newer version with improved functionality.

G. GUARDIAN DATA

The helicopter owner (Hillsboro Aviation) provided a Guardian system screenshot, the accident flight data, and a kmz file for the accident flight. The Guardian system screenshot, a table of flight data, and screenshots generated from the kmz file are presented on the following pages. The electronic data files are in the accident docket,

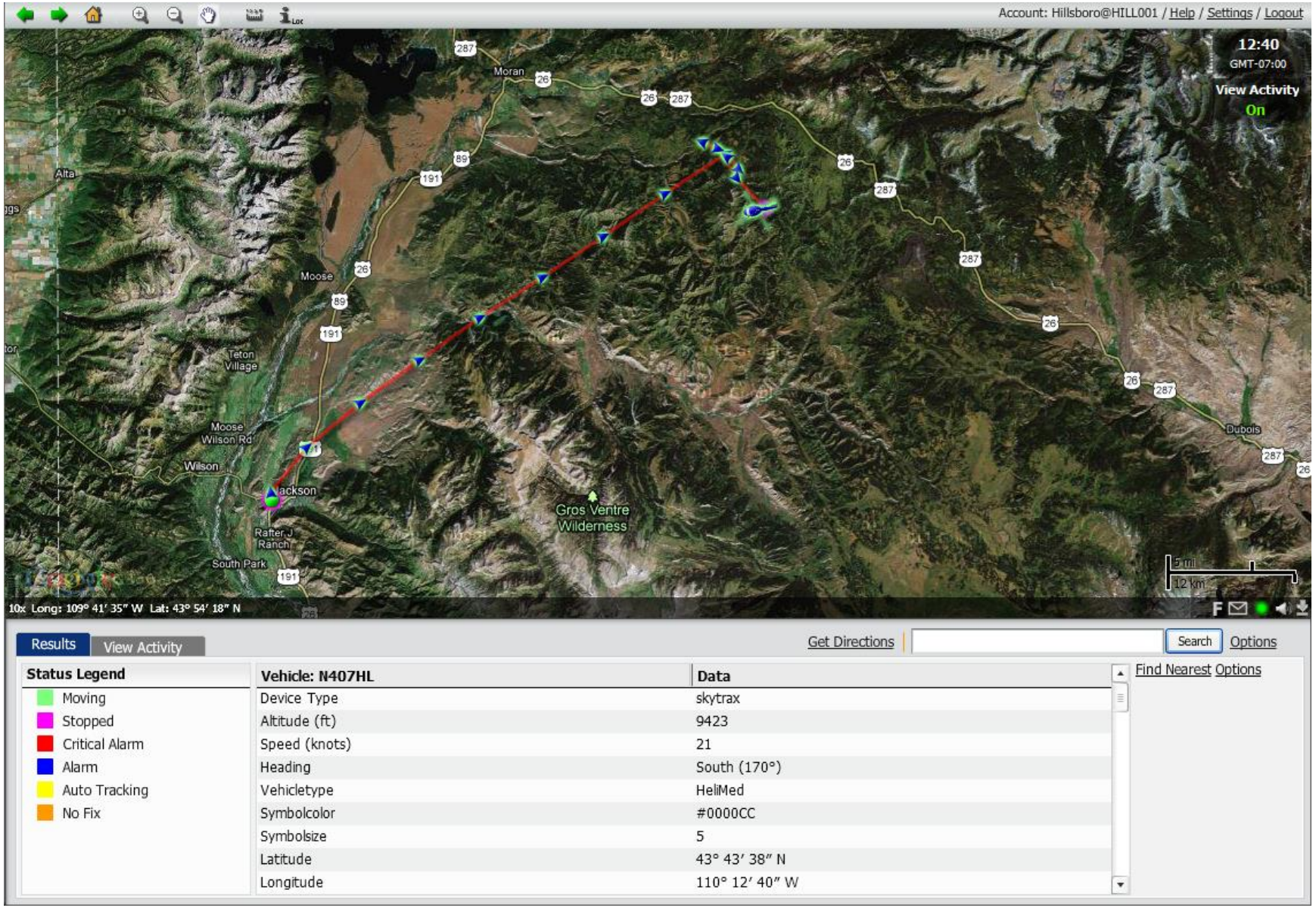

Figure 1 - Screenshot of Guardian Mobility Page Display for Accident Flight

Point #	Time (MST)	Longitude	Latitude	Heading	Direction	Altitude (ft)	Velocity (knots)	Odometer (nm)	Event	Event Message
1	2/15/2012 12:23	110° 47' 25" W	43° 28' 36" N	184	South	6175	0	3994.623	Stop	
2	2/15/2012 12:25	110° 47' 29" W	43° 29' 1" N	25	NNE	6509	68	3995.036	Airborne	
3	2/15/2012 12:27	110° 44' 54" W	43° 31' 21" N	31	NNE	7608	103	3998.037	Airborne	
4	2/15/2012 12:29	110° 41' 2" W	43° 33' 41" N	53	North East	8015	108.9	4001.684	Airborne	
5	2/15/2012 12:31	110° 36' 48" W	43° 35' 54" N	55	North East	8501	118.6	4005.475	Airborne	
6	2/15/2012 12:33	110° 32' 28" W	43° 38' 5" N	58	ENE	8937	120.5	4009.306	Airborne	
7	2/15/2012 12:35	110° 27' 59" W	43° 40' 11" N	57	ENE	9193	112.7	4013.179	Airborne	
8	2/15/2012 12:37	110° 23' 38" W	43° 42' 18" N	55	North East	9678	108.9	4016.977	Airborne	
9	2/15/2012 12:40	110° 19' 12" W	43° 44' 31" N	56	North East	9600	118.6	4020.881	Airborne	
10	2/15/2012 12:42	110° 14' 50" W	43° 46' 34" N	95	East	8809	112.7	4024.661	Airborne	
11	2/15/2012 12:44	110° 13' 56" W	43° 45' 44" N	181	South	8681	40.8	4025.727	Airborne	
12	2/15/2012 12:46	110° 14' 50" W	43° 46' 24" N	294	WNW	8501	58.3	4026.657	Airborne	
13	2/15/2012 12:48	110° 16' 36" W	43° 47' 11" N	85	East	8323	17.5	4028.153	Taxiing	
14	2/15/2012 12:50	110° 15' 25" W	43° 46' 49" N	134	South East	8271	89.4	4029.077	Airborne	
15	2/15/2012 12:52	110° 14' 5" W	43° 45' 18" N	95	East	8730	62.2	4030.887	Airborne	
16	2/15/2012 12:54	110° 12' 1" W	43° 43' 43" N	43	North East	8835	35	4033.064	Airborne	
17	2/15/2012 12:56	110° 12' 3" W	43° 43' 46" N	319	North West	8783	0	4033.126	Stop	
18	2/15/2012 12:58	110° 12' 3" W	43° 43' 44" N	164	SSE	8783	29.2	4033.16	Taxiing	
19	2/15/2012 13:00	110° 12' 40" W	43° 43' 38" N	170	South	9423	21.4	4033.612	Taxiing	

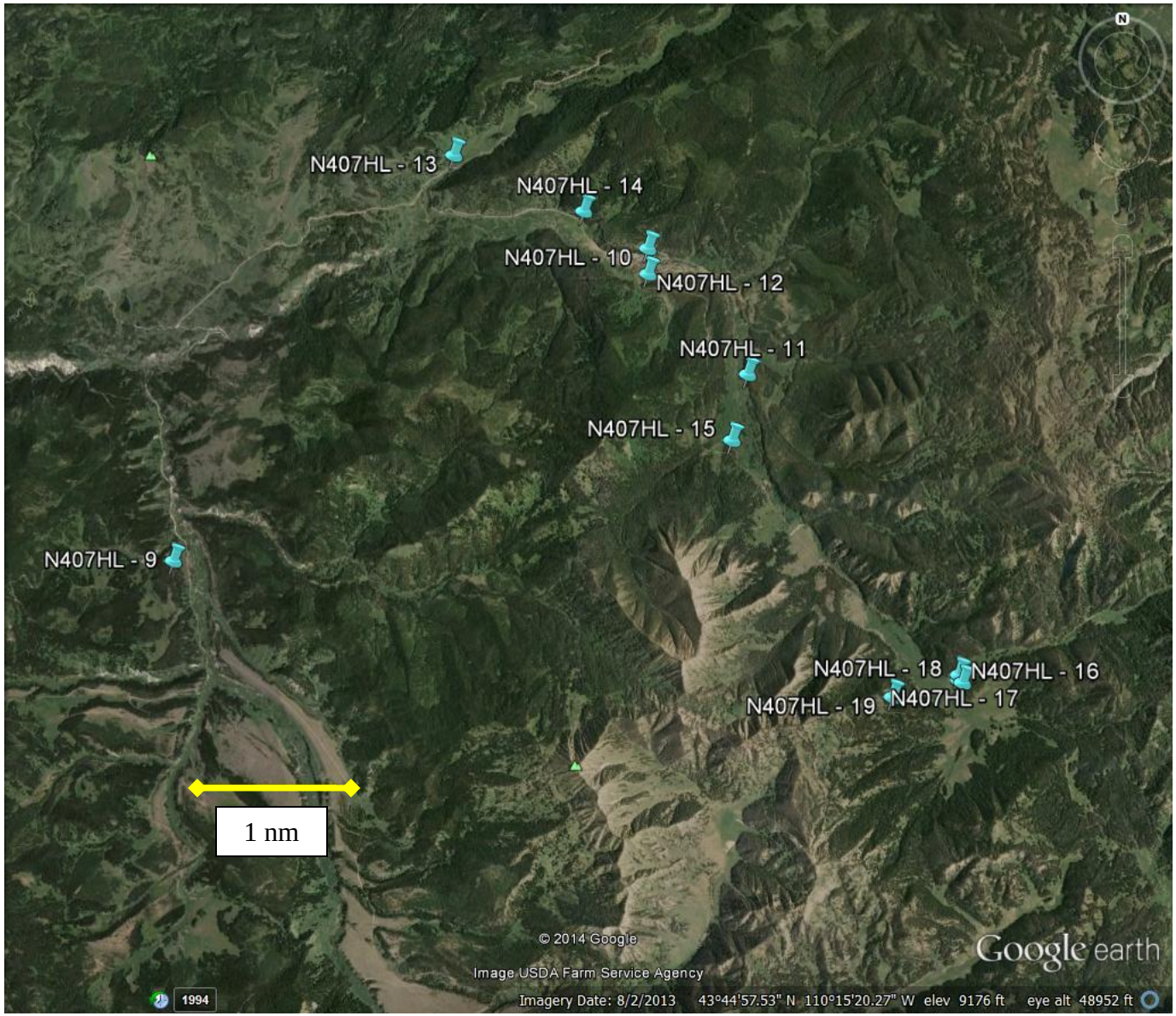

Figure 2 - Screenshot of Flight Track from Guardian kmz Data

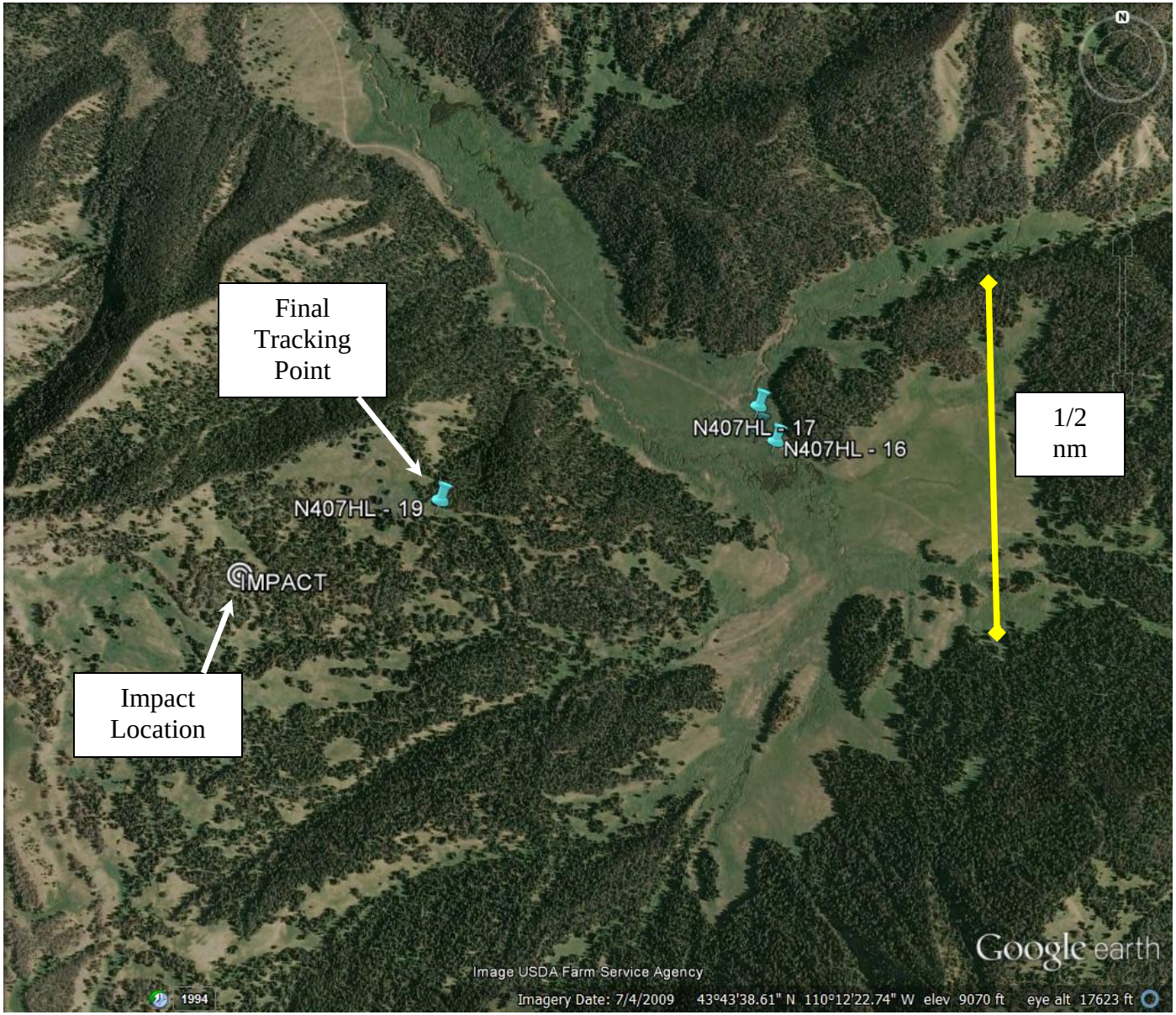

Figure 3 - Screenshot of Guardian kmz Data (Closeup, with accident site)