DAVID W. G. RIDLEY
Senior Coroner for Wiltshire and Swindon

	REGULATION 28 REPORT TO PREVENT FUTURE DEATHS **THIS REPORT IS BEING SENT TO:** The Minister of State for the Armed Forces Ministry of Defence Floor 5, Zone A Main Building Whitehall London SW1A 2HB
1.	**CORONER** I am **David Ridley,** Senior Coroner, for the coroner area of Wiltshire & Swindon
2.	**CORONER'S LEGAL POWERS** I make this report under paragraph 7, Schedule 5, of the Coroners and Justice Act 2009 and regulations 28 and 29 of the Coroners (Investigations) Regulations 2013.
3	**INVESTIGATION and INQUEST** On 5 July 2010 I opened the Inquests into the deaths of Colour Sergeant Martyn HORTON, Lance Corporal David RAMSDEN, Private Douglas HALLIDAY and Private Alexander ISAAC following the repatriation of their bodies into the United Kingdom from Afghanistan. I resumed the Inquest on Monday 10 November 2014 but regrettably had to adjourn proceedings on 14 November 2014 as a result of potential evidence from an expert witness necessitating, in my view, the need to recognise additional interested persons. The proceedings finally resumed on Monday 21 April 2015 and I concluded all four Inquests on 24 April 2015. As a conclusion I recorded a combined short form conclusion, that of road traffic collision, combined with a narrative conclusion. I recorded in relation to the cause of death that all four had died as a result of drowning when their vehicle became submerged following a road traffic collision that occurred on the Bandi Baq Road, South of Gereshk, shortly after 2200 hours on 23 June 2010 in Helmand Provence, Southern Afghanistan.
4	**CIRCUMSTANCES OF THE DEATH** I have set out below the narrative conclusion that I recorded that sets out the circumstances of death: *Road Traffic Collision whilst on Active Service in Afghanistan combined with a Narrative Conclusion as follows:* Shortly after 2200 on 23 June 2010 the front left hand side of the Remote Weapons System variant Ridgeback that Martyn, Doug and Alex were travelling in and that David was driving, collided with the front right hand side of an Afghan National Police ("ANP") Ranger vehicle that had been parked on Bridge Harry with the front end of the vehicle protruding onto the Bandi Baq Road, South of Gereshk, Helmand Province, Afghanistan. As a result of the collision the Ridgeback veered to the left off the Bandi Baq Road and entered and overturned in the Narhr-e-Bughra Canal that ran parallel to the road. Water quickly filled the Ridgeback and Martyn, David, Doug and Alex were unable to escape and consequently drowned inside the vehicle. The following matters contributed to the collision: a) The speed the Ridgeback was travelling (more than 30mph but less than or equal to

40mph) at the time of the collision;

b) The inconspicuous presence of the unlit and darkly coloured ANP patrol vehicle when set against the dark background in the locality of the collision.

The following matters more likely than not impeded the ability to escape from the submerged vehicle thereby contributing to the drowning:

c) The incident occurred at night and in the dark;
d) The water was cold and murky;
e) The force of the impact when the Ridgeback hit the water causing a blunt impact head injury resulting in momentary grogginess/unconsciousness (will appear in respect of Martyn, David and Alex) and;
f) The wearing of essential body armour.

5 **CORONER'S CONCERNS**

During the course of the inquest I heard evidence that gave rise to a number of concerns, some of which I am aware are in the process of being addressed. In my view there is a risk that future deaths will occur unless action is taken. In the circumstances it is my statutory duty to report those concerns to you.

The **MATTERS OF CONCERN** are as follows. –

(I) **Suspension issues.** During the course of the Inquest I heard how Ridgeback had been introduced into UK operational service as part of an urgent operational requirement to provide greater protection to UK service personnel on operation in Afghanistan due to the ever increasing threat that had been developing from improvised explosive devices. I heard how the original shell vehicle provided by the US manufacturer was modified to UK specifications by UK Government contractors and I heard that the resultant additional weight appears to have in particular resulted in an unusually large number of failures to the front spring hanger assembly, mounting bracket as well as leaf spring failures with normal usage. Morgan Advanced Materials have been contracted to remedy the problem and I understand that additional information following the involvement of [redacted] and members of the team of 710 Naval Squadron will be helpful in trying to find a solution. I have been provided with a timetable in respect of which various steps will be covered leading to a solution being found and rolled out which will exceed the usual 56 day time period to respond to a Regulation 28 Report. As part of my Regulation 28 duty I would like to monitor the resolution of the issue relative to the failures in the front suspension area and I am sure that the families of the four who died on 23 June 2010, even though that the failure to that particular vehicle (Spring hanger bolt failure) did not cause or contribute to their deaths, would also like to be appraised of developments insofar as sensitive material is not disclosed. I am however still concerned that the focus appears to be solely on the front suspension where the vast majority of the failures occurred. I would therefore ask for confirmation that given the modifications affected the overall operational load of the vehicle that the whole suspension system is reviewed with a view that ultimately it is fit for purpose having regard to the additional operational load that UK specification vehicles are required to deal with as compared to its American counterparts. In this respect I have suggested quarterly updates as a way forward. For the avoidance of any doubt although the inquest focussed on the Ridgeback, I am aware from the same Cougar family that the problem affected Wolfhound and Mastiff as well which of course the UK Government purchased as well.

(II) **Height restrictions**. During the course of hearing evidence, I heard that there were height restrictions relative to the driver of Ridgeback vehicles as well as the designated Commander of the vehicle. Ordinarily both the driver and Commander sit in the two front seats of the vehicle. The vehicle involved in this particular incident was a remote weapon system variant Ridgeback and unlike other variants, the right hand seat is occupied by the remote weapon gunner and the Commander is moved to a position sitting at right angles to the driver who of course is occupying the left hand front seat. Depending on operational assessment, I am concerned that if there is a height restriction for a driver and Commander that if a gunner is required to occupy the front right hand seat, as is the case in the remote weapon system variant, that a height restriction ought to apply to the gunner as well. In this particular tragic incident I found no evidence that the height of Private Alexander Isaac contributed to his inability to escape from the stricken Ridgeback once it had entered the canal as he was able to remove his helmet and body armour and in fact was one of the first bodies to have been recovered through the top hatch.

(III) **Lighting**. At the end of the day a Commander of a vehicle has overall control and a driver is required to use his or her skill and judgement relative to road conditions and the vehicle capabilities to drive at an appropriate speed taking into account speed limits. When responding to an emergency such as in the QRF (Quick Reaction Force) role as is the case when UK civilian emergency response vehicles are responding to a legitimate emergency, speed limits may not ordinarily be adhered to and I very much take the view that it should be a matter of military judgement taken by those who have situational awareness at the time. The evidence I heard was that operationally drivers could realistically only see using white light approximately 10-15 metres in front of the vehicle. There was an issue with the Ridgeback involved in this incident in that for some reason the main head lights had a lower specification bulb fitted 75/70 watts as opposed to the specified 100/80 watt bulb. The Ridgeback is also fitted with 70 watt fog lamps and set of 70 watt additional lights which were moved following the incident to the outside of the bar armour. The main lights however still lie behind the bar armour and that must impede their effectiveness. I would like you to review the effectiveness of Ridgeback lighting and arguably as it is part of the Cougar fleet, the lighting of the Mastiff and Wolfhound also as they are similar vehicles with the addition of an additional axle, as regards operational effectiveness especially if such vehicles are intended to be used in a QRF role or when operational requirements dictate a need to travel at speed. An operational limit of only 10-15 metres in front of the vehicle is in my view restrictive and significantly restricts the safe speed of the vehicle allowing for reaction and stoppage time. [redacted] (retired) attempted as part of the LAIT investigation to carry out tests on Salisbury Plain, although I do have some concerns in relation to the accuracy and usefulness of the data obtained from those tests.

(IV) **Tyre pressures.** The Ridgeback in question following recovery was found to have under inflated rear tyres some 13% less than the recommended PSI which I believe is 110. During the course of the evidence I heard that the REME maintenance crew at MOB Price did not have equipment to inflate tyres to that pressure and the on board compressor again did not have the necessary capability to inflate tyres over and above 100 PSI. I was told that if the required tyre pressure was to be achieved that the only equipment available was at Camp Bastion and of course the vehicles were not regularly, when on operational service in Afghanistan, travelling to Camp Bastion. I would ask that you review this concern. Tyre pressures are important. Both under inflated and over inflated tyres can materially affect the handling of the vehicles and if there is a specification for a certain tyre pressure then those operating or maintaining the vehicle ought to have the ability to ensure the correct tyre pressure is achievable. Again this potentially is applicable across the Cougar family fleet.

(V) **AESP Torque references.** During the course of the evidence I heard that the maintenance of the Ridgeback vehicle was governed by AESP documentation. I was told by Craftsman [redacted] that regularly at MOB Price during Herrick 12 whilst maintaining these vehicles that he was unaware of the correct torque settings in relation to the front spring hanger assembly bolts and would ensure in the circumstances that the bolts, to quote him, were "fucking tight". There were however torque settings but those settings appear to have been contained in the repair section of the AESP documentation in Section 5 as opposed to the maintenance section in Section 6. I fully accepted the evidence I heard that the AESP documentation is voluminous but I am concerned and believe that it would be of assistance to REME personnel and those responsible for the maintenance of the vehicles that consideration be given to ensuring mention of a cross reference pointing in Section 6 at the relevant section to where the torque settings can be found in Section 5 rather than repeating the verbatim the torque settings again. I would ask that you give consideration to this so as to ensure correction maintenance procedures are carried out.

(VI) **Ridgeback emergency lighting.** I was pleased to hear that the luminescent tape that was introduced following this incident is in the process of being replaced by an emergency lighting system called VELS. I believe that the additional work and installation of this system has only just started to be rolled out and I would be grateful for a timetable as regards its completion and also given the similarity between Ridgeback, Wolfhound and Mastiff as to whether or not it will include the other members of the Cougar family.

(VII) **Component failure awareness.** It was clear in 2010 that failures associated with the front suspension and spring hanger assembly in the Cougar fleet were starting to develop and following an incident involving a Ridgeback vehicle in Bovington in 2012, Qinetiq were instructed

	to analyse these failures. During the course of the evidence I heard from those that were maintaining these vehicles back in 2010 that the bolts on the front spring hanger assembly were in need of regular tightening and the vehicle was subject to 21 day inspection checks. The joint opinion of both [redacted] and members of the team at 1710 Naval Squadron was that it should not be necessary to repeatedly have to tighten the bolts relative to a component such as the spring hanger assembly. The need for the retightening of bolts was in their view indicative of a component issue and I would ask that you review from a learning point as regards raising the awareness of Craftsmen and Technicians and not just in relation to Ridgeback or Mastiff but in relation to any component across the services, that if an issue arises requiring regular or unusually frequent tightening of component bolts that that matter ought to be highlighted as a concern warranting proportionate investigation relative to other similar pieces of equipment experiencing the same issue, such as was the case here with the Cougar fleet of vehicles. The retightening of bolts on a regular basis was something that was not captured as an issue in itself.
6	**ACTION SHOULD BE TAKEN** In my opinion action should be taken to prevent future deaths and I believe you have the power to take such action.
7	**YOUR RESPONSE** You are under a duty to respond to this report with the exception of item (I) within 56 days of the date of this report, namely by 23 June 2015. As indicated in the respective item at 5.(I), I would ask for quarterly updates until the issue is resolved. I am willing to consider varying that frequency depending on the situation as it presents at the time if the request is made. Your response must contain details of action taken or proposed to be taken, setting out the timetable for action. Otherwise you must explain why no action is proposed.
8	**COPIES and PUBLICATION** I have sent a copy of my report to the Chief Coroner and to the following Interested Persons [redacted] Messrs WilmerHale Solicitors, 49 Park Lane, London, W1K 1PS Defence Inquest Unit, Floor 2, Zone 5, Ramillies Building, Marlborough Lines, Monxton Road, Andover, Hampshire, SP11 8HJ Government Legal Department, One Kemble Street, London, WC2B 4TS I am also under a duty to send the Chief Coroner a copy of your response. The Chief Coroner may publish either or both in a complete or redacted or summary form. He may send a copy of this report to any person who he believes may find it useful or of interest. You may make representations to me, the coroner, at the time of your response, about the release or the publication of your response by the Chief Coroner.
9	Dated 28 April 2015 Signatur[redacted] Senior Coroner for Wiltshire and Swindon