SHERIFFDOM OF GLASGOW AND STRATHKELVIN AT GLASGOW

2011 FAI 56

INQUIRY HELD UNDER FATAL ACCIDENTS AND SUDDEN DEATHS INQUIRY (SCOTLAND) ACT 1976 SECTION 1(1)(a) SECTION 1(1)(b)

DETERMINATION by JOHN McCORMICK, Esquire, Sheriff of the Sheriffdom of Glasgow and Strathkelvin following an Inquiry held at Glasgow from the 17th to 21st and on 31st all October Two Thousand and Eleven into the death of GRAEME SCOTT

GLASGOW, 14th December 2011.

In terms of Section 6 of the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976 the sheriff, having considered all the evidence and submissions, FINDS AND DETERMINES:

(1) In terms of Section 6(1)(a) of the said Act, Graeme Scott, born 1 March 1978, who resided latterly at 52 Main Street, Torryburn died at Cranhill Park, Cranhill, Glasgow on 3rd April 2008 as a result of an accident at approximately 11.55am. Mr Scott was certified dead by Police Surgeon, Dr Richard Stevenson at Cranhill Park at 14.10 hours.

(2) In terms of Section 6(1)(b) of the said Act, the cause of death was chest injury and probable suffocation due to Mr Scott initially falling from ground level into a trench at Cranhill Park, Glasgow, approximately 2.87 metres in depth and thereafter both the soil (which formed the trench wall) and spoil (excavated earth) wrongly deposited in too close proximity to the trench wall, collapsing on to Mr Scott.

(3) In terms of Section 6(1)(c) of the said Act, reasonable precautions whereby the death might have been avoided are threefold:-

(i) The death might have been avoided if the team, of which the deceased was a member, had used one or both of the trench boxes provided by their employer so as to prevent the trench walls collapsing.

(ii) The use of the plastic edge protection barriers on site might have prevented Mr Scott falling into the trench.

(iii) Had the spoil (excavated earth) been deposited at least three metres from the edge of the trench wall, this would have reduced both the pressure on the trench wall and, on collapse, the volume of unsupported earth entering the trench.

(4) In terms of Section 6(1)(d) of the said Act, the defects in the system of working which contributed to his death were:-

(i) The failure by the team leader and excavator driver, William Parry, to follow, and direct his team to work within, health and safety procedures when excavating a trench at depth.

(ii) The failure by the team to utilise one or both of the trench boxes provided by their employer, Cameron & Stevenson (Scotland) Limited.

(iii) The failure by the said excavator driver to deposit the spoil removed from the trench at least three metres distant from the trench wall.

(5) In terms of Section 6(1)(e) of the said Act, that there were and are no other facts which are relevant to the circumstances of his death.

NOTE:

[1] The duty on a sheriff presiding at a Fatal Accident Inquiry is set out in Section 6 of the Fatal Accident and Sudden Deaths Inquiry (Scotland) Act 1976 ("the Act"). The sheriff is to hear all the evidence and any subsequent submissions made on that evidence and then to make a determination setting out the circumstances of the death of Graeme Scott under reference to the five considerations set out in Section 6 insofar as they have been established to the satisfaction of the sheriff. The sheriff's purpose and function within the confines of a Fatal Accident Inquiry are determined by Section 6.

[2] In particular, the function of the sheriff at a Fatal Accident Inquiry is not to make a finding of fault or apportion blame between any persons who might have contributed to the accident. The Act does not empower the sheriff to do that.

[3] A Fatal Accident Inquiry is not a fault finding Inquiry. It is neither a civil proof nor a criminal trial. The standard of proof of the circumstances of the death is on the balance of

probabilities. The onus rests on the Crown because, by virtue of Section 1 of the Act, the duty of investigating those circumstances lies with the Crown.

[4] This Fatal Accident Inquiry was convened in relation to the death of Graeme Scott, born 1 March 1978, who resided at 52 Main Street, Torryburn, which occurred at Cranhill Park, Cranhill, Glasgow on 3 April 2008.

[5] The Fatal Accident Inquiry took place between 17 and 21 and on 31 October 2011.

Parties to the Inquiry

[6] The parties to the Inquiry were Miss S Clark, Procurator Fiscal Depute for the Crown; Mr G MacDougall, Solicitor for Scottish Water and Mr R Jackson, Solicitor for Mr Albert Cameron, formerly Managing Director of Cameron & Stevenson (Scotland) Limited, now in liquidation.

Witnesses to the Inquiry

[7] The Inquiry heard evidence from the following witnesses:-

1 Mrs Lisa Scott, Widow of the deceased.

2 Mr William Parry, Team Leader and Excavator Driver.

3 Mr Thomas Brand, Labourer.

4 Mr Colin Campbell, Delivery Driver.

5 Police Constable William Slater.

6 Mr Alan Dunn, Paramedic.

7 Mr Steven MacKenzie, Lorry Driver.

8 Mr Robert (Rab) McGurk, Site Agent (now retired) with Cameron & Stevenson (Scotland) Ltd.

9 Mr John Hughes, Network Analyst with Scottish Water.

10 Mr Michael McGuire, Contracts Manager.

11 Mr Albert Cameron, formerly Managing Director, Cameron & Stevenson (Scotland) Ltd

12 Mr Gerard McCulloch, Inspector, Health & Safety Executive.

13 Mr Michael Thompson, Specialist Inspector, Health & Safety Executive.

14 Mr Alexander Stevenson, formerly Director, Cameron & Stevenson (Scotland) Ltd.

15 Mr Andrew Finnie, Health & Safety Consultant, formerly with Manclark Safety Services Ltd.

16 Mr Charles Macleod, formerly Training Director with R M Skills Centre Ltd.

Evidence before the Inquiry

[8] I do not propose to go through the evidence of each witness. There is no need to do so because although I heard evidence from a number of sources relating to the facts surrounding the accident, the evidence itself was not in dispute and may be summarised as follows.

[9] Cameron & Stevenson (Scotland) Limited traded from Yard 3, Inchross Industrial Estate, Bathgate with between 80 and 120 employees. The company ceased trading in October 2010.

[10] The company involved itself in civil engineering projects including as subcontractors carrying out work for public utilities such as Scottish Water.

[11] A problem had developed within a sewer system running, in part, through Cranhill Park, Glasgow.

[12] A company, IPM Limited successfully submitted a tender to Scottish Water for this work which was subcontracted to Cameron and Stevenson (Scotland) Limited.

[13] The contract included the installation of a sewage pipe running a distance of approximately 37 metres. This necessitated the excavation of a trench approximately 2.87 metres in depth and approximately one meter wide. Pea gravel would be deposited into the trench with pipes (each three meters in length and 300mm in diameter) resting on the gravel before being joined and back filled with pea gravel and soil.

[14] Such work was within the capabilities of Cameron & Stevenson (Scotland) Ltd. The company, and specifically the team allocated to this project, had been involved in other more challenging projects in the past.

[15] The team allocated to this project was a three man team comprising William Parry, the team leader and excavator driver; Mr Thomas Brand, a labourer and the deceased, Mr Graeme Scott, also a labourer.

[16] The project was to last between seven and ten days. There had been initial difficulties commencing the project because of a lack of materials delivered to the site. This raised the issue of whether there had been time pressure on the employees to complete the work.

[17] Mr Parry indicated that the job was overrunning and that he was under pressure to make up time. I do not accept this evidence for the following reasons.

[18] Firstly, no other witness indicated that time was a pressure or constraint on this project. On the contrary, it appears that Cameron & Stevenson (Scotland) Ltd accepted that some projects run over the time allocated while others may run to time or shorter than the time allocated. Initial estimates are often uncertain because of ground conditions once excavation commences.

[19] More importantly, however, I heard evidence that Cameron & Stevenson (Scotland) Ltd regularly offered overtime to its employees which would mean employees working at weekends. Insofar as the team employed at Cranhill Park were concerned, they had been given overtime at a different site during the weekend preceding the accident. It is telling that, although the team had been given overtime, that overtime was not to complete the Cranhill Park job but to work elsewhere.

[20] Furthermore, Thomas Brand, a Labourer within the team of three, had not formed the impression that time was an issue because the team had not been working particularly long hours on this job which would have happened if time had been pressing.

[21] Insofar as the team at Cranhill Park were concerned, the line management was as follows. The labourers on site worked under the direction of the ganger/team leader. In other words, Graeme Scott and Thomas Brand worked under the direction of the Team Leader, William Parry. In this case, Mr Parry was also the driver of the excavator. Mr Parry was not a qualified supervisor.

[22] The team leader William Parry, was supervised by the Site Agent, Robert McGurk who in turn reported to the Contracts Manager, Michael McGuire. On occasions if the

Site Agent, Mr McGurk, was supervising projects elsewhere, Mr McGuire would assume his responsibilities. That is what happened on this site.

[23] Initially, Mr McGuire had thought that the Site Agent, Robert McGurk, would supervise the Cranhill Park excavation which is why Mr McGurk's name appears in the Method Statement as the Site Supervisor. The Method Statement had been prepared in advance of the commencement of the contract. Accordingly, it was the Contracts Manager, Michael McGuire, who actually supervised this site. Mr McGuire in turn reported on health and safety issues to one of the Directors, Mr Albert Cameron.

[24] Cameron & Stevenson (Scotland) Ltd employed the services of a health and safety consultant, Andrew Finnie of Manclark Safety Services Ltd. Mr Finnie had prepared health and safety documentation, including a van pack available to the team. He made unannounced site visits and had tendered health and safety advice to employees and provided reports to Mr Albert Cameron a director.

[25] Both the Contracts Manager, Michael McGuire and the Site Agent, Rab McGurk, considered that the team allocated to the Cranhill Park excavation was one of the more experienced teams within the company. The team leader, William Parry, was one of the most "ticketed" team leaders within the company. He was considered by his seniors to be one of the most experienced personnel in excavations. Again, here the evidence of Mr Parry differed. Mr Parry played down his experience and qualifications.

Trench boxes

[26] Cameron & Stevenson (Scotland) Ltd arranged for the delivery of two trench boxes to site. Trench boxes are described within the Health and Safety Executive publication "Health & Safety in Excavations", 1999 at page 16 as consisting of modular side panels strutted apart by adjustable struts to suit the width of the trench. Their height can be increased by the addition of extension panels.

[27] The purpose of the trench box is to provide a safe working environment for those working within the trench by supporting the side walls and preventing soil slipping into the trench.

[28] A trench box is either lowered into a pre-dug trench or progressively dug into the ground.

[29] Where the depth of the excavation is intended to exceed the depth of the trench box, it is possible to attach extensions to increase the height of the sides of the trench box. Depending on the depth of the ground, the sides of a trench box might also be used for edge protection, with or without extensions.

[30] When in the ground, a trench box can be moved either by dragging the trench box or lifting it.

[31] Where one trench box is used and the pipe work has been laid, the trench box would be dragged or lifted forward following the intended line of the pipe. Thereafter, the area from which the trench box has been relocated is backfilled thereby preventing, or reducing, the possibility of someone falling into an unfilled hole and also reducing the volume of spoil.

[32] The use of two trench boxes is slightly different. Once the two trench boxes are placed in tandem, the rear trench box is lifted over (or "leapfrogs") the other trench box progressively as the hole is excavated and the pipe laid. The exposed rear trench is then back filled.

[33] In relation to the excavation at Cranhill Park, it would have been possible to use one trench box. However, Cameron & Stevenson (Scotland) Ltd had supplied two trench boxes only one of which had been placed in the ground and neither of which was used on the day of the accident on 3 April 2008.

The spoil

[34] "Spoil" is the term given to soil and material excavated from the trench. I heard evidence that the accepted practice is to place the spoil to the side of a trench at a distance at least equal to the depth of the trench. In this case the trench was three metres deep. Accordingly, the spoil should have been placed at least three metres from the side of the trench wall.

[35] The excavator being driven by Mr Parry was a JCB JS145, known as a 14 tonne tracked excavator with a maximum reach at ground level of 8 metres. Accordingly, the excavator provided to Mr Parry was capable of depositing spoil an appropriate distance from the trench wall. This he failed to do.

Working procedures on 3 April 2008

[36] Part of the responsibility of William Parry was to complete daily Site Risk Assessment sheets. In this case the team were eight days into the job. Allowing for the fact that the first day could be discounted because no work was carried out due to a lack of materials, there should be seven Risk Assessment Forms. Instead, only three forms were completed, one for each of 27th and 28th March 2008 and a third undated form.

[37] No daily Risk Assessment form was completed for 3rd April 2008.

[38] A trench box remained *in situ* from earlier site excavations. As I have indicated above, it would have been possible to excavate the trench using the one trench box albeit two trench boxes had been provided.

[39] Here, the team, under the direction of Mr Parry, decided on 3rd April 2008 not to use a trench box. Instead, a trench of approximately twelve metres had been excavated by the time the accident occurred with no steps taken to avoid the collapse of the trench walls.

[40] The spoil was deposited to a distance of 300 millimetres from the edge of the trench wall, not three metres from the edge as should have been the case. Mr Parry drove the excavator which deposited the soil.

[41] There are two issues which I wish to address at this point. Firstly, Mr Parry implied that the site was confined. It was not confined. The site was located within a park. Additional Heras fencing was required to adequately surround the excavation site. That additional Heras fencing was delivered to site minutes before the accident.

[42] Secondly, if either (or both) trench boxes had been used in the appropriate manner, much of the spoil would have been used to backfill the trench after the pipe had been laid. Accordingly, only a fraction of the spoil located on site at the time of the accident should have been visible if the open excavation had been restricted to the area excavated for either (or both) trench boxes.

[43] The excavated trench had no edge protection. Accordingly, a worker such as Mr Scott, could fall into the trench simply because of the lack of edge protection. The more likely scenario is that an employee, such as Mr Scott, walking or standing in close proximity to the trench edge would dislodge the soil, lose footing and fall into the trench with the soil and spoil.

[44] Whether Mr Scott fell into the trench or whether the side collapsed causing him to fall into the trench is unclear. What is clear is that, when in the trench, the walls collapsed trapping Mr Scott.

[45] The frantic and commendable efforts by Mr Parry, Mr Brand, Mr Campbell and police officers to locate and free Mr Scott from the mound of earth which had engulfed him, were in vain.

[46] Mr Parry and the team were experienced in excavating trenches at a depth of three metres. They were aware of health and safety practices involving the use of trench boxes, edge protection and the correct location of spoil.

[47] Mr Parry was aware of the distance from a trench edge at which spoil should be located.

[48] What is not clear is why Mr Parry and his team would depart from such basic health and safety practices and procedures.

[49] If, as I have found, time was not a constraint, it seems that the only reason why the trench was dug without trench protection and the spoil deposited dangerously close to the edge of the trench on 3rd April 2008 was to avoid the inconvenience of having to move one or both trench boxes.

[50] I was informed that Mr Parry had pleaded guilty to a contravention of Section 7 of the Health & Safety at Work etc. Act 1974 in respect of his failure to follow instructions and his failure to ensure the health and safety of his fellow employees.

Supervision of the site

[51] I do not propose to outline in detail the health and safety and auditing procedures employed by Cameron & Stephenson (Scotland) Ltd. I say this because the company no longer trades and, with one exception, there was no real challenge to the health and safety procedures employed by the company. On the whole I am satisfied with the internal and external health and safety auditing procedures employed by the company including its health and safety consultant and certain clients (such as Scottish Water) randomly auditing the health and safety procedures of Cameron & Stevenson (Scotland) Ltd.

[52] No amount of health and safety legislation, practice, procedures or training will prevent an employee intent on ignoring such legislation, practice, procedure and training

even in a situation where, as here, there appears to be no benefit to the employee yet lethal dangers can ensue.

[53] The overall impression which I formed of Cameron & Stevenson (Scotland) Ltd was that it was conscious of its responsibilities towards its employees in terms of health and safety and aware of its legislative obligations.

[54] I shall move on to deal with the exception mentioned at paragraph [51]. There was a difference of expert opinion as to the level of supervision required on this site.

[55] Any excavation over 1.2 metres deep is considered to be a deep excavation. Here, the excavation was approximately three metres in depth. Sewage pipes rely on gravity for flow. Here the contour of the ground meant that the depth of the trench was uniform throughout its length.

[56] Although there was evidence that small items such as a second ladder might have been useful, I am satisfied that all of the equipment required for the excavation was provided by Cameron & Stevenson (Scotland) Ltd. The team employed to carry out the work were suitably experienced to complete the work safely using the materials supplied including the excavator and trench boxes. I am also satisfied that if further materials (such as a ladder, plastic fencing or trench box extensions) had been requested, those materials would have been supplied. What evidence there is in this regard confirms this. A second trench box was available. Additional Heras fencing required to surround the excavation site was in the process of being delivered when the accident occurred.

[57] Accordingly, one can understand the opinion of Mr Michael McGuire, the Contracts Manager who was supervising the site, that William Parry's team should have been able to carry out the work with minimal supervision.

[58] Whilst that may be true, experience on such sites demonstrates that without supervision corners will be cut.

[59] The issue, therefore, becomes whether there was adequate supervision on this site?

[60] On balance, I do not feel that I can properly criticise the level of supervision. In saying this, it stands to reason that if there had been permanent supervision on site, the accident would not have occurred. It is the extent of supervision required by this team on this site where the experts differ.

[61] Mr Gerard McCulloch, an Inspector with the Health & Safety Executive for ten years would have expected a supervisor to have been permanently on site for a job of this scale. This was his opinion even where the gang carrying out the work were very experienced and aware of the possibility of trench collapse.

[62] This evidence conflicted with the evidence of Michael Thompson, H M Specialist Inspector (Construction Engineering) with the Health & Safety Executive. Mr Thompson has eleven years experience with the Health & Safety Executive before which he had worked in the construction industry for some thirteen years in contracting and design office consultancy. At paragraph 30 of his Report he states:

> "Although constant full-time management supervision was not strictly required in these circumstances I am of the view that a visit to the site every couple of days would have been an adequate level of managerial supervision to ensure that the system of work being undertaken was safe."

[63] Put shortly, the level of supervision required on this site was, to a degree at least, a matter of opinion.

[64] Moreover, I note that, also in paragraph 30, Mr Thompson writes:

> "Whilst it would appear that the site operatives were experienced in this type of work, it is evident that unsafe working practices were being undertaken on the site."

[65] The evidence before me indicated that the excavation of a trench without trench support and edge protection and the placement of spoil dangerously close to the edge of the trench, were not normal practices employed by this team.

[66] I am satisfied that such was the internal and external health and safety audit regime (including unannounced inspections by Mr Finnie, the Health & Safety Consultant engaged by Cameron & Stevenson (Scotland) Ltd and audits by certain clients, such as Scottish Water) that such departures from proper practices would have become evident.

[67] In addition, Mr Thomas Brand, had not seen this extent of departure from health and safety procedures in his experience as a labourer on this team.

[68] Finally Mr Michael McGuire, Contracts Manager, had visited the site the day before the accident. The focus of his attention was the potential for flooding at a manhole located at the opposite end of the excavation. This had occupied his time. He had not

addressed health and safety issues whilst on site albeit that he had forms with him to complete. This was because he and others on site had become dirty and wet trying to avert possible flooding.

[69] However, the evidence of both William Parry and Thomas Brand was that, until the 3 April 2008, the trench box on that site had been used properly. That is the reason why one trench box remained in the ground at the time of the accident.

[70] If that evidence is correct, then only full-time supervision would have prevented the accident occurring the next day, 3 April 2008. Supervision every couple of days would not have prevented Mr Parry and his team departing from the appropriate procedures during the intervening day.

[71] In this case, for reasons which are not clear, on 3rd April 2008, Mr Parry led his team in a manner which opened a trench three metres deep and approximately twelve metres in length without using the trench box already in the ground or edge protection. At the same time he deposited the spoil dangerously close to the edge of the trench.

[72] In conclusion, until the day of the accident the evidence demonstrates (a) that (with the exception of incomplete risk assessment forms) on this site health and safety procedures had not been departed from previously, (b) that the team under the direction of William Parry had not departed from health and safety procedures elsewhere previously, (c) that adequate material to complete the job safely was either on site or available, (d) that there was no time pressure to have the job completed and (e) Mr McGuire had visited the site on 2 April 2008. In my opinion, it cannot on balance be said that a lack of supervision was an issue contributing to the accident.

[73] It stands to reason that permanent supervision would have prevented Mr Parry endangering his fellow employees in the manner which he did. That said, unless there had been permanent supervision an accident such as this could not be ruled out where an experienced and competent employee was determined to ignore his experience and training.

[74] Here there is a difference of opinion amongst the experts as to a suitable level of supervision. I do not therefore feel that it can properly be said that Cameron & Stevenson (Scotland) Ltd were at fault for not providing permanent supervision on site to such an experienced team.

Conclusion

[75] The death of Graeme Scott was entirely unnecessary and preventable had trench boxes and edge protection been used and the spoil deposited more than three metres from the trench edge in accordance with accepted good practice. Unfortunately, this event is one more example of health and safety practice, training and procedures being ignored in the interests of expediency with lethal results.

[76] For Lisa Scott, Mr Scott's widow, his death was a desperate blow. Graeme and Lisa Scott had been together for four and a half years and married for six months. Lisa Scott was four months pregnant when her husband died.

[77] I send my condolences to Mrs Scott and her family for such a tragic and unnecessary loss.

SHERIFF