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Attention Mr Frank Pangallo

REPORT M4375/88

YOUR REFERENCE	Request - Mr F. Pangallo.
TITLE	Vehicle Examination.
LOCATION	Wudina, Adelaide.
DATE RECEIVED	22 January 1988.
WORK REQUESTED	Examine vehicle, analyse dust and report on alledged U.F.O. incident.

Investigation and Report by: Anthony M. Luke.

Manager, Materials Services: Philip J. Parry.

for Dr William G Spencer
General Manager
Applied Sciences Group

1. INTRODUCTION

Amdel was requested to investigate a motor vehicle which had been involved in an alledged U.F.O. incident on the Nullabor Plain. It was reported that a tyre had failed during the incident and that a black dust or ash had been deposited on the car. An examination of the vehicle and associated features was requested.

2. PROCEDURE

A visit was made to the storage site of the vehicle in Wudina. A visual examination of the failed tyre, front and rear wheel arches, roof and vehicle interior was carried out. Samples of dust were removed from the left front wheel. The vehicle was inspected using a portable radiation meter.

The dust samples were analysed using X-ray diffraction and emission spectroscopy techniques. The analysis was compared to analyses of material taken from front wheels of vehicles in the Adelaide area.

3. RESULTS

3.1 Visual Examination

The examination of the failed tyre revealed circumferential casing break up on the inner shoulder. A number of radial splits ran approximately half way down the inner shoulder. The steel wires were exposed at the edge of the tread. An area of circumferential abrasion was found on the outer shoulder.

The tyre damage observed is consistent with running on a deflated tyre for some considerable time, possibly 5 to 10kms. The cause of deflation was not identified at the time of the investigation. It is likely that deflation was caused by a puncture, since the tyre had not been damaged by blow out, impact or rollover.

The bell support at the base of the rear right macpherson strut was polished and showed evidence of overheating. It was found that the exposed steel wires from the tyre would have had contact with the component. In the same area, rear right wheel arch, the plastic mudguard had been abraded and rubber had been deposited on the metal panel.

The examination revealed no evidence of any significant ash or dust on the body of the vehicle or in the interior. A quality of black dust was found on the exterior of the front wheels. The dust was also found in greater quantities on the inner surface of the wheels. Some of this material was sampled for further analysis at the Amdel laboratories.

Three shallow dents were observed on the roof of the vehicle. Two dents were located at the rear left corner of the roof, one dent was found at the front right corner. The dents were approximately 50mm long and 0.5mm deep. The front dent was found to have associated paint cracking which showed evidence of corrosion.

The dents were consistent with an object being pressed into the roof rather than an attempt to lift the roof. The corrosion indicated that dent had been present for at least 2-3 days prior to examination depending on exposure to moisture.

Inspection of the vehicle using a radiation meter revealed no areas showing count rates above the background levels. Areas inspected included the roof, front and back seat, and the front wheels. A comparison on a granitic rock from the Mudina area showed rates double the background level.

3.2 Chemical Analysis

Emission spectroscopy indicated the following chemical compositions for the dust and a control sample taken from brake pads.

Element	Results in Percentage	
	Ford	Amdel Control
Iron as oxide	43.4	80.1
Silicon as oxide	14.3	2.6
Calcium as oxide	2.4	0.5
Aluminium as oxide	2.3	0.4
Magnesium as oxide	4.6	2.9
Barium	3.5	3.3
Copper	5.5	<0.005
Zinc	2.6	0.2
Lead	0.9	0.03
Tin	1.9	<0.005
Molybdenum	0.8	0.006

The X-ray diffraction patterns showed the presence of the following crystalline forms in the samples.

Sample - Ford

Compound	
Magnetite Brass	♦Abundant
Molybdenum Sulphide Quartz Hematite Baryte Calcite	♦Trace

Sample - Amdel Control

Compound

Graphite Iron	⊕ Abundant
Barvte Magnetite	⊕ Minor

The analyses are considered to be characteristic of dust from wearing brake pads and discs. No significant foreign compounds were present in the dust samples.

4. SUMMARY

The investigation revealed that the damage to the tyre was consistent with running on a deflated tyre for an extended period. It is considered that this would account for the odour, smoke and vibrations sensed during the incident.

The material taken from around the front wheels was typical of residual dust from wearing brake pads and discs. No significant dust was observed on the vehicle as presented for inspection.