CANADA
Province of Alberta

Report to the Minister of Justice and Attorney General
Public Fatality Inquiry

Fatality Inquiries Act

WHEREAS a Public Inquiry was held at the The Court House

in the City (City, Town or Village) of Fort McMurray (Name of City, Town, Village), in the Province of Alberta,

on the 13 - 14 day of February, 2012 (year), (and by adjournment

on the _____ day of _____, _____ (year)),

before The Honourable J.R. Jacques, a Provincial Court Judge,

into the death of Ronald Joseph MACAULAY (Name in Full) 50 (Age)

of Rocky Mountain House, AB (Residence) and the following findings were made:

Date and Time of Death: November 3, 2007 shortly after 6:00 A.M.

Place: Northern Lights Regional Health Centre, Fort McMurray, AB

Medical Cause of Death:
("cause of death" means the medical cause of death according to the International Statistical Classification of Diseases, Injuries and Causes of Death as last revised by the International Conference assembled for that purpose and published by the World Health Organization – The Fatality Inquiries Act, Section 1(d)).

Combined Ethanol, Meperidine and Diphenhydramine toxicity.

Manner of Death:
("manner of death" means the mode or method of death whether natural, homicidal, suicidal, accidental, unclassifiable or undeterminable – The Fatality Inquiries Act, Section 1(h)).

Accidental

Circumstances under which Death occurred:

1. JM, a server at a bar forming part of a hotel in Fort McMurray, testified that Mr. Macauley came into the pub at around 2:00 P.M on Nov 2, 2007. He did not appear intoxicated. He took a table by himself and was served a double vodka and clamato. He later joined a group of other persons at another table who were having rounds of drinks and shooters. He continued to drink double vodka and clamato, plus some Jägermeister shooters. She is not certain how many drinks he had. She gives a rough estimate of about 15 oz. but agrees it may have been 20. When she left for an appointment at 4:15 pm he seemed fine, completely coherent, but when she returned at about 4:45 he was sleeping in his chair. At the time of the incident the bar had no fixed policy with respect to the amount to be served a given patron, as individuals vary in their reaction to liquor, but it was their policy to cut off anyone who appeared to be intoxicated. At the time, the server had not yet received Alberta ProServe certification, but has since done so. At the time of the incident, such training was not a legal requirement for every server at a bar, but is now mandatory for all such employees.
2. Cst. Barker, a member of the RCMP responded to a complaint from the hotel of an intoxicated patron. When he arrived, he found Mr. Macaulay in an advanced state of intoxication. Cst. Barker had obtained an account of Mr. Macaulay's drinking from a hotel employee which included the information that Mr. Macaulay's companions had left unconsumed liquor on the table and that Mr. Macaulay had drunk it all. Cst. Barker was very properly concerned that Mr. Macaulay's state of intoxication necessitated medical attention, and, after communicating with a more senior officer -- Cst. Barker had only 2 months of service at the time – summoned an ambulance.
3. EMS personnel arrived at 5:35 p.m. and confirmed that Mr. Macaulay was exhibiting an altered level of consciousness, drifting from time to time into periods of complete unresponsiveness, which the paramedic found uncommon. The patient was evaluated at 11 on the Glasgow Coma Scale. The paramedic made the decision to transport him to the hospital promptly. They departed the scene at 5:47 P.M. His condition seemed to improve somewhat while in the care of the paramedics. They arrived at the hospital at 5:55 pm. The paramedic briefed the receiving physician about Mr. Macaulay's condition.

4. At the hospital Mr. Macaulay was uncooperative and combative, and the attendance of hospital security was required. The physician ordered blood samples to be taken for analysis. At 7:58 P.M. a partial report (which did not include blood-alcohol level) was received from the lab and reviewed by the physician, who, on the basis of observation of the patient over the preceding two hours, determined that it was appropriate to release him to the care of the RCMP. On the physician's instructions, the RCMP were called and took charge of Mr. Macaulay at 8:25 P.M.
5. At 8:30 P.M. the lab called and reported that Mr. Macaulay's blood-alcohol level at the time the samples were taken was 127 mmol/l, which is extraordinarily high and potentially lethal. Expressed in the units statutorily used in impaired driving cases, that is 584 mg/100ml. Because hospital labs work with centrifuged plasma, rather than whole blood, and because plasma, due to its higher water content, exhibits a higher concentration of alcohol than the blood from which it was derived, a further conversion (necessarily approximate because of variations in the conversion factors in the general population) must be performed to obtain equivalent blood-alcohol level. Dr Graham Jones, the Chief Toxicologist with the Office of the Chief Medical Examiner of Alberta, testified that the corresponding blood-alcohol level would lie somewhere between 470 and 525 mg/100ml, a level which he confirmed could be lethal. By way of comparison, the legal limit for driving is 80 mg/100 ml. Dr Jones's computation is in essential agreement with that of Kerry Blake, Alcohol Specialist with the RCMP Forensic Lab, Edmonton (found in the RCMP investigation report at TAB 6, page 00058 of Exhibit 1 – binder of documents) in which she estimates a blood alcohol level of between 467 and 531 mg%.
6. Upon receiving the blood-alcohol results, the ER physician determined that it was necessary to have Mr. Macaulay returned to hospital for further assessment. He was promptly returned by ambulance and was back at the hospital by 9:00 P.M.
7. At the time of his second transport to hospital Mr. Macaulay complained of epigastric pain; he also claimed to have passed a dark stool, which raised some concern that he may have gastrointestinal bleeding. The ER physician who took over his case at that point was aware of the high alcohol level, but also thought it necessary to address the epigastric pain. The physician ordered intravenous fluids to dilute the blood alcohol and directed a further blood alcohol test after the third liter was given. The

sample for this blood test was taken at 12:45 A.M. and phoned down at 1:19 A.M. It came back as 99 mmol/l, down considerably, but still high. Among other medications, the doctor ordered morphine and Gravol. He chose to use an opiate because there was some concern that other types of analgesic might further inflame the stomach and exacerbate gastrointestinal bleeding. A total of four 2.5 mg doses of morphine were given between 10:50 P.M. and 3:45 A.M. At 4:20 A.M. the patient was given a "pink lady", a concoction which is administered to reduce stomach pain. The limited effectiveness of this therapy in reducing the patient's pain caused the doctor to suspect that the pain was pancreatic in origin, and he determined that Demerol was the appropriate medication. He chose Demerol in order to relax the valve of the pancreatic duct and avoid the spasms of that valve, which he feared could cause a blockage of the pancreas and the release of lipase (a digestive enzyme) into the abdominal cavity where it would do damage to the tissues. As in the case of the first dose of morphine, Gravol was also administered to control the nausea associated with those drugs. The physician was aware of the dangers of combining CNS depressants with high levels of alcohol, but at the time thought what he was doing was appropriate in terms of the overall care of the patient. The Demerol and Gravol were administered at 4:55 A.M. At 5:35 A.M. the nurse noted that the patient was resting well and that the Demerol was effective for pain relief.

8. The autopsy report on Mr. Macaulay does not note any problems with the stomach, stating that the esophagus and stomach have a normal wall and mucosa. In the course of internal examination, the pancreas is described as "unremarkable", although in terms of histology the report goes on to say, "The pancreas exhibits a very advanced degree of autolysis. There is no evidence of inflammation, although this could be obscured as a result of autolysis." The autopsy also revealed that Mr. Macaulay suffered from cholelithiasis (gallstones), the gallbladder containing approximately 10 bile pigment calculi measuring up to 0.3 cm in maximum dimension.
9. At 5:58 a nurse walked into the recovery room and found the patient unresponsive and blue. A "code blue" was called and CPR was applied, but resuscitation efforts proved unsuccessful and Mr. Macaulay was determined to be dead.
10. An autopsy was conducted and a toxicological analysis of Mr. Macaulay's bodily fluids was undertaken. Alcohol levels were

taken from femoral blood (290 mg/ 100ml), vitreous (350 mg/100 ml) and urine (430 mg/100ml). The femoral blood was also tested for drugs. Meperidine (also known as Demerol) was detected at a level of 0.66 mg/l. Diphenhydramine (Gravol) was detected at a concentration of 0.55 mg/l. No detectable levels of morphine were found. The cause of death was determined to be combined ethanol, meperidine and diphenhydramine toxicity.

11. Dr Jones, the Chief Toxicologist was of the opinion that in this case the alcohol level at the time of death would not have, in and of itself, brought about death in the absence of the drugs, which are CNS depressants. In combination, the alcohol and the drugs brought about the death.
12. When questioned by the Court as to whether CNS depressants would normally be contraindicated with very high levels of blood alcohol, Dr Jones qualified an affirmative response thus: "It obviously is a judgment call on the part of the physician, knowing what the alcohol is at the time, but certainly it is a known – I hate to say contraindication, because you have to weigh out the individual circumstances and what's required – but certainly it's a known problem where high levels of alcohol combined with other depressants can cause central nervous system depression, sometimes life-threatening depending on the concentrations."

Recommendations for the prevention of similar deaths:

Police Involvement

Pursuant to Subsection 53 (2) of the Fatality Inquiries Act, a judge may make recommendations as to the prevention of similar deaths. Having reviewed the conduct of the police officers involved in this incident, I have no recommendations to make with respect to police procedures, but I am of the view that it is appropriate to comment positively on the way the officers involved responded to Mr. Macaulay and his distressed condition. In particular, Cst. Barker (a member still very junior in service at the time) exhibited remarkable judgment in recognizing that Mr. Macaulay required medical attention and acting promptly to see that he got it.

Medical Treatment

In retrospect, it is obvious that the combination of ethanol, meperedine and diphenhydramine brought about Mr. Macaulay's untimely death. It is more difficult to arrive at recommendations relating to medical treatment which would be of any value in preventing such tragedies in the future.

It is apparent from the evidence that this is not a case where enhanced medical education to increase awareness of the dangers of prescribing CNS depressants to patients with high alcohol levels would have made any significant difference. The physician who prescribed the drugs in question was, by his own testimony, well aware that the combination of those drugs with alcohol posed risks. In treating his patient as a whole, he balanced those risks against the patient's overall medical needs, including the management of pain, and made the decision to administer the drugs.

Nor am I of the view that the imposition of restrictive rules or protocols governing the administration of drugs to intoxicated patients on the basis of this single case would be a positive step. The medical profession itself has a well-developed body of knowledge, constantly growing in the light of scientific research and clinical experience, which guides physicians in their decision making. It is only as a result of rigorous scientific study and clinical evidence that reliable treatment protocols can be arrived at. For the Court to suggest protocols to the medical profession on the basis of one tragic case would, in my opinion, be overreaching and unproductive.

I therefore have no recommendations as to medical treatment.

Service of Alcohol in Licensed Premises

Over the course of less than three hours in the bar Mr. Macaulay consumed a very large amount of liquor, estimated at 20 oz., but perhaps more. His blood alcohol taken at the hospital some 4 ½ hours after he first entered the licensed premises was at an extraordinarily high and potentially lethal level, about 6 times the legal limit for driving. The server does not believe he was intoxicated when he entered the premises, but beyond this observation we have no knowledge of what, if anything, he may have had to drink before he entered the bar. At the bar Mr. Macaulay consumed a considerable number of mixed drinks and shooters and apparently also consumed drinks left behind by his table companions. The server testified that it was the bar's policy to cut off anyone who appeared to be intoxicated. That policy is in fact no more than what is required by the law. Section 75.1 of the *Gaming and Liquor Act* provides in part:

> 75.1 No liquor licensee may
>
> (a) sell or provide liquor in the licensed premises to a person apparently intoxicated by liquor or a drug,
>
> (b) permit a person apparently intoxicated by liquor or a drug to consume liquor in the licensed premises,

The Alberta Gaming and Liquor Commission provides a training program called ProServe (see the official website at http:/proserve.aglc.ca). The program's intent is to provide liquor-service personnel with the following skills:

- Learn about duty of care
- Understand the liabilities and legislation associated with liquor service
- Understand how alcohol affects the body
- Describe a standard drink
- Recognize the signs of intoxication and factors that influence drinking patterns
- Develop responsible service and teamwork strategies
- Learn how to handle situations involving minors
- Learn how to discontinue and refuse liquor service or sale
- Become familiar with other related responsibilities

Since January 1, 2010 all staff serving liquor have been required to be certified under the ProServe program, but at the time of the incident licensed premises were required only to have one trained person per shift per licensed room. JM had not yet had the training on November 2, 2007.

ProServe training is no doubt of some value in ensuring, *inter alia*, that staff comply with s. 75.1, but is compliance with that section sufficient to prevent over service of liquor in circumstances like those that took the life of Mr. Macaulay? He entered the bar at 2:00 P.M., apparently not intoxicated and was served drink after drink over a relatively short period. When JM left for an appointment at 4:15 she thought he looked "fine". By the time she got back half an hour later he was unconscious in his chair.

In my view, this was a case of binge drinking. Mr. Macaulay, by all indications an experienced drinker who might not show overt symptoms of intoxication until he had consumed a great deal of liquor, ordered and drank with some rapidity. Under such circumstances, he might well have consumed dangerous amounts of alcohol before his intoxication became apparent to the bar staff. In situations like that, s. 715.1 as it now reads is an insufficient safeguard. Bar staff can be trained to look for signs of intoxication, but unless there is some hard limit on the amount of alcohol that a patron may be served over a given time, rapid drinking binges will continue to take lives.

I therefore make the following recommendation:

It is recommended that the Province enact legislation limiting the amount of liquor that may be served to or consumed by persons in licensed premises over a given period of time.

The precise numbers should be worked out in consultation with qualified experts, but it is to be hoped that the permitted amount is significantly lower than the 20 oz of hard liquor over less than 3 hours seen in this case. Provision would also have to be made for equivalencies with respect to wine and beer. And of course it should be made absolutely clear that the new restriction adds to and does not replace the existing ban on serving intoxicated persons.

It is recognized that such a provision would not entirely eliminate binge drinking in bars, particularly where patrons are able to "bar-hop" to other establishments, but it would, in my view, reduce significantly the likelihood of incidents like the one that took the life of Mr. Macaulay.

DATED February 22, 2012,

at Fort McMurray, Alberta.

The Honourable J.R. Jacques
A Judge of the Provincial Court of Alberta