SHERIFFDOM OF SOUTH STRATHCLYDE, DUMFRIES & GALLOWAY
at HAMILTON

Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976

Determination
by
Douglas A. Brown
Sheriff of South Strathclyde, Dumfries and Galloway

following an inquiry into the death of

KEVIN WEST
7 Lawers Road, Mansewood, Glasgow

Hamilton: 31 March 2009

In terms of the undernoted provisions of the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976, the sheriff determines as follows –

Section 6(1)(a)

1. Kevin West, born 12.12.67, residing at 7 Lawers Road, Mansewood, Glasgow, died at around 11.15am on Sunday 14 November 2004 on a building site in Windmill Road, Hamilton as a result of an accident there at around 11am that day.

Section 6(1)(b)

2. The cause of his death was traumatic asphyxia as a result of the side of a trench in which he was working in the course of his employment collapsing over him.
   The cause of this accident was the inherent instability of the ground forming the side of the trench and pressure on this ground due to the presence there of a dumper truck.

Section 6(1)(c)

3. A reasonable precaution whereby the accident resulting in the death might have been avoided would have been the installation of trench shoring to support the sides of the trench.

Section 6(1)(d)

4. The defects in the system of working which contributed to the accident resulting in the death were
   (a) a failure to provide safety briefings, known as inductions, to members of the work squad and to advise them of the risks they were facing, the precautions required to protect them against those risks and the prescribed working method,
   (b) a failure to install trench shoring to support the sides of the trench,
   (c) the operation of a dumper truck by an unqualified operator,
   (d) the positioning of this dumper truck on unsupported ground forming a side of the trench and
   (e) a lack of effective supervision to ensure compliance with health and safety requirements.

Sheriff D A Brown

NOTE

1. The deceased Kevin West, aged 36 at the time of the accident, was married and had three children. He was employed in the construction industry by WH Malcolm Ltd, Brookfield House, 2B Burnbrae Drive, Linwood, Paisley, ("WH Malcolm") as a ground worker, meaning that he carried out ground-related construction activities such as installing drainage piping.

2. The accident which resulted in his death occurred while he was in the course of his employment. In terms of section 1 of the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976 ("the 1976 Act") an inquiry was mandatory unless criminal proceedings had been concluded against any person in respect of the death or accident and the Lord Advocate was satisfied that the circumstances of death had been sufficiently established in the course of such

proceedings. In this case relevant criminal proceedings had been concluded against Mr West's employers WH Malcolm but I was advised that the Lord Advocate was not satisfied that the circumstances of death had been sufficiently established in those proceedings, in particular because the matter had been resolved by a plea of guilty without any evidence being led. The precise nature of that plea was not disclosed at the inquiry as it was not relevant to, and in particular did not restrict, the determinations which the court was required to make on the basis of the whole circumstances of the death as established at the inquiry.

3. It was understandable that it was decided to hold an inquiry. The death resulted from an accident which could readily have been prevented and it appeared appropriate both in the public interest and in the interest of Mr West's relatives that the circumstances of his death should be publically investigated with a view to establishing why this accident occurred and whether there were any particular factors which contributed to its occurrence.

4. The inquiry was lengthy as it involved a detailed investigation of health and safety policy, practice and training. In making determinations in terms of the 1976 Act however the court has to focus on the evidence which is relevant to those determinations.

5. One regrettable feature of this case was a delay of over 4 years between the death in November 2004 and the start of the inquiry in January 2009. It appeared that this was due in part to the time taken to conclude the related criminal proceedings. Such delay can make it difficult for witnesses to recollect details, which was frequently obvious during this inquiry. It may also diminish the value of an inquiry as a means of enlightening the public about any reasonable means whereby the death might have been avoided so that lessons might be learnt for the future, the likelihood being that with the passage of time the determinations will increasingly be regarded as largely historical and of little current relevance. The delay may also of course increase the strain on the bereaved relatives.

6. One further general point which is perhaps worth mentioning is that this inquiry involved reference to a very substantial number of documentary productions without any means being provided for enabling the press and public who were present to see them. Given the nature of the proceedings as a public inquiry, the appropriate equipment for displaying them should have been provided so that everyone in court could follow all of the evidence.

THE ACCIDENT

7. This accident occurred at a building site for a development of flats in Windmill Road, Hamilton. The principal contractors were Campbell Construction Group Ltd, 1 Cambuslang Road, Glasgow, ("Campbell Construction"). In terms of a contract dated 12 October 2004 they had appointed a sub-contractor, WH Malcolm, to carry out various site works, including installation of drainage. Much of this work required to be done before the building work started.

8. On Sunday 14 November 2004, the date of the accident, the site was at an early stage and the only work carried out had been that done by WH Malcolm or subcontractors working for them. They had in particular been laying drainage pipes from a main sewer in a road outside an adjacent primary school, thorough the school grounds and on towards the site. For safety reasons this work could only be done when the school was closed and there were no children about. It had been started in the October school holiday week and had thereafter continued at weekends. Much of the pipe work had been laid and the work had progressed to a point not far short of the site. On Saturday 13 November they had excavated an area for a manhole near the site, had constructed the manhole, had inserted a stub pipe leading out of it to continue the run of pipe and had excavated part of a trench leading towards the site. On Sunday 14 November it was anticipated that they would extend this trench into the site, lay pipes from the manhole into the site and backfill the trench. That would largely complete the work outside the site and enable most of the remainder of the work to be done inside the enclosed site area.

9. The WH Malcolm squad on site on Sunday 14 November consisted of their site manager and foreman Patrick Gaughan, three ground workers, namely Kevin West, Anthony McBride and Thomas Park, and a JCB operator, Andrew Bell. All except Andrew Bell were WH Malcolm employees. Andrew Bell had been engaged by WH Malcolm to do the necessary excavation work. There was no one else present.

10. The work involved excavating a trench about 2 to 2½ metres (6½ to 8 feet) deep and 800mm (2½ feet) wide using the JCB excavator, laying and levelling a bedding of gravel in the bottom of the trench, installing and connecting sections of pipe, laying more gravel round the pipes, testing that the pipes were airtight and backfilling the excavation. As regards the allocation of tasks, the excavation work was to be done by Mr Bell using the JCB digger. Gravel for the trench was to be transported from elsewhere on the site in a dumper truck, with Mr Bell being responsible for loading the gravel into the dumper using the bucket of the excavator and Mr

McBride being responsible for driving the loaded dumper back to the trench. There he required to be guided into position at the edge of the trench as his visibility was restricted by the skip of the dumper. He was then to raise the skip of the dumper, swivel it round so that its front edge was facing the trench and tip it up so as to dump some of the gravel into the trench. Mr West's job was to level the gravel in the trench and install the pipes, with assistance as necessary from Mr McBride, connecting them together with collars and rubber seals. Mr Gaughan was to be present throughout the operation assisting and supervising. Mr Park was not involved in this work and was tasked with work at a manhole some 25 metres away.

11. Work started at about 8am. Mr Bell completed the planned excavation of the trench in the first two hours. The sides of the trench were left unsupported and the installation of the piping was started. Mr McBride tipped gravel from the dumper truck into the trench as bedding for the pipes. Mr West climbed down a ladder into the trench and levelled this gravel with a shovel. Mr Gaughan passed him down a 3-metre length of pipe and he connected this to the stub pipe leading out of the manhole by pushing it into the socket of that pipe. The remainder of the trench was less than 3 metres in length so Mr Gaughan cut a measured length of pipe to fit. He handed this to Mr West who connected it to the other pipe. That resulted in piping stretching the length of the excavation. Once the piping was in place Mr West climbed out of the trench and Mr McBride tipped in more gravel around the pipe. Mr West climbed back into the trench to test whether the pipe was airtight. While this was going on Mr McBride left the dumper parked alongside the trench and went to obtain a spirit level from Mr Park. Mr Gaughan remained at the trench, standing beside it.

12. Suddenly, at around 11am, part of the ground at the side of the trench beside the dumper truck broke away and collapsed into the trench, covering Mr West. Mr Gaughan jumped into the trench and started digging with his hands to try to free him. One of the men contacted the emergency services. The dumper truck looked as if it might topple into the trench as the ground under one of its front wheels had collapsed so Mr McBride reversed it away from the trench while Mr Bell supported the skip of the dumper with the bucket of his excavator. Mr McBride then ran to get Mr Park while Mr Bell assisted Mr Gaughan in trying to free Mr West. The men dug at the earth with their hands and shovels but it was difficult to remove and it was too dangerous to risk using the excavator. They managed to clear Mr West's head. Initially he was alive and conscious but after about 10 minutes his head went down and he appeared to become lifeless.

13. The emergency services arrived within about 15 minutes of the accident. Paramedics who examined Mr West could not detect any breathing or pulse and it appeared that he had died. He was freed at approximately 11.50am at which point ECG monitoring showed no cardiac activity. He was taken to Wishaw General Hospital where life was pronounced extinct at 1pm.

14. A post mortem examination carried out on 17 November 2004 revealed the cause of death to be traumatic asphyxia. The pathologist explained that the weight of the earth on Mr West's chest would have prevented the expansion of his chest necessary for breathing, resulting in an inability to inhale air and death due to deprivation of oxygen. Contrary to popular belief, clearing the earth from around the head in this type of situation was unlikely to be enough to enable breathing and the risk of death remained until the pressure on the chest was relieved.

THE RISK OF THE ACCIDENT OCCURRING

15. It was clear from the evidence that there was a high risk of this accident occurring as the sides of the trench were inherently unstable and in the absence of support were liable to collapse at any time. A witness from the Health & Safety Executive said that it would only have been safe to be in an unsupported trench of this depth if it was in solid rock and an engineer had confirmed that shoring was unnecessary.

16. The risk of trench collapse was widely known throughout the construction industry at the time and was highlighted in health and safety publications and guidance. In particular there was a Health and Safety Executive publication entitled "Health and safety in excavations. Be safe and shore" which was first published in 1999. That publication had been prompted by the Health and Safety Executive's concern over a number of years about the collapsing of trenches throughout the UK and in particular in Scotland. It was suggested that the effect of the Scottish weather on the stability of the ground and also the remoteness of some locations and a consequent lack of scrutiny could be factors. The following is an excerpt from the preface -

"Digging foundations and trenches for drains is one of the first jobs carried out on a construction site and unhappily for some it is the last that they carry out. Workers with many years experience of excavation work are often deceived by the appearance of ground which they are convinced will stand with little or no support for as long as they have to work in it. There is almost no ground which can be relied upon to stand unsupported in all circumstances. Every year too many construction workers are killed or maimed when part of inadequately supported excavations in which they are working collapse. The risk is self-evident when you

consider that one cubic metre of soil can weigh as much as one tonne and it is quite common for that volume of soil to collapse into an unsupported excavation."

It was emphasised in this publication that it was not safe to work in unsupported excavations. There was an illustration of a typical collapse and this bore a striking resemblance to the collapse in this case.

17. A substantial proportion of the ground at this trench was what is known as "made" ground, being ground which has previously been disturbed and refilled. This made it more unstable than it would have been in its natural state and increased the risk of collapse.

18. A more significant factor increasing the risk of collapse was the presence of the dumper truck at the side of the trench. This resulted in pressure being applied to the ground. A Health and Safety Executive witness explained that this pressure would have been directed downwards and outwards, with some of it being directed towards the side of the trench. He commented that a dumper truck should not have been anywhere near an excavation which had not been shored up as this was a heavy vehicle made even heavier by the material in its skip, resulting in substantial pressure on the ground.

19. The risk of collapse was a serious risk in that there was a real possibility of fatal consequences. In a narrow trench it is difficult to avoid collapsing earth and rescue attempts are likely to be prolonged due to the weight of the earth, the difficult working conditions and the need to rely on manual digging due to mechanical digging being too dangerous. Meantime the trapped person's breathing is likely to be impaired and the survival time is in consequence likely to be short. It is noteworthy that in this case the rescue took about 50 minutes and that death occurred within the first 15 minutes.

REASONABLE PRECAUTION WHICH MIGHT HAVE PREVENTED THE ACCIDENT

20. It was clear from the evidence that this accident could readily have been prevented if the sides of the trench had been shored up so as to prevent collapse.

21. There was evidence of various methods of shoring, including the use of

    (a) trench sheets or sheet piles – being elongated sheets of metal about two feet wide which are placed or driven in vertically against the sides of a trench and supported by steel or timber beams braced across the width of the trench, and

(b) a trench box - consisting of side panels which support the sides of the trench and are strutted apart by adjustable struts to suit the width of the trench.

Either of these methods is equally effective in preventing collapse, the choice being based on which is more convenient in terms of availability and working conditions. It appeared that the most suitable means of shoring up this particular trench was by use of trench sheets as the trench was narrow and this would have caused least restriction to the available working space. Suitable trench sheets were readily available on site some 30 metres away.

22. Installing and removing trench sheets is labour intensive and time consuming. There were varying estimates of how long it would take to install and remove it but it appeared that for a 3 metre stretch it could take between half an hour and an hour to install and about half an hour to remove.

MANAGING THE RISKS

23. Construction activity generally involves risks to health and safety and these risks require to be properly managed in order to create a safe working environment. That involves identifying the risks, eliminating those which are unnecessary and minimising those which remain by means of appropriate precautionary measures. Various means of managing the risks were discussed at the inquiry, in particular the following -

(a) Risk assessment – This involves identifying in advance the risks involved in carrying out a specific task at a specific site and the control measures or precautions necessary to eliminate or minimise these risks. The results of this exercise are commonly set out in a risk assessment document.

(b) Method statement – Once the risks and control measures have been identified, decisions can be made about safe working methods and the use of appropriate plant and equipment. The results of this exercise are set out in a method statement which describes how the work is to be done.

(c) Site rules – These are principally designed to ensure compliance with health and safety requirements.

(d) Competent sub-contractors - A principal contractor, with overall responsibility for safety, should select sub-contractors who will work safely.

(e) Competent employees – Construction workers, generally known as operatives, should be adequately trained and experienced so as to be able to work safely.

(f) Induction – This is a communication process whereby operatives are made aware of the risks identified by the risk assessment process, the working methods described in the method statement and the site rules so that they know how to work safely and protect themselves against the risks. An operative employed by a sub-contractor and arriving to work on a site for the first time will generally be given a site induction by the principal contractor in charge of the site, so that he knows how to deal with the risks on that site, and then a job-specific induction by his foreman, so that he knows how he should carry out the specific task allocated to him. These inductions may however be combined and given by the same person.

(g) Supervision – There should be adequate supervision to ensure compliance with health and safety requirements.

24. There were essentially four layers of responsibility for the health and safety of Mr West and his colleagues. Overall responsibility lay with the principal contractor Campbell Construction. Then there was the sub-contractor WH Malcolm. Then there was the squad foreman Patrick Gaughan. And finally there were the members of the squad themselves, who had a duty to take reasonable care for their own safety. There was no suggestion that the members of the squad had done anything other than comply with the instructions of their foreman Mr Gaughan. The focus of the inquiry was therefore on how the other parties had discharged their responsibilities.

CAMPBELL CONSTRUCTION

25. In selecting a sub-contractor to carry out the ground works, Campbell Construction required to exercise reasonable care to ensure that the sub-contractor was competent and would operate safely. There was no criticism of their selection of WH Malcolm. WH Malcolm was a specialised and well-established ground works sub-contractor who had previously carried out sub-contracted work for them in an apparently satisfactory manner and the two companies had developed a good working relationship. It was a specific provision of the sub-contract that WH

Malcolm would comply with all relevant health and safety legislation and regulations and there did not appear to be any reason for doubting that they would do so.

26. Before work started, Campbell Construction's health and safety manager Andrew Blair prepared what was known as a Construction Phase Health and Safety Plan ("the Health and Safety Plan"), this being a requirement in terms of the Construction (Design and Management) Regulation 1994. The purpose of that document, as stated in the introduction, was to set out "the arrangements which will ensure the health and safety of all persons at work and who may be affected by the work. These arrangements will include details of site organisation and responsibilities, site welfare and safe systems of work." Mr Blair said that it explained how Campbell Construction would manage the project safely. Once prepared it became the responsibility of their site manager to ensure compliance. Mr Blair said that his practice was to visit a site when a site manager started and go through the Health and Safety Plan with him in order to ensure that he was aware of his responsibilities.

27. Relevant aspects of the Health and Safety Plan were as follows –
    - "All site operatives (directly employed or sub-contractor) must have a site safety induction every time they enter a new site"
    - the site manager is to "safety induct each and every person who enters the site to work"
    - the induction process is to include telling operatives that "You must have received a risk assessment / method statement briefing prior to starting on site on your safe system of work"
    - the induction process is to include telling operatives that "You must hold a valid CTA (being the appropriate certification of competence) and full driving licence before being allowed to operate any item of plant. Your certification must be produced and logged within the safety plan before you operate any plant."
    - the site manager is to "inspect the workplace on a regular basis to ensure a safe working environment without hazard to health"

    Accordingly in terms of the Health and Safety Plan, Campbell Construction's site manager was bound to deliver a site induction to every operative, to ensure that every operative knew that he had to have a briefing on a safe system of work before starting work, to ensure that every operative knew that he could only operate plant if qualified to do so and to supervise the workplace in order to ensure a safe working environment.

28. Campbell Construction's first site manager on this site, an Ian Wilson, started during the October school holiday week after WH Malcolm had started work but was only there for a few

days before going on holiday. The health and safety manager Mr Blair did not manage to meet with him and had no discussion with him about the Health and Safety Plan. Mr Wilson did not provide site inductions to the WH Malcolm men. He said in evidence that this was because WH Malcolm had already started work and he knew that they carried out their own inductions. He did not check that they had done so, despite a general practice which he spoke about of making a check in this situation. .

29. Following Mr Wilson's departure there was a gap of about a week, during which there was no Campbell Construction site manager present, before another site manager James Huxtable took over on Monday 8 November. He too did not provide site inductions to the WH Malcolm men. He saw them using a dumper truck but did not know who was driving it. No certification for the person driving it was produced and logged as required by the Health and Safety Plan.

30. Mr Blair attended at the site on Friday 12 November, two days before the accident, and met with Mr Huxtable. On becoming aware that the site inductions required in terms of their Health and Safety Plan had not been provided he told Mr Huxtable to attend to this on the following Monday morning.

31. Prior to the accident Mr Blair did not know whether the WH Malcolm employees had been receiving job-specific inductions as required by the Health and Safety Plan. His practice was to carry out a health and safety inspection on a monthly basis and, as part of this, to carry out a random check on sub-contractors' induction records but he had not done that in this case.

32. No one from Campbell Construction was on site on Saturday 13 or Sunday 14 November until the time of the accident. On Friday 12 November Mr Gaughan had told Mr Huxtable that the WH Malcolm squad would be working that weekend. Mr Huxtable did not normally work at weekends and had asked if he needed to be there. Mr Gaughan had told him that he was not required. Mr Huxtable had been content to let the squad work on their own as they had worked without incident on previous weekends.

33. The impression from the evidence was that prior to the accident Campbell Construction had effectively left WH Malcolm to run the site with only the occasional presence of one of their site managers. This was confirmed by Mr Blair who said that there had been an informal understanding that when WH Malcolm were on site doing the initial work they would be in charge and would be supervising their own work. He commented that because WH Malcolm

were experts on ground work, Campbell Construction had felt comfortable with a watching brief prior to other sub-contractors coming onto the site to work and that it would only have been at that point that their site manager would have taken on a full-time role.

34. The Health and Safety Executive view as expressed at the inquiry was that a principal contractor in this situation did not fulfil his overall responsibility for health and safety by effectively delegating it to a sub-contractor unless there was a system for ensuring compliance with his health and safety plan. If it was intended that WH Malcolm should provide site inductions, which might have been appropriate given that they were doing all of the work, then that responsibility should have been clearly delegated and there should have been a system for checking that they were providing these inductions. In this case of course there was no such delegation and site inductions were simply omitted. Similarly there should have been an effective system for ensuring that plant and machinery were only operated by qualified people and that the work was being carried out safely and in accordance with WH Malcolm's method statement.

35. It appeared possible that if Campbell Construction had put in place a system to secure compliance with their Health and Safety Plan, that might have had some bearing on what subsequently happened but the evidence did not justify any firmer conclusion. The accident occurred because of defects in the system of working and that was very much WH Malcolm's responsibility.

WH MALCOLM

36. At the time of the accident WH Malcolm had direct responsibility for ensuring a safe system of working. The following are the principal means whereby they sought to fulfil this responsibility.

RISK ASSESSMENT

37. Before starting work, they prepared a number of risk assessments identifying the risks to be anticipated in carrying out the various aspects of the work and the appropriate control measures to protect operatives against those risks. One of these dealt with excavation and drainage work and was prepared by their health and safety department in consultation with their contracts manager, Stephen McGee. Amongst other things, it identified as "significant hazards" poor

ground conditions, falling material, unprotected edges and vehicles / plant operating. It then set out the "control measures required". The following are extracts and comments –

- "Manager / supervisor to pre-plan method to be used to prevent unintentional sides collapsing." – This responsibility was accordingly placed on their site manager and foreman Mr Gaughan.
- "Excavations to be sufficiently battered back or suitable shoring provided to prevent sides or face collapsing." – Battering back involves excavating trench sides with a sloping or stepped gradient so as to avoid instability. This was not done in this case. Accordingly the requirement was for the trench sides to be shored up in order to prevent collapse. This requirement was re-emphasised later in the document in that it was provided that in any excavation more than 1.2 metres deep where there was no battering back, the sides had to be supported by sheet piles, trench boxes or other similar means due to the risk of collapse.
- "Operatives to stay within protected zone when in excavation." – The protected zone is the part of the trench protected by shoring. This requirement emphasised the need for constant protection.
- "Vehicles and plant to be kept a safe distance from edges. Stop blocks or mounds may have to be placed."

38. This document appeared sound and comprehensive. A witness from the Health and Safety Executive merely suggested a minor improvement by adding that no one should enter an unsupported trench. He did however emphasise that the value of this document was entirely dependant on its contents being communicated to those facing the risks.

METHOD STATEMENT

39. Also before starting work, WH Malcolm's contracts manager Stephen McGee prepared a method statement describing how the drainage work was to be carried out. Amongst other things this made it clear that operatives were to receive inductions on the contents of the method statement, that the relevant risk assessments were to be read in conjunction with the method statement and that any excavation was to be shored up with trench sheets or trench boxes before work in the trench began.

SITE RULES

40. Relevant extracts from WH Malcolm's site rules at the time are

- "All site operatives to receive site induction before commencing work on site"
- "Operate plant / machinery only if qualified to do so"
- "Wilful disregard of these site safety rules will result in the offending individual being removed from site"

COMPETENT EMPLOYEES

41. There was detailed evidence at the inquiry about the training, experience and qualifications of Mr Gaughan and the members of the squad working with him at the time of the accident. It appeared from that evidence that WH Malcolm placed considerable emphasis on training so as to ensure that their employees were appropriately skilled and qualified and there did not appear to be any significant defect in the training regime.

42. Patrick Gaughan, aged 58 at the time of the accident, was WH Malcolm's foreman and site manager / supervisor on this site and as such was responsible for all of the work being done there at the time of the accident. He had been employed by WH Malcolm in the same capacity since August 2000. Prior to that he had been working in the construction industry for some 36 years, progressing from a labourer to a ganger, being a foreman working with and supervising a squad, and then to a site manager and foreman, with responsibility for all of the work being done on a site. He had extensive experience of ground working and in particular the excavation and shoring of trenches.

43. He had various qualifications including a Construction Skills Certification Scheme ("CSCS") card, issued in October 2003, as a building site manager. The CSCS scheme had resulted from a government initiative designed to ensure that construction workers were properly qualified for the work they were doing. Once the required standard had been attained and a CSCS card issued, production of that card provided a simple means of proving competence in respect of the role or activities specified on the card. Mr Gaughan's CSCS card as a building site manager certified his competence in that role and in particular his competence in maintaining systems for managing health and safety, identifying hazards and assessing and controlling risks. He also had a CSCS special operative general card certifying his competence in carrying out ground works, including drainage and shoring.

44. In August 2001 he attended an internal WH Malcolm safety awareness course for construction managers, the purpose of which was to ensure that managers were aware of and able to fulfil

their responsibilities in relation to health and safety. Copies of PowerPoint slides from that course were produced. The following are extracts -

EXCAVATIONS

"While excavations are being undertaken no person should be placed in danger from collapse or being buried or trapped from fall of or dislodgement of any material

Suitable and sufficient equipment, materials and methods of work must be used in the support of excavations

Methods must be used to ensure that no person, material or vehicle falls into an excavation and nothing shall be placed close to an excavation that may cause the excavation to collapse."

HEALTH & SAFETY

"All WHM personnel are to receive WHM's site induction prior to starting on each site. This requires the supervisor to convey our site rules and the relevant risk assessments to our operatives. Each operative must then sign our record sheet."

"Site supervisors to be fully aware of all risk assessments and control measures that are to be followed for each task.

Site supervisors to ensure operatives are carrying out their tasks in accordance with the risk assessments.

Site supervisors to ensure method statements are adhered to and that key personnel involved are aware of their contents"

SUMMARY

"Keep giving Health & Safety inductions

Ensure we are following our own site rules and risk assessments

Ensure only certified persons operate plant…"

45. In March 2004 he attended a similar WH Malcolm safety awareness training course.

46. Various witnesses who had been in more senior positions with WH Malcolm at the time of the accident spoke highly of him. Stephen McGee, their contracts manager, said that he was very good at his job, was very conscientious about health and safety and was one of their best foremen. Graham Beveridge, their health and safety manager said that he was very experienced, very competent and very safety conscious, was one of their most experienced foremen and was someone who had a reputation for doing the job correctly. Henry Davidson, their training manager, said that it was part of his function to ensure that the workforce were complying with health and safety requirements and that he had never had cause to speak to him about doing anything wrong.

47. Mr Gaughan did not return to work with WH Malcolm after the accident. He only resumed work, with a different employer, in November 2007.

48. Kevin West, aged 36 at the time of the accident, was a ground worker. He had been employed by WH Malcolm since 1 October 2002. He held a SVQ (Scottish Vocational Qualification) at level 2 in construction and engineering services. That meant that an independent assessor had been satisfied on the basis of a detailed assessment of his knowledge and skills that he had attained the appropriate standard set by the SVQ authority. This qualification could be awarded at different levels, depending on a person's role or work. The level 2 SVQ held by Mr West indicated that he was qualified to carry out various types of construction and engineering work, including installing pipe work and erecting and dismantling temporary structural support for excavations, and that he was capable of doing so in accordance with instructions and without the need for constant supervision. Mr West also had various Malcolm Group training certificates, including one dated 4 June 2003 certifying that he had been trained to operate a forward tipping dumper of the type being used at the time of the accident and had passed the relevant practical and theory tests which included health and safety. He had considerable experience in excavation and shoring work.

49. Anthony McBride, aged 26 at the time of the accident, was a ground worker. He had been employed by WH Malcolm since 15 October 2003. On 31 August 2004 he had a level 2 SVQ in construction and civil engineering services. He had considerable experience in excavation and shoring work, both before and since being employed by WH Malcolm.

50. He was not however qualified to drive the dumper truck which he was driving on the day of the accident. He said in evidence that Mr Gaughan knew that he was not qualified to drive it, had commented to him about not having a "ticket" and had said that he would have to get one. He had previously driven the dumper on that site on a few occasions and prior to that had driven dumpers on other sites. He had been shown how to do it by various people on various sites. He commented that this happened all over the building industry in Scotland. He had known that he should not have been driving but had simply been complying with instructions.

51. WH Malcolm's training manager, Henry Davidson, said that it was WH Malcolm's policy that only qualified operators should drive dumper trucks. This was reflected in one of their site rules which prohibited unqualified people from doing so. It was for the site manager, Mr Gaughan, who was responsible for allocating tasks, to ensure compliance with this rule. If Mr Gaughan

had considered it appropriate for Mr McBride to become a driver and that view had been accepted, appropriate training could readily have been provided. That training would have covered the health and safety aspects of operating a dumper truck. In particular Mr McBride would have been trained to comply with what was known as the 45-degree-angle rule in relation to working near any unsupported trench, which was that the dumper should remain at a distance from the trench equal to the depth of the trench so that it was at a 45-degree angle from the bottom of the trench. This was to avoid the risk of collapse of the trench side. Only if the trench was properly shored up should it could go closer.

52. Thomas Park, aged 48 at the time of the accident, was a ground worker. He had been employed by WH Malcolm since 14 August 2000 and had been a ground worker for some 16 years. He had a level 2 SVQ in construction and civil engineering services and a CSCS card as a construction operative. .

53. Andrew Bell, aged 55 at the time of the accident, was a qualified JCB operator. He was employed by a different company which had been sub-contracted by WH Malcolm to dig the excavations.

INDUCTION

54. WH Malcolm's health and safety policy included the following provision -
"Site managers, foremen and supervisors are responsible for the health and safety of all employees in their immediate control and in particular must ….ensure that all Malcolm and agency employees receive a job specific health and safety induction. This must inform them of the rules they are to follow, the hazards they will encounter and the control measures that are to be applied."

55. WH Malcolm had an induction form describing various aspects of the induction process. Relevant extracts from the form are
- "You should have received a site induction from the principal contractor explaining the type of contract, hazards to be expected and the rules that are to be obeyed.
- WH Malcolm also have their own health and safety standards that must be kept.
- WH Malcolm's site safety supervisor for the contract is Pat Gaughan, foreman.
- Our site rules for the contract are "read out" (which indicated that the rules were to be read out during the induction)

- You will receive risk assessments for the tasks you are expected to carry out. If you have not, or are unsure, please ask your supervisor who will rectify the situation."

56. WH Malcolm also had a safety induction record which required to be completed to record the subjects covered at the induction, the person providing the induction and the operative who had been inducted. The operative required to sign and date the record confirming receipt of this induction.

SUPERVISION

57. WH Malcolm's health and safety policy stated that
"Contract managers are responsible for implementing the health and safety policy for their place of work and in particular must
- Ensure site managers, foremen and supervisors are carrying out their duties specified in the company's health and safety documentation
- Constantly monitor the health and safety performances at their place of work, taking appropriate action when required
- Prepare site specific health and safety documentation for each project and issue to appropriate manager / foreman or supervisors."

58. WH Malcolm's contract manager Stephen McGee had, as previously noted, been involved in the preparation of the risk assessment for excavation and drainage work and had prepared the method statement describing how this work was to be carried out. Both of these documents had been included in the health and safety file issued to Mr Gaughan.

59. As regards supervision, he had an overview of the work being done at this site and had been responsible for supervising it since it had started about a month prior to the accident, but Mr Gaughan was the person who was running the operation on a day-to-day basis and it was for him to allocate tasks to members of the squad and to supervise them when carrying out those tasks. At the time of the accident he, Mr McGee, was responsible for approximately 12 to 15 sites where WH Malcolm were working, which limited the time he could spend on any one site. Given his view that Mr Gaughan was one of their best foremen, he considered that he did not require as much supervision as some of the other foremen. He said that his practice was to go the site once or twice a week, walk round it, discuss progress and attend site meetings with the principal contractor, which in November 2004 normally occurred about once a week. If he saw

anything that he was not happy with from a health and safety perspective he would discuss it with Mr Gaughan but he did not have any cause for concern.

PATRICK GAUGHAN

60. The reason why the risks which led to this accident were taken was largely a mystery for much of the inquiry as the one person who was in a position to throw some light on the matter, namely Mr Gaughan, was led very late on in the proceedings. Until that point the picture presented was of WH Malcolm having all the relevant health and safety documentation and training in place and having the work supervised by one of their best foremen who was very safety conscious. It was accordingly difficult to understand how things could have gone so badly wrong.

61. When Mr Gaughan gave evidence however it became clear that the picture of him presented by his senior WH Malcolm contemporaries at the time was completely at odds with the way he was operating. Far from being the very safety conscious individual described, he appeared, on the basis of his own evidence, to have had little if any regard for the health and safety of the men for whom he was responsible.

62. In explanation of this view, it is appropriate to consider his evidence in some detail.

INDUCTION

63. As previously noted, one of WH Malcolm's site rules was that all operatives should receive a site induction from the principal contractor.

64. When questioned at the inquiry about this, Mr Gaughan said that he did not receive a site induction from the principal contractor, that he did not see any site inductions being given by the principal contractor to any of the squad and that he did not do anything about it. Asked why he did nothing about it, he said that it was down to the principal contractor to do it, though he acknowledged that the principal contractor did not really have a presence on site. He said that on other sites the principal contractor would give a site induction lasting 10 to 15 minutes. He appeared to have been quite unconcerned that the men in his charge should not have had the benefit of this initial safety briefing.

65. WH Malcolm's health and safety policy required that all operatives should in addition receive a job specific health and safety induction informing them of the rules they were to follow, the hazards they would encounter and the control measures that were to be applied. Their induction form indicated that the site rules should be read out as part of the induction process. Their method statement required that all operatives should be inducted in relation to its contents and that the relevant risk assessments should be read in conjunction with it, which meant that operatives had to be told about the risks and the approved working methods so that they understood how the work was to be carried out safely. Their health and safety policy made it clear that Mr Gaughan, as the site manager and foreman, was responsible for the health and safety of the employees in his control and that he had a duty to ensure that all WH Malcolm and agency employees received a job specific health and safety induction. It had been emphasised at the training he attended in August 2001 that it was his duty to provide this induction.

66. Asked how he discharged this duty, Mr Gaughan he said that he would leave out the induction record and the site rules, that the men would sign the record and that they would then start work. Asked whether the men read the site rules, he said that they may have. Asked whether he checked that they had read them, he said no. There was no suggestion that what he did could ever properly be regarded as an induction. He was simply securing signatures on the induction record so as to make it appear that he had discharged this duty.

67. He said that the way he dealt with inductions was "the way it was done" and that this was standard throughout WH Malcolm sites. He acknowledged that what he did was at odds with WH Malcolm's health and safety policy but said that he did not remember ever reading the policy, that he did not know that this was one of his responsibilities and that he had never been trained to give inductions. I did not accept his evidence that he was unaware of his responsibility for giving inductions as it was clear from other evidence that he would have been well aware of it and the very fact that he was obtaining signatures on the induction record supported that view. Moreover the induction record itself specifically stated "Induction given by Pat Gaughan". I also did not accept his evidence that he was unable to provide inductions due to inadequate training. Apart from the fact that there was evidence which I accepted that he had been trained, the induction process as set out in WH Malcolm's health and safety documentation was very straightforward and involved little more than going through the relevant parts of that documentation with the men and providing any necessary explanation, which for someone with his experience should have been perfectly simple.

68. The lack of inductions was confirmed by members of the squad, in so far as they were able to remember. Mr Park said that the only thing he was told about was an underground electric cable. Mr Bell remembered Mr Gaughan wanting him to start work immediately and getting him to sign the induction record confirming that he had received an induction despite not having had one. Both Mr McBride and Mr Bell thought that inductions had increased since the time of the accident.

SITE RULES

69. Mr Gaughan's failure to provide inductions resulted in a failure to deal with various other matters which were supposed to be part of that process. One of these was to read out the site rules so that the men knew and understood them. Mr Gaughan confirmed in evidence that he did not do that.

RISK ASSESSMENT

70. Again arising from the failure to give inductions, Mr Gaughan failed to tell the men about the contents of the relevant risk assessments. He confirmed in evidence that he had received a copy of these risk assessments, which amongst other things highlighted the risk of the trench sides collapsing and the need for shoring. He had however failed to communicate any of that information to the men facing these risks. His excuse was that he was not trained to do this, which appeared to be an entirely unconvincing explanation for failing to pass on the information communicated to him. He also said that these were "experienced men", the implication being that they would have been aware of these things without being told. That however appeared doubtful as much of their experience had been of working with him and this view was supported by their evidence. In particular Anthony McBride indicated that he had no particular concerns at the time about going into an unshored excavation. Thomas Park said that his view at the time was that it was for the site manager to decide on the need for shoring on the basis of the appearance of the ground, which was of course quite contrary to what was stated in the risk assessment and method statement but reflected the flawed approach adopted by Mr Gaughan.

QUALIFIED OPERATIVES

71. One of WH Malcolm's site rules was that no one should operate plant and machinery unless qualified to do so. Mr Gaughan ignored this rule and instructed Mr Bride to operate the dumper

truck despite knowing that he was not qualified and despite having a qualified operator, namely Mr West, readily available. Asked why he did not instruct Mr West to operate it, his reply was "no particular reason". There was accordingly no apparent reason for breaking this rule.

PROTECTING TRENCH EDGES

72. As previously noted, the risk assessment required vehicles to be kept at a safe distance from the edges of a trench and indicated that stop blocks or mounds might be required in order to achieve that. Mr Gaughan ignored the risk, did not have any barriers put in place and had the dumper truck driven right to the edge of the unsupported trench. It might be thought that it would have been fairly obvious that the weight of a heavy dumper truck bearing down on the unsupported side of a trench would have increased the risk of collapse and that this should have been particularly obvious to someone as experienced as Mr Gaughan. Yet when asked about whether he had any concern about the increased risk of collapse he said that at the time he probably didn't, which implied that he had given the matter little thought.

73. This positioning of the dumper truck at the edge of the trench and the consequent increased risk of collapse could readily have been avoided by using the JCB excavator to unload the gravel from the dumper and drop it into the trench from a safe distance away using its long arm and bucket, instead of having the gravel being tipped directly from the dumper. The evidence indicated that this was the more usual practice, not only because it was safer but also because it resulted in better control over the amount of gravel being deposited. It was accordingly entirely unnecessary to take the risk involved in using the dumper to tip the gravel.

TRENCH SHORING

74. The failure to install shoring to prevent the trench sides from collapsing was the most glaring and fundamental breach of safety requirements and was the main reason why this accident occurred. The requirement for shoring was repeatedly emphasised throughout WH Malcolm's health and safety documentation, which made it plain that shoring must be used whatever the apparent state of the ground. Mr Gaughan ignored this basic safety requirement and thus put at risk the life of anyone working in the trench.

75. He said that the excavation and pipe laying work from outside the school gates to a point about half way across the school grounds was carried out by two companies who were sub-contracted

to WH Malcolm and that these sub-contractors used sheet piles to shore up the sides of the trench. Then WH Malcolm men became available and took over from the sub-contractors, who left the site. At that point it became his decision as to whether to use shoring. He decided not to use any shoring or any other support for the sides of the trench. Asked why there was this sudden change in the system of working, he said that he thought the ground had got better and that they could do the work without using the sheet piles. He said that the ground was so hard that the machine could hardly dig it and that the sides of the trench were straight up, whereas they had been eroding where the sub-contractors had been working. That explanation of a sudden change in the consistency and stability of the ground coinciding with the change to the WH Malcolm squad doing the work was unconvincing and there was certainly no other evidence to support it. Asked whether he tested the ground in any way he said that he did not know of any means of testing, which emphasised the nature of the risk he was taking in that the sole criterion was that the ground did not look as if it was going to collapse. He appeared to have given little thought to the serious risk faced by anyone entering the trench. His decision not to install shoring remained unchanged and no shoring was installed during the remaining excavation work from around half way across the school grounds to the point where the collapse occurred directly outside the building site. He said that the sole reason for not using shoring was the condition of the ground and rejected any suggestion that he may have been under pressure to complete the work, commenting that although it saved time not to use shoring, that was not a consideration. Again therefore this was an entirely unnecessary risk to take. He claimed that his understanding was that the ground should be shored if there was a risk of collapse. I did not accept his evidence on this matter and was satisfied on the basis of other evidence that he had been well aware that there ought to have been shoring, whatever the apparent condition of the ground.

THE DETERMINATIONS

76. In terms of section 6(1) of the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976 a sheriff is required to "make a determination setting out the following circumstances of the death so far as they have been established to his satisfaction -

(a) where and when the death and any accident resulting in the death took place;

(b) the cause or causes of such death and any accident resulting in the death;

(c) the reasonable precautions, if any, whereby the death and any accident resulting in the death might have been avoided;

(d) the defects, if any, in any system of working which contributed to the death or any accident resulting in the death; and

(e) any other facts which are relevant to the circumstances of the death."

It is appropriate to consider each of these in turn.

77. Section 6(1)(a) – Although life was formally pronounced extinct at 1pm on 14 November 2004 at Wishaw General Hospital and these were the properly certified details of the death, it appeared from the evidence that Mr West died shortly after the accident while buried in the trench and unable to breathe. It is appropriate to reflect this in this determination.

78. Section 6(1)(b) – The cause of death is as established at post mortem examination. As regards the cause of the accident, the principal cause was the inherent instability of the ground. I was satisfied that the presence of the dumper truck at the edge of the trench was a contributory cause given the evidence about the effect of that weight on the ground and the fact that the collapse occurred at that point.

79. Section 6(1)(c) – I was satisfied that the accident could have been prevented if the reasonable precaution of shoring up the sides of the trench had been taken. Given the inherent instability of the ground and the risk of collapse at any time, I was not satisfied that any other reasonable precaution would have prevented the accident.

80. Section 6(1)(d) – A determination in terms of this subsection requires the court to consider whether there were any defects in the "system of working" which "contributed" to the death or the accident resulting in the death. This expression "system of working" is a broad one and deliberately so in order that the court can examine all aspects of how the work was done - including planning and preparation, the work activity and the management and supervision of that activity - and identify any defects which contributed to the death or accident, one of the main purposes of a fatal accident inquiry being to alert the public to the means of avoiding a death in similar circumstances in the future. The word "contributed" is unqualified and covers the whole range of defects from those which are the main causes of a death or accident to those which have much less impact but can nonetheless reasonably be regarded as having increased the likelihood of the death or accident occurring.

81. WH Malcolm had devised a safe system of working and had set this out in their method statement. This involved, firstly, ensuring by means of induction and reference to the relevant

risk assessments and the method statement itself that operatives were aware of the risks, knew how these risks were to be controlled and knew how they were to do the work and, secondly, ensuring that operatives worked in accordance with the prescribed method of work, put in place all relevant risk control measures and carried out the work safely. Had the work been carried out in accordance with this system of working, the accident would not have happened. The actual system of working at the time of the accident however, which is what the court has to consider for the purposes of any determination in terms of this subsection, was quite different and was so unsafe as to result in this fatal accident.

82. Mr Gaughan did not fulfil his duty to provide job specific health and safety inductions and did not therefore tell the men for whose safety he was responsible anything about the site rules, the risk assessments and the method statement. It seems likely that his failure to speak to them about the site rules would have made it easier for him to ignore them in practice, that his failure to alert them to the risks they faced would have made them less conscious of those risks and of the need for protection against them and that his failure to tell them of the prescribed method of working, including in particular the requirement for trench shoring, would have made it easier for him to operate as he saw fit and to ignore that requirement. Apart from anything else, his failure to give inductions and his securing of signatures on the induction record despite the lack of inductions would have been bound to have given the impression that health and safety did not matter. Witnesses from the Health and Safety Executive emphasised the importance of induction as one of the essential aspects of a safe system of working and it was understandable that they should do so. In these circumstances I was satisfied that this failure to give inductions, including the failures to provide briefings on the site rules, the relevant risk assessments and the method statement, were defects in the system of working which contributed to the accident.

83. A system of working which dispensed with the basic safety requirement of trench shoring was clearly dangerous due to the constant risk of collapse of the trench sides with potentially fatal consequences. The installation of shoring is the subject of the determination in terms of section 6(1)(c) as being a reasonable precaution which might have avoided the accident. The same matter is equally relevant to a determination in terms of section 6(1)(d) as this was a precaution which ought to have been taken and its omission was the most serious of the various defects in the system of working which contributed to the accident.

84. Mr Gaughan's working system involved using an unqualified operator, Mr McBride, to drive the dumper truck. A witness from the Health & Safety Executive said that it was critical that

operators were properly qualified so as to ensure safe operation and that he would have stopped any unqualified person from operating plant or machinery. A qualified driver would have had the relevant health and safety training described by Mr Davidson, WH Malcolm's training manger, about keeping the dumper at a safe distance from an unshored trench due to the risk of the ground collapsing. It seems likely that an unqualified driver such as Mr McBride would have been more ready and willing to drive right to the edge of an unshored trench than a qualified driver, given that a qualified driver would have been trained not to do that and would have been well aware of the danger of the ground collapsing under his vehicle, and Mr McBride certainly gave the impression in evidence that he had no concerns about taking the dumper truck right up to the edge. The very fact that an unqualified driver was being used would also have tended to reinforce the impression that health safety rules did not matter. In these circumstances I was satisfied that the use of an unqualified driver was a defect in the system of working which contributed to the accident.

85. A system of working which involved a heavy dumper truck being positioned on ground forming the side of an unsupported trench was clearly dangerous due to the consequent increased risk of collapse of the trench side and I was satisfied that this was a defect which contributed to the accident.

86. WH Malcolm's health and safety policy rightly required an effective system of supervision in order to ensure compliance with health and safety requirements. As previously noted, that policy required their contracts manager Stephen McGee to "constantly monitor the health and safety performances" and ensure that Mr Gaughan was "carrying out (his) duties specified in the company's health and safety documentation". Effective supervision should have ensured that Mr Gaughan did so. The reality however was that he operated as if that documentation did not exist. Assuming that WH Malcolm intended that there should be compliance with the requirements of that documentation, the only reasonable inference is that the supervision of Mr Gaughan was so lax as to be entirely ineffective as a means of securing compliance.

87. On WH Malcolm's behalf it could be said that Mr Gaughan might reasonably have been expected to require little supervision, given his experience, qualifications and training, and that he did sometimes operate safely in that, for example, a trench box was being used to support the sides of a different trench on this site. But it does seem extraordinary, given that he had been employed by them in position of some considerable responsibility for over four years, that they should have had an opinion of him, as being very safety conscious, which was so much at odds

with the way he way he was operating on this site, particularly as this appeared from his evidence to be no different from the way in which he had been operating on previous sites.

88. As previously noted he claimed that his failure to give inductions was "the way it was done" and that he had not been trained to give inductions, which indicated that it was in accordance with his usual practice. Although he secured signatures on the induction record so that it would superficially appear that inductions had been provided, he did not bother to complete the record properly so as to indicate which subjects had been covered at induction. The induction record listed 20 possible induction subjects with related boxes to be ticked to indicate which had been covered but he had ticked none, apparently being unconcerned about this deficiency being detected. McGee confirmed that this deficiency had not been picked up. Mr McGee accepted that the induction record system, as a means of ensuring that inductions were being provided, was open to abuse and said that at the time there was no system for checking that it was not being abused. A witness from the Health and Safety Executive said that due to the potential for abuse there ought to have been a more robust system for checking and auditing, such as occasional questioning of operatives about what they had been told or occasional sitting in at an induction. In the absence of effective supervision, the abuse of the record system and the failure to give job specific inductions remained undetected.

89. Mr Gaughan was well aware that site inductions were not being provided but did nothing about it. Mr McGee said that he would have expected Campbell Construction to provide them, failing which he would have expected Mr Gaughan to have done so, but he had not checked the position with either and did not know whether this induction had been provided. Again there was no system of supervision to ensure that this induction was provided.

90. It was clear from the evidence that the unshored trench work would have taken a number of days to complete. Even though this work was being done during a school holiday and at weekends, it might reasonably have been thought that even a fairly low level of supervision would have picked up on the fact that the essential safety precaution of shoring was being omitted, but apparently not. Mr Gaughan claimed in evidence that the lack of shoring was noticed and that there was silent acquiescence, which he took as agreement to his working methods. It was not clear from the evidence as to whether he was right about this but what was clear was that no one intervened to put him right. That indicated a complete lack of effective supervision.

91. Similarly in relation to the driving of the dumper truck by an unqualified WH Malcolm employee Mr McBride, it might reasonably have been thought that this would have been noticed, particularly given the few men on site, but apparently not. Mr McGee said that he did not really know Mr McBride, which was understandable given the number of sites he was supervising, and was unaware that he was not qualified to drive a dumper truck. There did not however appear to be any system for checking that only qualified operators were being used.

92. The overriding impression from Mr Gaughan's evidence was that he felt free to ignore WH Malcolm's policies, rules and prescribed working methods, without any concern about the possibility of adverse consequences for him if discovered, and free to operate entirely as he saw fit, even though that involved taking risks with health and safety. And that of course was what he did, ultimately with tragic consequences. The lack of an effective system of supervision, resulting in his being able to operate in this way, was clearly a defect in the system of working which contributed to the accident. It was also a significant defect in that in construction work it may frequently be tempting to make the job easier by cutting corners and taking risks and given the potential consequences, it is of vital importance that there should be an effective system in place to ensure that this does not happen.

93. Section 6(1)(e) – There was no suggestion that I should make any determination in terms of this subsection and no such determination appeared appropriate.