Ministry of Justice

VERDICT AT CORONER'S INQUEST

File No.:2008:213:0947

An Inquest was held at Coroner's Court, in the municipality of Burnaby

in the Province of British Columbia, on the following dates May 7-11, 14-16 2012

before Norm Leibel, Presiding Coroner,

into the death of Chan, Jimmy Chi Wai (55) ☒ Male ☐ Female
(Last Name, First Name) (Age)

and the following findings were made:

Date and Time of Death: September 5, 2008 @ 1710

Place of Death: 23751 16th Avenue (Location) Langley, BC (Municipality/Province)

Medical Cause of Death

(1) Immediate Cause of Death: a) Acute Cerebral Anoxia

DUE TO OR AS A CONSEQUENCE OF

Antecedent Cause if any: b) Hypoxemia

DUE TO OR AS A CONSEQUENCE OF

Giving rise to the immediate cause (a) above, stating underlying cause last. c) Exposure to Asphyxial Environment

(2) Other Significant Conditions Contributing to Death:

Classification of Death: ☒ Accidental ☐ Homicide ☐ Natural ☐ Suicide ☐ Undetermined

The above verdict certified by the Jury on the 16th day of May AD, 2012.

NORM LEIBEL
Presiding Coroner's Printed Name

Presiding Coroner's Signature

FINDINGS AND RECOMMENDATIONS AS A RESULT OF THE INQUEST INTO THE DEATH OF

FILE NO.: 2008-0213-0947

CHAN	Jimmy Chi Wai
SURNAME	GIVEN NAMES

PARTIES INVOLVED IN THE INQUEST:

Presiding Coroner: Norm Leibel

Coroner Counsel: Chris Godwin

Court Recording Agency: Helga Sievewright – Verbatim Words West Ltd.

Participants/Counsel: Mr. Scott Nielsen – Counsel for Worksafe BC
Mr. Ryan Berger – Counsel for the Townhip of Langley
Mr. Jim Sayre – Counsel for the Families

The Sheriff took charge of the jury and recorded twenty four exhibits. Twenty eight witnesses were duly sworn in and testified.

PRESIDING CORONER'S COMMENTS:

The following is a brief summary of the circumstances of the death as presented to the jury at the inquest. The summary and my comments respecting the recommendations, if any, are only provided to assist the reader to more fully understand the Verdict and Recommendations of the jury. This summary is not intended to be considered evidence nor is it intended in any way to replace the jury's verdict.

The jury heard evidence that on September 5, 2008 at approximately 1713 hours, the BC Ambulance Service attended to 23751 – 16th Avenue, Langley, B.C. relative to an apparent drowning situation. This address was the site of a Mushroom Farm. Upon their arrival, the paramedics were directed to a pump shed where several individuals were observed in the immediate area looking through a shed doorway with another nearby on the ground in apparent respiratory distress. The first responder paramedics conducted a quick assessment of the situation, noting several unresponsive people within the shed area and recognized the danger of the confined space and understood that the atmosphere in the space was either toxic or oxygen deprived. They called for more emergency support and prevented other workers from entering the shed. The Langley Fire Department was able to safely carry out the rescue of five (5) workers from within the shed. Three (3) workers, later identified as Ut Van Tran, Han Duc Pham and Jimmy Chi Wai Chan were deceased. Two workers, in spite of emergency care suffered brain related injury.

Prior to this rescue, readings taken by the Langley Fire Department from within the shed confirmed low oxygen and significant hydrogen sulphide levels. Evidence was heard that the brown water piping and pumping system installed was regularly becoming clogged with straw and inoperative. At the time of the deaths and injury, the rescued workers had been in this shed trying to resolve yet another clogged pipe situation. There was a great deal of evidence presented about the potentially dangerous by-products of mushroom composting and the actual chemical process and gases that can be produced. This evidence included the importance of keeping the process aerobic, as letting it go anaerobic will result in a decreased quality of the compost, a significantly increased odour and most importantly the production of potentially toxic off-gases such as hydrogen sulphide.

The design and construction of this mushroom farm and mushroom composting facility began in the early 2000's. In spite of no final occupancy permit issued by the Township of Langley and no final inspection carried out, the business began operating and the production of mushroom compost was commenced. The operation was described by more than one witness as being designed to fail. Unfortunately, the facility operated for nearly three years before it did fail. There was a lack of appreciation of the business risks and potential hazards of mushroom composting processes. There was

a lack of knowledge and or acceptance of occupational health and safety rules and regulations. There was evidence about the jurisdiction of various regulatory agencies involved in the business over time. The Ministry of Agriculture was involved in promoting farming and agriculture but has no enforcement authority. The Ministry of Environment had jurisdiction over pollution, but seemed reluctant to use its enforcement powers. The GVRD, or Metro Vancouver, had delegated authority over air pollution, but did not get deeply involved in this case. The Township of Langley had jurisdiction under its bylaws and did take extensive steps to try to force the business to shut down or comply with requirements. They were not successful prior to the events of September 5, 2008. WorkSafe BC has jurisdiction over worker safety and did visit the site but did not conduct a formal inspection.

Pursuant to Section 38 of the Coroners Act, the following recommendations are forwarded to the Chief Coroner of the Province of British Columbia for distribution to the appropriate agency:

JURY RECOMMENDATIONS:

1) To the Minister of Environment

To: a. Amend the Mushroom Composting Pollution Prevention Regulation to require active aeration of brown water tanks in mushroom composting facilities.

Presiding Coroner Comments: The jury heard evidence that many operators of mushroom composting facilities do not appreciate the dangers of allowing anaerobic decomposition in brown water. The present practice of allowing water to flow during the composting process is not adequate to provide proper aeration in a large brown water tank. Dr. Lau testified that active aeration of brown water tanks is easily accomplished and will significantly reduce the chances of anaerobic decomposition. This recommended change could result in higher quality compost and a significantly safer work environment for mushroom workers.

b. Amend the Mushroom Composting Pollution Prevention Regulation to require that a registered professional engineer supervise and approve the design and construction of all disciplines of a new mushroom composting facility, including the brown water filtration and recycling system, before the facility is permitted to operate.

Presiding Coroner Comments: The jury heard evidence that in this case the level of professional oversight in the design and construction of the composting facility was not adequate to ensure a safe and effective facility. Requiring the approval and supervision of a professional engineer will hopefully ensure that any future facilities are designed and constructed according to required standards.

c. To be more proactive in enforcing their regulations and assisting municipalities in dealing with violators.

Presiding Coroner Comments: The jury heard evidence that the Ministry of Environment, through the Environmental Management Act and Regulations, has regulatory, investigative and enforcement powers to prevent pollution. From this recommendation it appears that the jury considered that the Ministry should be more active in the use of its enforcement powers in order to prevent pollution and address violators.

2) To WorkSafeBC (Workers Compensation Board)

a. Work with the Farm and Ranch Safety and Health Association (FARSHA) to co-ordinate and enhance education and enforcement activity regarding confined spaces and other hazards in the agricultural sector.

Presiding Coroner Comments: The jury heard evidence of the dangers involved with confined spaces in agricultural and other workplaces. They also heard that there is insufficient knowledge in industry and with the public regarding such dangers. The recommendation to both WorkSafeBC and FARSHA to enhance education and enforcement activity regarding confined spaces will assist in increasing awareness of the issue and hopefully prevent deaths and injuries in the future.

b. Work with FARSHA to set up a confined space centre of excellence to provide best practice information in relation to the risks involved with confined spaces and procedures for minimizing those risks.

Presiding Coroner Comments: A centre of excellence could assist in increasing the awareness of employers and the public regarding the dangers involved with confined spaces and encouraging methods of preventing deaths and injuries in the future.

c. Amend the Occupational Health and Safety Regulation (OHSR) to require yearly reporting by all employers confirming compliance with the OHSR and its requirements.

Presiding Coroner Comments: The employer in this case denied any knowledge of the requirements, or even the existence, of the OHSR, despite being an employer of multiple workers in this province for many years. Requiring a yearly reporting of compliance with the OHSR and its requirements will ensure that employers turn their minds to compliance with the OHSR or suffer consequences for non-compliance.

d. Amend the OHSR to require yearly reporting by all employers identifying all confined spaces on their premises and the existence of plans and procedures for minimizing the risks associated with those confined spaces.

Presiding Coroner Comments: Such a requirement will ensure that employers become aware of the existence of confined spaces in their workplaces and ensure that plans are put in place for safe handling of such spaces in the event that entry by workers becomes necessary.

e. Amend the OHSR to require that every new agricultural worker, manager and owner complete a two day training course on occupational health and safety approved and certified by WorkSafeBC prior to or within the first month of involvement in the agricultural industry.

Presiding Coroner Comments: The jury in this case heard evidence that little or no effort was made to educate or train workers in issues relating to occupational health and safety. They also heard that the employer and his manager had little or no understanding of the risks involved in the industry in which they operated. A mandatory training course for new workers, managers and employers is intended to increase the appreciation of all those joining the industry regarding safety issues in their workplaces.

f. Amend the OHSR to require that every existing agricultural worker, manager and owner complete a two day course on occupational health and safety approved and certified by WorkSafeBC within two years of the amendment.

Presiding Coroner Comments: The evidence in this case was clear that none of the workers, manager or owner of the facility appreciated the risks involved in the mushroom composting industry. This recommendation will ensure that all those presently involved in the agricultural industry be educated and certified in occupational health and safety issues within a reasonable time following the introduction of the amendment.

g. During site inspection ask to see employer's Occupational Health and Safety Program with employee training records.

Presiding Coroner Comments: The evidence in this case was that the employer had no occupational health and safety program and did not train employees with regard to the issue. Had the facility been inspected and the absence of a written program and training records been identified it is possible that steps could have been taken to ensure compliance with the OHSR. This recommendation would mandate an inspection of the records in the event of a WorkSafeBC inspection of the workplace, leading to a recognition of workplaces where the program and training records are absent in order to allow correction.

h. Increase the number of WorkSafe Agricultural Inspectors.

Presiding Coroner Comments: The jury heard evidence of the number of agricultural facilities in this province and the limited number of inspectors employed by WorkSafeBC in the sector. The jury felt that in light of the potential dangers involved an increased number of workplace inspectors dedicated to the agricultural sector would be appropriate.

i. Increase the number of Prevention Officers.

Presiding Coroner Comments: The same reasoning applies to WorkSafeBC prevention officers as for inspectors. An increase in both in the agricultural sector could lead to safer agricultural workplaces and fewer deaths and injuries among workers in the sector.

j. Ensure all confined spaces and hazardous areas are labeled with appropriate signage in various languages as required.

Presiding Coroner Comments: The confined space in which the workers in this case died and were injured had not been identified as a confined space and no signage had been placed to warn anyone entering. Identifying confined spaces with appropriate signage in English and languages used by workers on site, will assist in warning workers or others of the potential dangers of the confined space and may prevent deaths and injuries in the future.

k. Initiate a program of random surprise inspections of employers in high risk sectors.

Presiding Coroner Comments: While the evidence of WorkSafeBC inspectors was that inspections are not announced in advance, the jury felt that more could be done to ensure compliance with the OHSR in sectors in which workers are most at risk. This recommendation goes to requiring employers to maintain compliance with the OHSR on an ongoing basis.

3) To BC Ambulance Service

a. Equip each ambulance with an Atmosphere Test Meter.

Presiding Coroner Comments: The evidence heard in this inquest was that the paramedics who were first on scene recognized the danger of the confined space and understood that the atmosphere in the space was either toxic or oxygen deprived. They prevented other workers from entering the space and thereby possibly prevented additional deaths or injuries. The paramedics did not, however, have the capability of testing the atmosphere in the confined space to determine whether it was, in fact, toxic or oxygen deprived. The paramedics testified that it would have been helpful to them to have had the capability of testing the atmosphere in the space prior to the arrival of the Fire Department.