Date of Release: May 3, 1994

No. 19666
Kamloops Registry

IN THE SUPREME COURT OF BRITISH COLUMBIA

BETWEEN:	)	
	)	
ELIZABETH ROSE BARRATT	)	REASONS FOR JUDGMENT
	)	
PLAINTIFF	)	OF THE HONOURABLE
	)	
AND:	)	MR. JUSTICE ROBINSON
	)	
THE CORPORATION OF THE CITY OF KAMLOOPS	)	
	)	
DEFENDANT	)	

AND

No. 19668
Kamloops Registry

BETWEEN:	)	
	)	
JAMES BARRATT and ELIZABETH ROSE BARRATT	)	
	)	
PLAINTIFFS	)	
	)	
AND:	)	
	)	
THE CORPORATION OF THE CITY OF KAMLOOPS	)	
	)	
DEFENDANT	)	

APPEARANCES:

S. DEV DLEY and DAVID L. STRATMOEN	- Counsel for the Plaintiffs
FRANK R. SCORDO	- Counsel for the Defendant

DATES OF HEARING: February 17th and 18th, 1994

The plaintiffs in this action seek damages from the defendant City, alleging that water damage to the plaintiffs' residence in 1992 came about as a result of negligence on the part of the defendant. Only the issue as to liability is presently before me.

The preliminary liability issue is a relatively narrow one. It is whether the overabundance of water adversely affecting the plaintiffs' residential premises in the summer and early fall of 1992 is the result of naturally-occurring ground water in the area of the plaintiffs' residence, or did the water originate from a ruptured copper pipeline, the maintenance of which is the responsibility of the defendant thereby causing or contributing to the unwanted abundance.

The residential premises are described as 2298 Balfour Court in this city. The general area is locally known as Aberdeen Hills and can further generally be described as located in the southerly portion of the city, rising fairly abruptly toward the south. This area, as recently as fifteen years ago, was largely undeveloped. The particular subdivision creating the residential lot and premises was completed on or about 1980. The plaintiff purchased the residence in 1985, but the previous owner had experienced water seepage into the basement of the residence in 1982. Other residences in the Balfour Court area suffered similar problems. In 1983 a consulting firm, Aquaterre Consultants Inc. were engaged to conduct an investigation of the problem. Part of the investigation involved installing fourteen piezometers to

permit a monitoring of the ground-water levels. No problems appear to have occurred in 1984, but in 1985 significant ground-water seepage occurred in two residential basements on Laurier Drive, a nearby area. The substantial source, or sources of the ground water were not then, and are not now clearly established.

The plaintiffs have a swimming pool within the confines of the residential premises. In early July they became aware of water seepage to a considerable extent, near the pool, and became even more concerned upon finding water in the basement of the residence. The situation grew worse and they eventually called the appropriate department of the defendant and on July 31st, 1992, the male plaintiff met with the defendant's south shore utilities foreman and the defendant's utilities superintendent. The superintendent, Mr. Cail, recalled visiting the residence in the spring of 1983 where the owner of the residence had problems with water entering the basement of the residence along the south wall. The then owner, a Mr. Ryan, installed a sump pump and this had apparently solved the problem. Mr. Cail held the view then and does now, that the water problem in this residence arises from ground water and involves no negligent act or omission on the part of the defendant.

About July 31, 1992, Mr. Cail conducted tests with a listening device called an aqua phone and also engaged a private contractor to carry out an excavation to determine the source of the water. The water in this excavation entered from the southwest side at a fairly substantial flow and a water sample was taken from

it to test for fluoride levels. The fluoride level was shown to be .70. Mr. Cail's veracity was challenged as a result of an error by him in first stating, in affidavit evidence, that the reading was .07. In fact, it appears to have been .70, or .85. In the end result, it appears that whatever the fluoride levels are, they are not conclusive as to whether the water originated from ground water or from domestic water supplied by the defendant. Mr. Cail's view was that he had done more than was usually done by the defendant in investigating water leaks. He was satisfied, and remains satisfied, that ground water was the source of the problem.

The defendant accepts Mr. Cail's position, and refuses to accept responsibility or any duty toward the plaintiffs. Eventually, the plaintiffs, reserving their rights to sue the City for damages, agreed with the defendant to engage the services of Golder Associates, who are geo-technical consultants, to design a ground-water seepage system to allow disposal of the surplus water into the municipal drainage system. As a condition of permitting this, the defendant insisted that Golder Associates Ltd. be engaged for the design, and the cost to be the responsibility of the plaintiffs. The plaintiffs engaged B.A. Blacktop Ltd. to physically construct the drainage system designed by Golder Associates. This necessarily involved an excavation trench, and in keeping with modern times, a backhoe was used. The construction commenced to the north of the plaintiffs' premises. It commenced in an area described as a "tot lot," and proceeded southerly along a walkway, intending to eventually meet a 100mm PVC sewer installation, running at right angles to the trench being

excavated. As the trenching proceeded, the backhoe encountered a ¾-inch copper line, not then in use, but nonetheless under a probable water pressure of 75 p.s.i. An escape of water in a fine spray form was noticed at least once, and as the excavation continued, a voluminous discharge of water was noted escaping from a hole in the copper pipe having an elliptical shape with dimensions of 3/16 of an inch by 1/8 inch in length and width. This hole is described by the expert witness called on behalf of the defendant thus:

> " This hole was eroded on adjacent surfaces by escaping water. The hole had an extremely sharp edge indicating a significant lateral throw from the perforation. "

The opinion of the defendant's expert was that the calculated flow would be greater than two gallons per minute.

The expert for the plaintiffs, having read the initial written report of the expert for the defendant, while agreeing with much of what that report stated, concluded finally:

> " Based on the new information and the past discussions and observations, it is the professional opinion of the undersigned that the water flowing from the ground and into the property of E. Barratt flowed from a leak in the copper water line located in the walkway owned by the City of Kamloops immediately to the west of the property. The leak from the water line added to the existing ground water (which had not caused a problem before 1992) and the total flow exceeded the ability of the soils to dissipate the flow without surfacing and flooding. "

The work on the disposal service for the benefit of the plaintiffs was commenced on October 9th, 1992. The pinhole leak

and the larger hole were discovered on October 15th, 1992. A representative of the City, the field services supervisor, Mr. L. Pellizzon, was on hand and so soon as the larger leak was discovered, he, or someone on his behalf, crimped the copper line and stopped the escape of water. The drainage system in the course of construction was, however, completed by a crew from the defendant City, and is in use.

Within a day or two of cessation of the water leak in the copper pipe, the entry of water to the plaintiffs' residence, ceased entirely. Understandably, this sequence of events is strongly relied upon by the plaintiffs as proof that the escape of the City water was the significant cause of unwanted water entry upon the plaintiffs' premises and residence.

In addition to evidence given by witnesses having professional expertise, there were others who gave evidence based on lengthy and/or knowledgeable experience, particularly in this area of the city of Kamloops and I am satisfied that every expert and every person knowledgeable in the field, gave their evidence honestly and candidly. Much criticism was directed by counsel for the plaintiffs against Mr. Cail, the long-time waterworks superintendent for the defendant, because of an error as to the fluoride readings, recited in an affidavit sworn by him, and subsequently corrected. I categorically reject any suggestion that Mr. Cail's error was in any way intended to deceive.

The professional experts for the plaintiffs and the defendant, respectively, Mr. Lewis and Mr. Johnson, have impressive qualifications. Mr. Lewis is unreservedly of the opinion that the 3/16-inch pipe leak was a significant cause of the plaintiffs' water problems, but more importantly, he concludes it is entirely possible that the leak, whatever its dimensions, in the months prior to its discovery, was a significant factor in the months preceding October and as early as July of 1992. My understanding of his evidence, as to the state of the water line in July of 1992 was that it could have been no more than a pin hole or pin holes in the pipe. He does concede the presence of ground water in July 1992.

Mr. Johnson concedes that by August of 1992 the contribution of the ruptured pipe to the water problem was a more likely cause of the overabundance of water to the plaintiffs' property than the ground water source. He further concedes that the crimping of the pipeline in October, after discovery of the leak, brought the plaintiffs' water problem to an end. He is, however, adamant that the escape of water from the 3/16-inch rupture would, within a brief time span, produce sinkholes. In his initial report to the solicitors for the defendant he discusses the effect of the escape of water under pressure from the 1/8-inch diameter hole at 75 p.s.i. and concludes:

> " It is not possible for high flow rate to be maintained from a leak without having significant erosion of the support for the water line. Additionally, rapid increase in flow rate over short period of time (a matter of days) would occur because of the eroded support and the increasing stresses at a hole from the lack of support. A hole of the size found in the second section of supply tubing would have a discharge

spray projection several feet from the hole, so the potential area of direct impingement would become very large and would cause a 'sinkhole' at ground level. It would be virtually impossible to have a large hole in the tubing wall existing for a matter of weeks (or months) without having significant problems with soil support above the breach. "

and draws these final conclusions:

" 1) It is our opinion that the existence of a hole in a section of copper tubing would result in saturation of the immediately surrounding material.

2) A leak would cause erosion of the surface of the tubing at the breach because of the water pressure. Spray through a pinhole would cause a continuing and increasing circulation of soil particles which would quickly accelerate surface erosion of the tubing.

3) It is our opinion that a hole of the size found in the (second) piece of supplied copper tubing would result in water flow of the rate necessary to overcome the ability of the surrounding soil to dissipate the water.

4) It is our opinion that such a hole would cause severe subsidence of the material above because of the erosion of support around the hole.

5) It is our opinion that a hole of the size found in the supplied tubing could not exist for a period of weeks without causing major flooding problems over a large area in the surrounding terrain. This would be more prevalent if the surrounding soil material had poor permeability.

6) It is our opinion that a hole of the size found in the supplied tubing could feasibly be created in the period of a few days if the surrounding soil had very low permeability.

7) It is our opinion that the residential area where the leakage occurred would not be capable of absorbing water supplied at a rate of 2 gallon/minute by natural permeability. Significant ground softening, subsidence, and even washout would occur at high flow rates. "

The relative certainty of these conclusions is challenged by the plaintiffs on the basis that the soil in the area of the leak was of variable permeability, and the lessening of pressure in

the line from 75 p.s.i. by reason of the multiple pinholes. Assuming that challenge to have some substance, it cannot account sufficiently, in my view, for the extensive time period during which no "sinkholes" became apparent or would have been expected to become apparent.

Assuming that the presence of ground water should at some point produce sinkholes (and none were found by Mr. Cail) I attribute their absence to the permeability conditions allowing sufficient absorption and that ground water should be distinguished from water under pressure.

In the result, I conclude that in July of 1992 the source of water creating the problem for the plaintiffs was substantially a ground water source, with a minor contribution from pinhole leaks from the defendant's water line.

In its report to the defendant's solicitors dated December 20th, 1993, Mr. Johnson discusses the effect of pinhole leaks:

> " The rate of flow through a 3/16-inch hole would be quite significant and would probably cause a 'sinkhole' and surface softening to develop. The area of surface ground affected would be dependent upon the permeability of surround soil. By contrast, a pinhole would only produce a very minor flow of water. The surrounding soil, in almost all cases, would be capable of handling the flow volume from a pinhole and no surface effect would be noticeable until erosion of the tubing surface enlarged the hole. The detection of a leak by pressure testing would not be successful with the flow of (75 p.s.i.) water through a pinhole. The use of acoustic devices would pick up a leak under some circumstances, but the flow through a pinhole would be unlikely to be detected unless the acoustic pickup was in close proximity to the pinhole. Only if a large hole was present would such an acoustic test be successful at great distances. "

It follows then, that the tests conducted by Mr. Cail on behalf of the defendant, would not have revealed, in July, the existence of the pinhole leaks, one of which grew to the substantial 3/16-inch hole. Was the inspection and investigation of the problem in July, insofar as the defendant was concerned, sufficient? The evidence of Mr. Cail, the defendant's then utilities services superintendent, noted his lengthy experience in investigating water leakage problems. He had considerable experience with the plaintiffs' residence, as in 1983 a previous owner had detected water in the basement of the residence. Various tests were conducted, and a ground water conclusion was reached. A sump pump and requisite plumbing to allow escape of the water to the sanitary sewer, solved the problem.

To Mr. Cail, the plaintiffs' problem in July of 1993 appeared to be the same, at least from an external point of view. Simple listening tests with the aqua phone were conducted as to the domestic water source in the plaintiffs' residence and nearby residences at Balfour Court and Aynsley Court. Mr. Cail traversed an adjacent walkway and found no signs of water intrusion. He knew of the existence of the City's 19mm water line. Mr. Cail then hired a private concern to excavate a test hole. This, he said, was "an extra step." At about 3 to 3½ feet, water was encountered from southwest of the excavation, that is, westerly or southwesterly of the plaintiffs' property and from Aynsley Place direction. Fluoride tests of the water were consistent with the finding of nine or ten years earlier. No pressure tests were

conducted, as these were not done with respect to residential or domestic services.

In cross-examination, Mr. Cail conceded his error as to the fluoride readings. No tap water fluoride test was done. On an overall basis, from past history, from the listening test, from the fluoride level and the excavation, Mr. Cail was satisfied that ground water was the source of the problem.

No evidence was led from Golder and Associates as to their own conclusions as to the water source, and it may be, as the plaintiffs contend, that they concerned themselves only with a solution to the water intrusion, not to the source. However, I incline to the view, adopting the balance of probability standard, that they were satisfied that it was, indeed, a ground water problem.

Although the plaintiffs maintain that the defendant had available to it increasing information that the testing that the City did do, was insufficiently extensive, I find that apart from actually uncovering the defendant's water line, or turning the water supply off to that line, no listening test with sophisticated apparatus would have revealed the existence of pinhole water leaks in July of 1992.

Before reaching a final conclusion as to the adequacy of the defendant's investigation and inspection, I wish to refer briefly to the rather complex background in law to which

municipalities and other governmental authorities are exposed, and the several pronouncements from the Supreme Court of Canada in the last decade, and earlier, in which that court has set down guidelines for ascertaining whether decisions made by parties in the position of a municipality, often involving matters of inspection, investigation, maintenance and repair are policy decisions or operational decisions. Plaintiffs' counsel refers to ***Anns***, 78 A.C.728 and ***Kamloops*** v. ***Neilsen***, [1984] 5 W.W.R. 1, [1984] 2 S.C.R. 2, and our Appeal Court decision of ***Brown*** v. ***Minister of Transportation and Highways, [1992] 3 W.W.R. 629, 65 B.C.L.R. (2d) 232***. The last-mentioned case has now been heard on appeal by the Supreme Court of Canada and a decision rendered March 17th, 1994. The findings of the trial judge and the Court of Appeal, dismissing the plaintiff's claim, were upheld. The fact pattern involved black ice conditions on the road between Gold River and Campbell River, B.C. and a request by the R.C.M.P. for sanding to be carried out by the Minister of Transportation and Highways, but which sanding, because of a continuation of maintenance of summer schedule for drivers of sanding vehicles, did not take place in time. The plaintiff's vehicle, as a result of the black ice, left the road and the driver was injured. The Supreme Court of Canada held that the continuation of the summer schedule for drivers, was a policy consideration and could not be reviewed on a private law standard of reasonableness. In any event, the court held that on the balance of probabilities the Province was not negligent in the manner in which it carried out the operational aspect of the call-out system and of road maintenance under the summer schedule. A companion case from Nova Scotia, ***Swinamer*** v. ***A.G. Nova Scotia***,

representing the Crown in the Right of the Province of Nova Scotia, was heard at the same time. (Unreported (March 17, 1994) S.C.C. #22915). It involved injury to the appellant when a tree fell across the appellant's truck on a highway maintained by the Province of Nova Scotia. While there was no policy in effect to inspect trees, a few months prior to the accident, the department had made a survey in the region of trees that were an obvious hazard to the travelling public. The survey was carried out by a foreman, who had some knowledge of forests, and a survey technician. Over 200 dead trees were marked, but not the one that caused the accident, and a report was sent to the Regional Manager requesting funding for their removal. The trial judge held for the plaintiff, but the Court of Appeal reversed, and the Supreme Court of Canada upheld the Court of Appeal for Nova Scotia. It was held that the department's decision to inspect and identify hazard trees was taken as a preliminary step in a policy-making process and was exempt from tort liability. Again, no negligence was found on the part of the department in the operational aspect of carrying out the survey. In the ***Brown*** decision, Sopinka J. has some interesting comments about the "policy/operational" test as a touchstone of liability. He refers to an article in (1994), 16 Advocates Q. 48 at page 57 under the heading "Negligence Claims Against Public Authorities," where the author, P.M. Perell, stated:

> " Whatever the criteria used, the cases show that characterizing the public authority's activity as a policy decision or operational activity as problematic and often unpredictable. In the ***Just*** case, of the eleven judges who gave judgments, six concluded that the Province's actions were operational and five that the actions were a policy decision. "

The ***Just*** decision is now as well known and as often referred to as ***Kamloops*** v. ***Neilsen (supra)***.

I take it that in this case the defendant's policy was and is to ascertain the cause of water leaks or malfunctions within its municipal boundaries and that the operational aspect was also in place, namely to inspect, investigate and repair, where the duty to repair is on the defendant.

In summary, then, I find:

(a) Immediately adjacent to and west of the plaintiffs' residential property on Balfour Place, there existed a 19mm copper water line.

(b) This line was not in use and was under pressure of approximately 75 p.s.i. It ran at right angles from the 100mm P.V.C. service line, southerly.

(c) A test excavation was carried out by the defendant, in the course of its investigation, near the intersection of the main water line and the 19mm service line, and considerable water was encountered at 3½ to 4 feet. The copper line was several feet lower than the base of this excavation.

(d) In 1983, and perhaps earlier, residents of this area generally encountered water problems caused by natural ground water. Specifically the plaintiffs' residence, then owned by another party, encountered water problems and installed a sump pump and plumbing system to resolve the problem. After 1982 or 1983, no other residence in the area, including the

plaintiffs' residence, appeared to encounter any water problem arising from ground water.

(e) The defendant's utilities superintendent, with very great experience in investigating water leaks, knew of the ground water problems in 1983 and, in particular, with respect to the plaintiffs' residence. He also knew of the existence of the 19mm service line, that it was not in use, and I infer that he knew it to be under pressure, and should have known that its estimated life before repair or replacement, might well be nearing its end.

I arrive at the final conclusion that it was an unusual situation that Mr. Cail faced, in adopting the investigating techniques he did on or about the end of July 1992, and that there were sufficiently unusual features to alert him to the probability that the acoustic tests he conducted, and the excavation might well be, and probably were, insufficient. With his lengthy experience and perhaps unduly influenced by the existence of ground water in 1983, he did not explore sufficiently the real possibility that the 19mm copper water line was a contributing cause.

It would not have been difficult to test the 19mm copper line, at least acoustically, or by pressure testing, or temporarily isolating it from pressure, considering its proximity to the plaintiffs' premises. If the results were negative or evidenced nothing contrary to Mr. Cail's belief, no criticism could then be attributed to the defendant.

I acknowledge, necessarily, that as at July 31st, 1992, the water escape from the copper line was minimal, but it was inevitable that one or more of the pinhole leaks, as it or they enlarged, would provide a major contribution in due course, an event I find to have taken place by October.

In the result, I find for the plaintiffs with respect to the damage to their premises and residence, involving necessarily the cost of the repair and reconstruction.

In light of my finding that the ground water was nonetheless a substantial contribution to the plaintiffs' problems, I find that the drainage system designed by Golder & Associates and the cost of installing same were necessary, and of obvious value to the plaintiffs, and as well perhaps, to other residents in the area. Somewhat arbitrarily, I assess the value of the design and installation 75 percent to the plaintiffs. As to the remaining 25 percent, I assess this against the defendant City on the basis that, firstly, it permitted the plaintiffs only to use Golder & Associates for the design, and secondly, that there is an indirect benefit to the City, in that it provides an escape route to other potential home owners in the area, who may be subject to an over-abundance of ground water, thereby reducing the defendant's potential problems in investigating overabundance of ground water in the area.

The plaintiffs' are entitled to their costs.

"R. Robinson"

ROBINSON J.

Kamloops, B.C.
May 2, 1994