



**PRELIMINARY REPORT ON THE ACCIDENT INVOLVING OLAM NIGERIA LIMITED AIR TRACTOR AT-401B AIRCRAFT REGISTRATION NUMBER 5N-BTV WHICH OCCURRED AT RUKUBI, DOMA LOCAL GOVERNMENT AREA OF NASARAWA STATE, NIGERIA ON 04<sup>th</sup> OCTOBER, 2018.**

OWNER: Olam Nigeria Limited  
Plot 5 and 6 Abebe Village, Iganmu Industrial estate, Iganmu, Lagos.

OPERATOR: Skypower Express Airways Nigeria Limited  
Kaduna International Airport P.O.Box 16737  
Kaduna State, Nigeria.

AIRCRAFT TYPE/MODEL: Air Tractor/AT-401B

MANUFACTURER: Air Tractor Inc. Olney, Texas, USA

YEAR OF MANUFACTURE: 2000

REGISTRATION NUMBER: 5N-BTV

SERIAL NUMBER: 401-1120

LOCATION: Olam Rice Farm @ Rukubi, Doma LGA, Nasarawa State, Nigeria; coordinates 7°54'06"N, 8°19'36"E

DATE/TIME: 04<sup>th</sup> October, 2018 @ 0915hrs

*(All Times are Local, equivalent to UTC+1 unless otherwise stated)*

**NOTIFICATION**

The operator notified the Bureau about the occurrence by phone call on the 4<sup>th</sup> of October 2018. Investigators were deployed and arrived site the following day.

## **FACTUAL INFORMATION**

### **History of the Flight**

On the 4<sup>th</sup> of October 2018, at 0915hrs, an Air tractor AT-401B aircraft with registration 5N-BTV operated by Skypower Express Airways Nigeria Ltd was on a Private Category/agricultural aerial spray operation at Olam Rice farm in Rukubi Nasarawa State. The pilot was the only person on board the aircraft.

On the day of the occurrence, the Pilot reported on duty at about 0745hrs, carried out pre-flight Inspection, completed flight planning and loading of the aircraft for the exercise of the day. The operation was for three sorties of crop spray over the farm.

The first two sorties commenced at about 0800hrs and were completed at about 0900hrs.

At about 0904hrs, the aircraft hopper was then re-loaded with 600 liters of liquid chemical for the last and final sortie of the day. The pilot reported that "after about 5/6 runs when the aircraft was pulling out of the run positioning for the next run, half way into the left turn, the pilot heard the engine sputtered, went dead for a second or two and fired back to normal then flamed out after another second".

The pilot then continued turning left when he observed that there were obstacles and settlements to his right. The pilot reported that, he tried re-starting the engine, but will not crank. The pilot decided to force land in one of the secluded rice fields when he realised he will not be able to glide to the airstrip from that position.

The aircraft touched down with the right main landing gear first and the wheel sheared off at about 7m from the touch down point. The aircraft then tipped over just before coming to rest at about 38m.

The pilot exited with no injuries. The aircraft was substantially damaged.

The pilot reported that there were no observed failures or malfunctions on the aircraft and its engine prior to the flight.



The incident occurred at coordinates of 7°54'06"N, 8°19'36"E at an elevation of 218ft AMSL, 0915hrs, daylight.

### **Damage to Aircraft**

The aircraft was substantially damaged.

### **Other Damage**

Some economic crops were damaged.

### **Personnel Information**

#### **Pilot**

|                          |  |
|--------------------------|--|
| Nationality:             | Indian   |
| Age:                     | 48 years   |
| License No:              | CPL 2458286 (NCAA Validated)                                 |
| License Validity:        | 23 <sup>rd</sup> March, 2019                                 |
| Aircraft Ratings:        | C-152/172, BE-55, Citabria/Super Cub, Pawnee, Ag CAT, AT 401 |
| Medical Validity:        | 04 <sup>th</sup> September, 2019                             |
| Proficiency Validity:    | 15 <sup>th</sup> September, 2019                             |
| Total Flying Experience: | 1024Hrs  |
| On Type:                 | 850Hrs   |
| Last 90 days:            | 184Hrs   |
| Last 28 days:            | 54.2Hrs  |
| Last 24 hours:           | 3.5Hrs   |

The PIC reported for duty at about 0745Hrs on the day of the occurrence.

### **Aircraft information**

#### **General information**

|       |         |
|-------|---------|
| Type: | AT 401B |
|-------|---------|

|                               |  |
|-------------------------------|--|
| Serial No:                    | 401-1120                                 |
| Operator:                     | Skypower Express Airways Nigeria Limited |
| Manufacturer:                 | Air Tractor Inc.                         |
| Year of Manufacture:          | 2000                                     |
| Airframe Time:                | 2947Hrs                                  |
| Total Landings:               | 2986                                     |
| Certificate of Insurance:     | 1 <sup>st</sup> September, 2019          |
| Certificate of Airworthiness: | 4 <sup>th</sup> October, 2018            |

### **Power Plant**

|                      |                              |
|----------------------|------------------------------|
| Manufacturer:        | Pratt & Whitney              |
| Year of Manufacture: |                              |
| Type/Model:          | R-1340-AN1                   |
| Serial number:       | 24510                        |
| Time Since New:      | 10790Hrs                     |
| Total Landing:       | 1933                         |
| Fuel used:           | Petroleum Motor Spirit (PMS) |

### **Propellers**

|                      |                   |
|----------------------|-------------------|
| Manufacturer:        | Hamilton Standard |
| Type:                | Hamilton          |
| Serial number:       | A356              |
| Time Since Overhaul: | 1680Hrs           |

The Air Tractor 401 is a family of agricultural aircraft, certificated for single pilot operation. It is a low-wing monoplane, tri-cycle landing gear with taildragger configuration. A three bladed radial engine is mounted on the nose of the aircraft. A chemical hopper is provided between the firewall and the cockpit.



**Photographs showing features of AT 401 aircraft.**

## **Meteorological Information**

**Time** : **0700UTC**

**Wind** : 230° Calm

**Visibility** : +10Km

**Weather** : Clear

**Cloud** : Clear

**Temp/Dew** : 24°C

**QNH** : N/A

## **Wreckage and impact information**

The engine failure occurred at about 100ft Agl, the pilot dumped the remaining load of liquid chemical and decided to force land in one of the rice field.

The aircraft glide and finally landed with the right main landing gear touching down first followed by the left main landing gear at a distance of 3m. The right main wheel sheared off from its attachment point at 7m and was found 24m away. A detached section of the sprayer was also located 8m from the first touch down point. Nine propeller slash marks on the ground were found before the nose of the aircraft hit the ground and tipped over. The left wing tip leading edge impacted the ground and caused substantial damage to the section and the fuselage. One of the propeller blades was bent. The wreckage was generally intact in one piece. The aircraft came to rest 38m from the first touch down point.

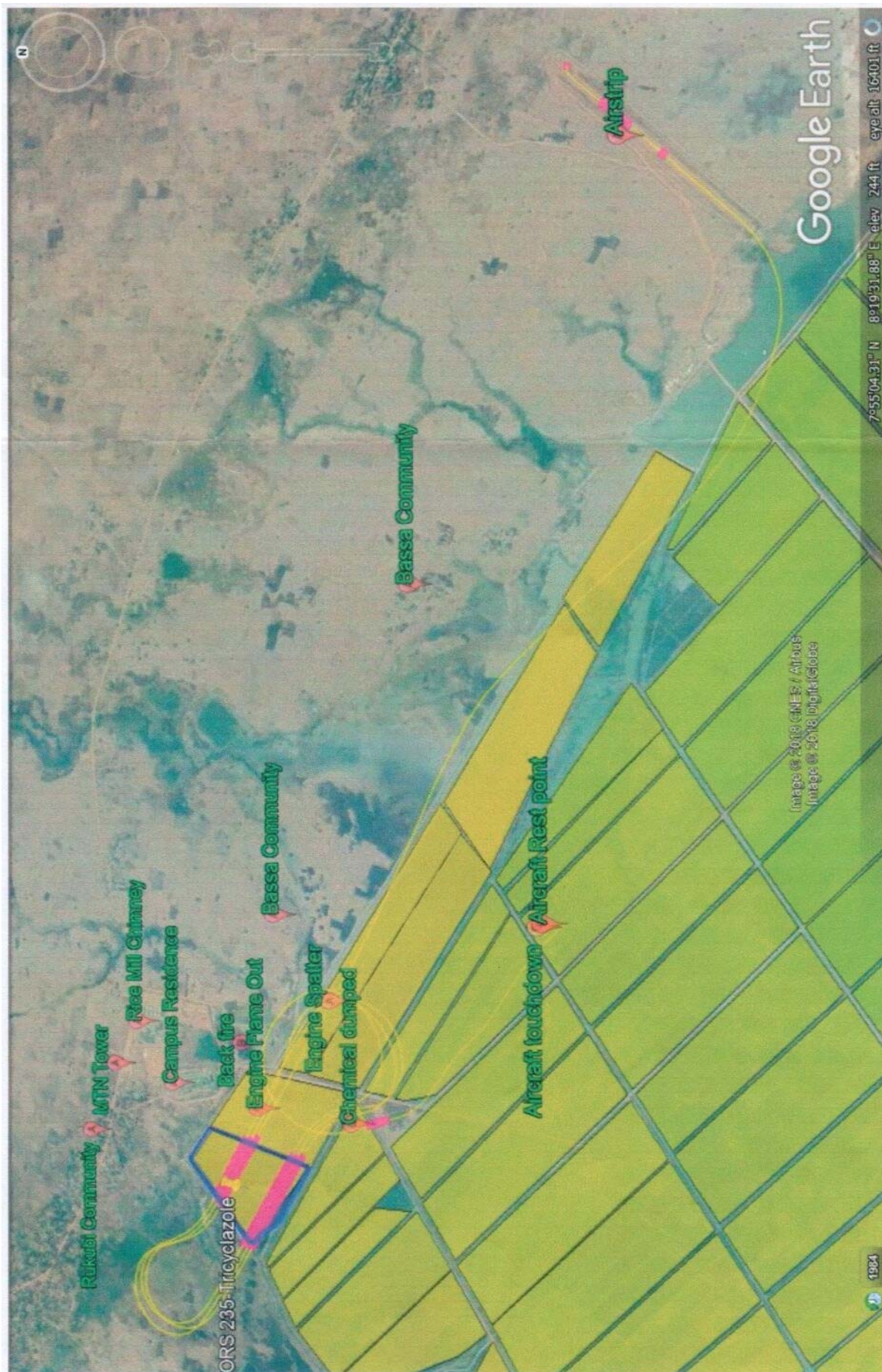












## **Medical and Pathological information**

Medical test carried out after the occurrence were found normal.

## **Fire**

There was no evidence of fire in flight or after the impact.

## **Survival aspects**

The pilot on-board evacuated the aircraft unhurt after the occurrence.

The absence of post-impact fire also contributed to the survivability.

## **Management information**

Olam International is a leading and third largest agri-bussiness in the world, operating from seed to shelf in 70 countries supplying food and industrial raw materials to 23,000 customers worldwide.

Olam Ondorie Nucleus Rice Farm is one of the subsidiaries established in 2010 operating in Nasarawa State, Nigeria. The farm have a total area of 10,920 Hectres and currently developing a 10,000 hectre fully integrated paddy farm.

The Rice Farm is equipped with two Air Tractor Models 401 and 501 aircraft used for agricultural aerial operations.

## **Findings:**

- I. The aircraft was certified, equipped and maintained in accordance with existing regulations and approved procedures.
- II. The mass and the centre of gravity of the aircraft were within the prescribed limits.
- III. The aircraft was airworthy when dispatched for the flight.
- IV. The aircraft had completed two sorties earlier before the occurrence on the third and last sortie for the day.
- V. During the third sortie, the engine sputter initially, back fire and flame-out within few seconds.
- VI. The aircraft glide, landed and tipped over.
- VII. The aircraft was substantially damaged.
- VIII. There was no observed physical damage to the propeller blades.
- IX. The airstrip is 3.5Km from the wreckage site.
- X. The pilot was licensed and qualified for the flight in accordance with existing regulations.
- XI. The pilot's actions and statements indicated that his knowledge and understanding of the aircraft systems was adequate.
- XII. The pilot was in compliance with the flight and duty time regulations and was adequately rested to operate the flight.
- XIII. Medical test carried out after the occurrence was found normal.
- XIV. The flight was conducted in accordance with the procedures in the Operations Manual.

## **Further Investigation Activities:**

1. Retrieval and relocation of the wreckage from the crash site to the nearby hanger for safe keeping and preservation;
2. General/Engine inspection and retrieval of vital components from the wreckage for further analysis;
3. Analysis of the fuel samples collected.