Captain Zaharie Shah's Recovered Flight Simulator Information: Preliminary Assessment from the MH370 Independent Group

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Information related to the disappearance of MH370 was recently shared with the Independent Group (IG) by an individual who is not affiliated with any government entity in any country. The information appears to be part of a report compiled for and by the Royal Malaysia Police (RMP) and included contributions from other Malaysian agencies. In this report, it is stated that data related to a flight simulator game were found on Captain Zaharie Shah's home computer. The IG makes the following preliminary assessment, which is based on the content of the RMP report:

1. Simulator data from the Microsoft Flight Simulator X (FSX) game were found on a solid state drive that was disconnected from the computer when recovered. The FSX game was uninstalled from that drive on 20th February 2014.
2. The data of interest are fragments of *.FLT files, this being the format used by FSX to store parameters, including position coordinates at arbitrary points during a run of the simulator. The data were saved in a Shadow Copy Set, and were last modified on 3rd February 2014.
3. The coordinates, if all from one simulation run, suggest the departure of a B777-200LR aircraft from Kuala Lumpur International Airport (KLIA), a flight up the Malacca Strait, a turn to the south, and a termination in the Southern Indian Ocean near 45S 104E. This path is shown as a black line in Figure 1.
4. A path connecting the turn and the final coordinates, when extrapolated further as a great circle, aligns with airfields servicing the McMurdo Station in Antarctica, which may have been chosen as the destination in the simulation. This extrapolation is also indicated in Figure 1.
5. Within the Shadow Copy Set, there were two additional coordinates that were recovered for an aircraft parked at KLIA. No other coordinates recovered from the Shadow Copy Set were included in the RMP report.
6. Although we cannot determine that six data points (see Table 1) are all from a single flight simulation run, the alignments of the points and the progressive depletion in fuel level, leading to an unpowered descent from an altitude of 37,600 feet down to 4,000 feet over a short distance, suggest the coordinates may well be related to the same flight simulation.
7. A preliminary analysis of the flight data, derived by the IG from the data found on the solid state drive, is summarized in Table 1.

8. We have no comment on whether this evidence links Captain Zaharie Shah to a crime.
9. Work continues within the IG to better understand and validate the data, and to determine whether the data can be used to refine the search area for the aircraft.

Table 1. Parameters Derived from the Raw Simulator Data

		1	2	3	4	5	6
Latitude	(deg)	2.7480	3.4151	5.1116	10.1831	-45.0852	-45.1277
Longitude	(deg)	101.7223	100.8856	98.5879	90.2245	104.1455	104.1408
Altitude	(ft)	70	23,247	32,246	40,003	37,651	4,000
Heading	(deg)	326.2	305.3	314.8	255.5	178.2	193.0
Ground Speed	(kt)	0.0	403.1	433.6	469.5	363.8	195.1
Vertical Speed	(fpm)	0	3,507	1,456	3,570	663	2,029
Turn rate	(deg/s)	0.000	0.000	0.001	-0.888	0.584	0.169
Center Tank Cap	(lb)	182,840	182,840	182,840	182,840	182,840	182,840
Right Tank Cap	(lb)	69,010	69,010	69,010	69,010	69,010	69,010
Left Tank Cap	(lb)	69,010	69,010	69,010	69,010	69,010	69,010
Center Tank Fuel	(lb)	27,426	19,830	18,243	14,233	0	0
Right Tank Fuel	(lb)	69,010	69,010	69,010	69,010	0	0
Left Tank Fuel	(lb)	69,010	69,010	69,010	69,010	0	0
Total Fuel	(lb)	165,446	157,850	156,263	152,253	0	0
Fuel Level	(%)	51.56	49.20	48.70	47.45	0.00	0.00

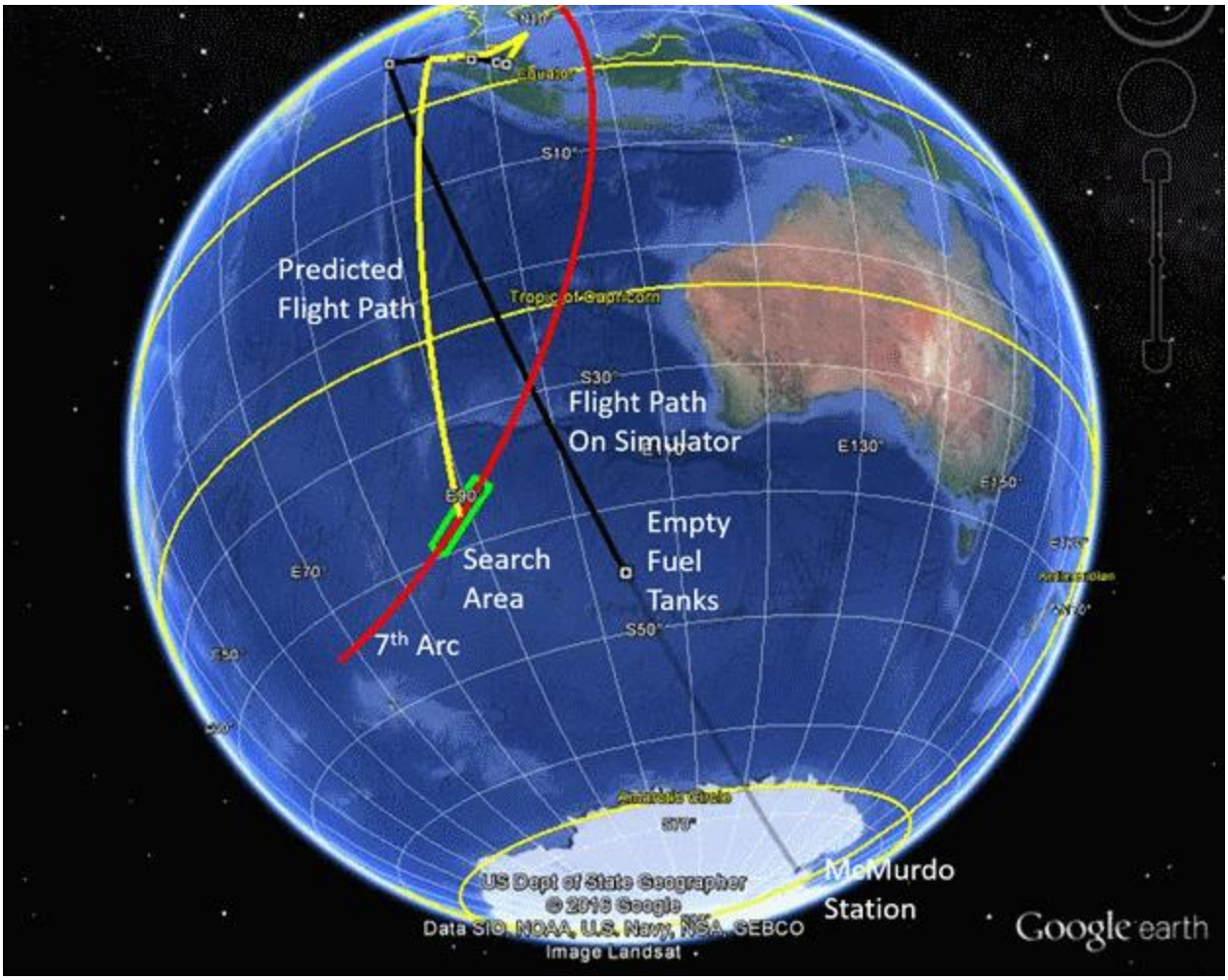

Figure 1: Flight paths into the southern Indian Ocean. In black: the simulated flight path apparently evidenced on Captain Zaharie Shah's home computer. In yellow, a representative flight path ending near the 7th arc and 37S from among those modelled by the Defence Science and Technology Group (DSTG) in Australia, and used by the Australian Transport Safety Bureau (ATSB) in defining the priority underwater search area (as shown by the green box).