

FATAL ACCIDENT INQUIRY

Under the

Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976

Determination by Sheriff Desmond J Leslie, Esquire,

Sheriff for South Strathclyde, Dumfries and Galloway

following an Inquiry held at Ayr

into the death of Thomas Neil

The Sheriff, having resumed consideration of the cause determines that in terms of Section 6(1) of the Fatal Accidents and Sudden Death Inquiry (Scotland) Act 1976 that:

- (a) Thomas Neil (the Deceased) residing formerly at Shawwood Farm, Catrine, date of birth 5th August 1946, died at Shiel Farm, Sorn on 4th December 2010 and upon arrival of police, fire and rescue service, ambulance and Dr Gary Walker was declared dead at 19:25 hours.

- (b) The cause of death was asphyxia due to compression of the chest and head caused by the rear of a tractor trapping the Deceased against a shed railing.
- (c) The death of the Deceased may have been avoided had the use of a Massey Ferguson 3305 tractor been (1) discontinued due to its age, (2) been serviced and maintained to an appropriate standard of road worthiness and (3) been used only on flat surfaces.
- (d) The lack of maintenance and mechanical replacement of defective parts on the Massey Fergusson 3305 and the absence of a regular regime of servicing of the vehicle contributed to the death of the Deceased.
- (e) There are no other facts relevant to the circumstances of the death.

This Inquiry was held on the 29th, 30th and 31st August 2011. I heard evidence from Alan McKay of Henderson Farm, Sorn - neighbour of the deceased, Colin Douglas, Shiel Farm, Sorn - the son-in-law of the deceased, John Neil, 31 Grange Terrace, Kilmarnock – brother and business partner of the deceased, Dr Margaret Balsitis, Crosshouse Hospital, Kilmarnock – Pathologist, Dr Gary Walker – Police Casualty Surgeon, Irvine and Mr Andrew Crouch – Engineer, Health and Safety Executive, Grove House, Skareton Road, Manchester.

Mr Thomas Neil was an agricultural contractor working in partnership with his brother Mr John Neil and trading as T & M Neil. Their business centred on land

owned and worked by them at Shiel Farm in Catrine. They maintained two outhouses or sheds on the site. The land holding amounted to approximately 10 acres. The partnership had a herd of 70 beef cattle which were wintered in the sheds. Additionally the partnership provided agricultural services such as grass cutting and fence repairing to other farmers.

The Inquiry was advised by Mr Colin Douglas, the son-in-law of the deceased that he and the deceased had been working together in the course of the 4th of December attaching doors to a large shed at Shiel Farm. These doors were to provide shelter within the shed from winds which blew in from the North. Mr Douglas was not employed by the Neil Partnership but provided help from time to time and assisted in a filial capacity in the maintenance and working of the farm.

Mr Douglas recalled that he had returned to his home in the afternoon of the 4th December 2010 having worked with Mr Thomas Neil. In the course of putting away his tools he was joined by Mr Alan McKay a neighbour from an adjacent farm who was looking for Mr Thomas Neil. It was understood Mr Neil had remained in the shed at Shiel Farm and was undertaking work in connection with the cattle which were housed there. Mr Douglas recalled that he and Mr McKay had been engaged in a conversation lasting approximately 10 minutes. Mr McKay then left to seek out Mr Neil from the shed but returned about a minute

later shouting for help. Both men then returned to the shed where Mr Neil had been working and found him trapped between the rear of a tractor and the galvanised metal gate which was to the inside of the wooden door at the north side of the shed. There were evident facial injuries and little if no sign of life. The tractor had its engine running but did not appear to have its gears engaged. Mr Douglas had no familiarity with the tractor and was fearful of moving it randomly as he had no experience of the tractor controls and was mindful of the possibility of placing the machine in reverse thereby inflicting even greater injury on Mr Neil. Mr McKay called the emergency services and Mr Douglas tried to summon Mr John Neil by mobile phone. He was initially unsuccessful. Mr John Neil returned Mr Douglas's call a very short time later and immediately attended the farm on hearing the news of his brother's accident. He was able to move the tractor forwards and allow for the release of his brother from where he was positioned to the rear of the tractor against the metal gate.

Mr Douglas endeavoured to apply mouth to mouth resuscitation to the deceased as best he could until the emergency services arrived. He had no first aid experience. Mr Gary Walker, the police casualty surgeon, attended and noted no sign of life. He noted facial and head injuries and pronounced Mr Thomas Neil dead at 17:25 hours as a result of the deceased being crushed between the rear of a tractor and a metal gate.

The post-mortem findings established that Mr Thomas Neil had died from asphyxiation brought about by his being trapped between the steel gates of a shed and the concrete weight on the rear of the tractor. The pressure and weight of the tractor which pinned Mr Neil's head and body to the metal gate was such that Mr Neil had been unable to breathe. The compression on his head and body inhibited his ability to exercise muscular control and inflate his lungs effectively restricting him from drawing breath resulting in asphyxiation.

Mr Thomas Neil had been driving a Massey Ferguson 3305 tractor. That tractor was approximately 40 years old and it was used solely for use around the farm steading. It was equipped with a front loading fork which had been replaced with a spike which was used for the transportation of hayledge or straw bales. This front loading mechanism was counter-balanced by a concrete block at the rear of the tractor. The approximate weight of the tractor including the concrete weight was three and a half tonnes.

Mr John Neil advised the Inquiry that his brother was familiar with the mechanical idiosyncrasies of the tractor and drove it in such a way as was compatible with its deficiencies. On 4th December 2010 Mr John Neil had understood that the cattle within the pens in the shed had been fed in their stalls in the course of the afternoon. He considered that it would have been his brother's practice to collect a bale of hay from outside the shed and convey it by

tractor from the east end doors of the shed to the area accessed by the north doors in preparation for distribution of the hay to the cattle for the next day's morning feed. The hayledge is initially wrapped in black polythene. That was removed prior to the bale being lifted on the front spike of the tractor. The bale is cylindrical and is kept in shape by a web netting which is removed before the hay is set out for the animals.

Mr Neil would have lifted the bale of hay on the spike at the end of the shed and traversed the length of the shed before taking a 90 degree turn to the left to face the tractor in the direction of the stalls holding the cattle. This would involve turning the tractor onto an inclining surface of variable gradient leading to the stalls facing the north door of the shed. The north door was reinforced on the inside by the seven bar galvanised gates against which Mr Neil was pinned. These gates would be opened from the inside and would allow access to a large wooden door which would open the shed to the farmyard.

For reasons which were not entirely clear to the Inquiry Mr Thomas Neil had alighted from the tractor whilst it was brought to a halt on the inclined floor of the shed so that he could secure the metal gates to his rear. The tractor engine was left idling. The distance between where the tractor was probably stationed was between three and four metres from the metal gates.

Mr John Neil told the Inquiry that his brother was in the habit of arresting the movement of the vehicle by lowering the front fork arms and applying downward hydraulic pressure on the arms to brake the vehicle and relieve pressure on the front wheels which he turned to a 45 degree angle. That, he considered, was normally sufficient to hold the vehicle *in situ*.

The Inquiry heard the evidence from Mr Andrew Crouch of the Health and Safety Executive who examined the tractor and the floor of the shed at Shiel Farm. The floor area adjacent to the north doors of the shed which led upwards to the animal stalls had a variable gradient. This formed an irregular stepped incline rising from the north doors to the rear of the shed by one degree, five degrees, seven degrees, 1.5 degrees and nine degrees over an 8.5 metre distance. The flattest area and the most likely area where the tractor had been parked to unload the hayledge would have been on that part of the floor area with a gradient of 1.5 degrees. That was approximately four metres from the north door of the shed and the protective metal gates.

Examination of the tractor established that it had been poorly maintained and in a deteriorated condition. In particular the braking system was significantly deficient. The tractor was immobilised by two pedal brakes each connecting independently with the left and right rear wheels but with a facility whereby they could be connected to brake in unison. In other words these pedals could be

locked together. Tests determined that significant repeated depressing of the foot pedals was required to bring the tractor to a halt. The oil reservoir for the braking system was significantly depleted. The tractor had a hand brake or parking brake which was positioned to the left of the driver's seat. Tests conducted on the tractor on a flat surface indicated that the vehicle could be manually moved until the handbrake was connected on its fifth ratchet. On a gradient of 2.5 degrees the handbrake required to be wrenched to its seventh and last ratchet before downward movement of the vehicle was arrested. In a sequence of tests the tractor stopped in only one out of five movements when the parking brake was drawn to its last ratchet. It was therefore determined that the handbrake was ineffective in all but flat surfaces.

There was no evidence from which it could be determined whether Mr Thomas Neil had applied the handbrake or not. Mr John Neil who had moved the tractor forwards to release his brother could not recall whether the handbrake had been disengaged by him. It was more likely, he thought, that Mr Thomas Neil had braked the tractor by his normal means of applying downward pressure on the front fork arms of the vehicle and disengaging the gears. Tests on the hydraulic system which controlled the front arms of the tractor disclosed that there was a significant oil leak which would reduce the effectiveness of the hydraulics. Pools of oil were located beneath the hydraulics in the yard where Mr Crouch had examined the tractor. Although there was no recorded note of oil stainage on

the ramp within the shed at Shiel Farm Mr Crouch concluded that the hydraulic system was in poor condition and this would reduce or weaken the pressure on the front arms of the tractor and thereby lessen its ability to hold the vehicle in place. This would be aggravated by the load of hayledge carried on the front spike which would have reduced friction with the surface of the floor.

Mr Crouch at Paragraph 3.10 in his report (Crown Production Number Six) concludes: "in my opinion the tractor was in overall poor condition and exhibited faults consistent with poor maintenance..... the hazards associated with inadequate brakes on a vehicle is likely to result in serious injury or fatality as in this case....."

In Section Four of the Report he states:

"It is more likely that the deceased had not applied the parking brake as part of bringing the tractor to a safe stop; the brakes had not been adequately maintained; the tractor was in overall poor condition; if the bale (hayledge) had been used in lieu with the parking brake its effectiveness may have been reduced by the topography of the floor and the hydraulic leakage from the lift arms system."

CONCLUSION

The sad and premature death of Mr Thomas Neil was a consequence of his lax attention to his personal safety combined with his operation of an inadequately

maintained tractor with a defective and inefficient braking system. Mr Neil's practice of pinning the loaded front arms to the ground to anchor the tractor was rendered ineffective by the gradient of the ramp on which he had parked the vehicle and the depleted power of the hydraulics powering the front loader arising from a leaking hydraulic system which would have been made even less effective if loaded with hayledge. The parking brake whether applied or not was ineffective through wear and incapable of holding the tractor in place while positioned on a gradient. It is unlikely the tractor achieved any speed as it descended down the ramp to the gates. The sheer weight of the tractor was sufficient to pin Mr Thomas Neil to the gates and restrict his overall movement and particularly his ability to inflate his lungs. A head injury would have exacerbated and depressed his respiratory function.

Mr Neil's death is a reminder of the need to recognise the hazards associated with agricultural machinery in particular and industrial machinery in general. The Massey Ferguson tractor which Mr Thomas Neil used had a limited purpose around the farm. It was not used on public roads and would appear to have been engaged only for carrying out small but heavy duty tasks around the farm steading. It was not driven over any distance. Mr Thomas Neil's mechanical appreciation of the mechanical idiosyncrasies of the machine was insufficient to avoid the accident. Although he would have been aware of how the tractor performed and developed techniques to counteract the braking failures of the

tractor these were no substitute for proper maintenance. Unless the tractor had been subject to regular mechanical servicing and renewal which would have addressed the braking malfunction, the vehicle should have been disused. Only if the vehicle was being driven on a flat surface where there was no gravitational pull could the vehicle be used without causing danger by inappropriate use such as using it on a gradient. The vehicle was not equipped or mechanically able to deal with the conditions on which it was used. Its use should therefore have been discontinued.

A prohibition notice was served on Mr John Neil dated 20th December 2010 as the tractor was deemed to be in a dangerous condition. Mr John Neil had the tractor scrapped with immediate effect.

The Inquiry heard that Mr Neil was a strong and hard-working man who was committed to his work and family. He worked seven days a week and was always willing to assist his neighbours in their chores. He was a man who was devoted to his family and to his work. I offer my sympathies to Mr Neil's daughters who diligently attended the Inquiry and to Mr John Neil his brother and business partner.

D.J.Leslie

Sheriff of South Strathclyde Dumfries and Galloway at Ayr

