

IN THE SUPREME COURT OF JUDICATURE OF JAMAICA
IN THE CIVIL DIVISION

CLAIM NO. 2008 HCV 0457

BETWEEN FITZROY CHIN CLAIMANT

AND JAMALCO CLARENDON
ALUMINIUM WORKS LIMITED DEFENDANT

CONSOLIDATED WITH CLAIM NO. 2008 HCV 0458

BETWEEN WLM FARMS LIMITED CLAIMANT

AND JAMALCO CLARENDON
ALUMINIUM WORKS LIMITED DEFENDANT

CONSOLIDATED WITH CLAIM NO. 2008 HCV 0460

BETWEEN HERMAN THOMAS CLAIMANT

AND JAMALCO CLARENDON
ALUMINIUM WORKS LIMITED DEFENDANT

CONSOLIDATED WITH CLAIM NO. 2008 HCV 0461

BETWEEN MAVIS KNIGHT CLAIMANT

AND JAMALCO CLARENDON
ALUMINIUM WORKS LIMITED DEFENDANT

CONSOLIDATED WITH CLAIM NO. 2008 HCV 1741

BETWEEN RUPERT TOMLINSON CLAIMANT

AND JAMALCO CLARENDON
ALUMINIUM WORKS LIMITED DEFENDANT

Mr Ravil Golding, Mr Errol Gentles and Mr Debayo Adedipe instructed by Gentles and Willis for the Claimants

Mr William Panton, Mr Kirk Anderson and Ms Maria Burke instructed by DunnCox for the Defendant

Negligence – Construction of dyke as foundation for a railway line – Dyke having provision for a river to pass under the line through culverts – Unusually heavy rainfall – Flooding of lands upstream from the dyke – Whether culverts inadequate - Whether owner of dyke negligent

Negligence – Construction of housing development – ponds constructed nearby to accommodate storm water flowing from the development – Unusually heavy rainfall – ponds overflowing – nearby lands flooded– Whether ponds inadequate for the purpose - Whether developer negligent

31 January 1, 2, 3, 4, 7, 8, 9 February and 9 June 2011

BROOKS J

Parnassos, in Greek mythology, was the leader of a city which was flooded by torrential rains. Mount Parnassus in Greece is named after him. The name Parnassus has ironic, though minor, significance in this case. The claimants in this matter, Mr Fitzroy Chin, Mr Herman Thomas, Ms Mavis Knight, Mr Rupert Tomlinson and a company involved in farming, named WLM Farms Ltd., have complained that a railway line built by the defendant, Jamalco (Clarendon Aluminium Works) Ltd, has contributed to the flooding and damage of their property. The railway line leads from Parnassus to St Jago, both in the parish of Clarendon.

On 23 May 2002 unusually heavy rain fell on the Vere Plains which are located in that parish. Thousands of hectares of land were flooded as a result of the rain. A similar event took place on 18 October 2005. A number of householders and farmers suffered significant loss and damage to property as a consequence of each flooding. Among those persons were the claimants mentioned above. They shall be collectively, referred to hereafter as “the claimants”.

The claimants have alleged that the flooding and the damage that they suffered would not have occurred had it not been for Jamalco carrying out certain civil engineering works on the Vere Plains. This, Jamalco did at different times prior to the 2002 flooding. According to the claimants they had never experienced such flooding prior to those civil works being carried out. They have brought the present claim alleging

negligence, nuisance and the escape of a dangerous thing, covered by the principle of *Rylands v Fletcher* (1866) LR 1 Ex 265.

Jamalco accepts that it carried out the maligned civil engineering works. The first consists of infrastructure works, including two ponds to accommodate flood waters, for a housing subdivision, known as McGilchrist Palms, at McGilchrist Pen in the Osbourne Store area of Clarendon. The second is the construction of the railway line mentioned above. The line is constructed on a dyke, which varies in height according to its location. Jamalco denies, however, that these works caused the destructive flooding. It denies that it is liable for the loss suffered by the claimants.

The issues to be decided are firstly, what caused the flooding and secondly, if there is a causal connection between the civil works and the flooding, whether Jamalco was negligent in carrying out any of these civil works. These issues will be assessed in turn, but it is understood that different considerations may apply for each location and therefore this is not a case where Jamalco is either liable for all or for nothing.

The physical setting

By way of background, however, it would be of assistance, to first give a general picture of the lay of the land. The section of the Vere plains, which is relevant to this enquiry, lies between the Milk River to the West, the Rio Minho to the east, the Mocho Mountains to the north and the sea to the south. This area is said to be within the Milk River Sub-basin of the Rio Minho-Milk River Basin. On the relevant hydrologic catchment map (page 3-1 of the report of Hydrology Consultants Ltd (HCL)), the area stretches from the mountainous north and generally slopes to the lowlands in the south where the Milk River empties into the sea. By my calculation, based on the measurements given in the experts' reports which the court received, this area consists of

no less than 15,000 hectares (page 2 of the report of Foreman Chung and Sykes (FCS)) or approximately 37,000 acres. That it is a large area was confirmed by the court's visit to the major relevant sites. An entire court day, travelling by motor vehicle, was devoted to visiting these sites and, even then, it was not possible, within the allotted time, to visit them all.

According to the report of FCS, a firm of Civil and Structural Engineers and Consultants, the area is drained by four main hydrological features. The first, Flemmings (also spelled "Flemings") Gully, begins at the foot of the Mocho Mountains, above an area called Clarendon Park. From there it meanders south-east through Toolis, Tollgate and then empties into the Decoy Drain. The Decoy Drain is the second main feature. It runs south-west and meets the Milk River at the edge of a property called St. Jago Estate. The Milk River, the third and largest of these features, begins in the hills just south of Porus in Manchester. It flows down to St. Jago Estate and meets the Decoy Drain before crossing the Jamalco railway line, continuing through Spring Plain, receiving the contents of the Rhymesbury Gully and then flowing into the sea. The fourth feature is the Rhymesbury Catchment and Gully. Several small earth drains in the Bakers Pen and Osbourne Store areas (north-east of Decoy) lead to the Rhymesbury Gully which runs south, under the Jamalco railway line and empties its contents into the Milk River south of the railway line (see page 2 of the FCS report).

McGilchrist Pen is to the north-eastern part of the area under consideration; near the foothills of one section of the Mocho Mountains. Mr Thomas has his farm to the north-west, also near the foothills of the Mocho Mountains but closer to Clarendon Park. Ms Knight's property is in the Toll Gate area which is south-west of McGilchrist Pen. Flemmings Gully passes, going from west to east, very close to her property. Mr Chin's

property is in Osbourne Store; south-east of McGilchrist Pen. The property owned by WLM Farms Ltd. is to the south of the properties of those claimants and south of Decoy. That owned by Mr Tomlinson is the furthest south but is still north of the place where Jamalco's railway line crosses the Milk River.

The cause of the flooding

In assessing the issue of the cause of the flooding, in addition to the evidence of the claimants, the court had the assistance of civil engineers and expert hydrologists.

The case for the claimants

The assertions made in the evidence in chief (the witness statements) in respect of the McGilchrist Pen subdivision were along these lines; firstly, in terms of the work done:

“Before the development McGilchrist Pen had no pond. There was no drainage problem at McGilchrist Pen before the development.” (Paragraph 20 of the witness statement of Fitzroy Chin)

“Before the development of the McGilchrist Pen...Water would flow from this property to Rodney Gully which merges into Flemmings Gully in the vicinity of Toll Gate Square and to the Milk River Basin.” (Paragraph 12 of the witness statement of Herman Thomas)

“I know that Defendant (sic) did development of the property called McGilchrist Pen and this development resulted in a drainage system which includes a number of ponds created by the Defendant. It is a Four Hundred (400) acre property and Defendant (sic) undertook housing development by construction of roads and drains. They created a pond behind the Hanson's property. Hanson's property adjoins the main road leading from May Pen to Mandeville. There is an original pond called Long Pond to the east of McGilchrist Pen. This pond is about quarter (¼) mile from the main road and adjoins the property owned by Fitzroy Chin whose land is divided by the main road. Long Pond accumulates water in the wet season but would become dry in the dry season. Fitzroy Chin had a cassava farm on his land on the northern side of the main road and his poultry farm on the southern side of the main road in May 2002.” (Paragraph 5 of the witness statement of Mavis Knight)

“The development of McGilchrist Pen saw the defendant preparing the land for subdivision by the construction of road and drain. A pond was created to the

western end behind the property owned by the Hanson's. All the storm water from the western side drains into this pond by way of two main drains which the Defendant constructed and which led to the pond." (Paragraph 17 of the witness statement of Winston Walker of WLM Farms Ltd)

"In addition to the Long Pond at the eastern end of McGilchrist Pen, Defendant created another pond west of Long Pond and about Four (4) chains away. When it rains heavily, the eastern end of McGilchrist Pen drains into this new pond which flows into Long Pond." (Paragraph 8 of the witness statement of Rupert Tomlinson)

The events in respect of the 2002 flooding were described by Mr Chin:

"On the 22nd of May 2002 there was a trough over the island of Jamaica which brought heavy rain over the Toll Gate and Osbourne Store areas. The rain started at about 7 pm and continued through the night to the 23rd of May 2002." (Paragraph 27 of the witness statement of Fitzroy Chin)

He continued:

"By midday on the 23rd of May, 2002 the main road from May Pen to Mandeville was blocked in the vicinity of my service station. The road was impassible (sic) except by large vehicles. The flooding extended from the road way (sic) to the area where my poultry houses were located to the southern side of the main road. The flooding of the poultry houses rose to several feet inside each building damaging the structure and equipment which I had inside the buildings...." (Paragraph 28 of the witness statement of Fitzroy Chin)

In his witness statement, Mr Tomlinson gave evidence concerning his observations at two locations on 23 May 2002; the day of the flooding. He first spoke about McGilchrist Pen:

"On my way to my farm I noticed that the pond which Defendant had created west of Long Pond which adjoins Mr. Chin property had flowed over into Long Pond and into his farm and over into the main road and into other properties. The pond on the McGilchrist Pen property behind Hanson's property was a large body of water covering the entire area and was three to four feet (3'- 4') deep...." (Paragraph 10 of the witness statement of Rupert Tomlinson)

Ms Knight described her experience on that day, starting from the previous evening:

"On the 23rd of May, 2002 (sic) I heard...that we should expect heavy rain. I was not bothered as although we in the Toll Gate area were accustomed to heavy

surface water during heavy rains, I had never had flooding of my house. I retired to bed about 9:00 pm...I got out of bed about 7:00 a.m. on the morning of the 23rd May 2002 and I realized that my house was flooded and I was stepping into water as high as my knee. The water was rising rapidly and it rose to the height of the bed in my bedroom covering the mattress all the living (sic) rooms were flooded as well as the bathrooms, the kitchen and the living and dining room.” (Paragraphs 10 - 11 of the witness statement of Mavis Knight)

She related how she was rescued from the house by neighbours and that she had to remain away from her home for two days. She explained that the flood waters came from the rear of her premises, wreaked havoc in her backyard, killing her poultry and farm animals, wrenched her back door from its hinges, entered her house and destroyed the entire contents thereof.

Mr Thomas’ farm is about a mile west of McGilchrist Pen. He had raised chickens and cows on that land since 1978 and had never had any flooding of that nature before 2002. On his account, the water which invaded his property and killed his cattle and poultry “came from the direction of the Flemmings Gully and Rodney Gully and from McGilchrist Pen”.

The other site accused of causing the debacle of 23 May 2002 is described by the claimants in terms which are largely along these lines:

“The Milk River Basin is one of the lowest points in the western end of the Vere Plains and all the water from the drains empty into the river within a three and one half mile length. This is the reason why it is called a basin. The basin is an area of low level land where water would flow freely when it rains.” (Paragraph 16 of the witness statement of Winston Walker of WLM Farms Ltd)

“Sometime in 2000 or 2001 the Defendant constructed a railway line from Harmans Valley to Parnassus crossing the Milk River Basin. It runs three and one half to four miles of the Milk River Basin. The Defendant created a dyke of about six to eight feet at the lowest point to nine feet at the highest point, of stone, earth and concrete. A dyke is a built up contour to facilitate access road or boundary or to channel water. The dyke was constructed across the entire length of the Milk River Basin. [WLM’s] farm is about 1¼ miles north of the railway line....Chin’s property is about 1¼ miles to the north.” (Paragraph 19 of the witness statement of Winston Walker of WLM Farms Ltd)

Mr Walker said, in cross-examination, that on 23 May 2002, when he was eventually able to get to WLM's property, he went atop a 12 foot high concrete water tank and surveyed the area. In his words, "it was water water everyway...it affected the entire area". On his account, entire cane fields were flooded to the extent that only the tops of the tallest of the mature sugar cane were visible.

Mr Walker told a tale of loss on a massive scale. The most severe impact was the destruction of eighty thousand chickens, which WLM was rearing as part of its business. WLM also lost thirty acres of mature sugar cane, 20 Nubian goats and a number of fruit trees. The clean-up required weeks of effort and millions of dollars.

Mr Tomlinson is the claimant whose property is closest to the dyke. He described the situation that he saw at his farm on 23 May 2002:

"...I journeyed to my farm at Spring Plain and to my surprise my farm was under water some sections as deep as Three-Four feet (3'- 4'). The adjoining properties were similarly flooded. This included part of St. Jago property of about Four Thousand acres." (Paragraph 10 of the witness statement of Rupert Tomlinson)

As far as the cause of the flooding is concerned, the evidence by the laymen was unanimous in conclusion. Mr Thomas, whose property is furthest North, said in that regard:

"...The flooding was caused from the water backing up from the dyking of the Milk River Basin and the overflow of the ponds to the western and eastern sections of McGilchrist Pen. The convergence of the heavy flows meant that the normal channels were inadequate to take the water to the Milk River and through the dyke this led to the flooding...." (Paragraph 20 of the witness statement of Herman Thomas)

Mr Chin said:

"The cause of the flooding was the Defendant's interference with the natural flow of water to the Milk River by the construction of the railway line and the dyke created in the process of and in the creation of the ponds on the McGilchrist Pen property. Both projects caused flooding as water could not flow by its natural

course to the Milk River.” (Paragraph 33 of the witness statement of Fitzroy Chin)

Mr Walker was more detailed in his assignment of blame:

“The flooding in May 2002 and the flooding of October 2005 were caused by the inadequate drainage from the McGilchrist Pen development and the inadequacy of the troughs which the Defendant installed to facilitate the flow of surface water to the Milk River....The inadequacy of the drainage on McGilchrist Pen property and the consequent flooding resulted in the inability of Flemings Gully, Rodney Gully and the Decoy Drain to carry the flow of water to the [Milk River] basin. The inadequacy of the troughs constructed through the dyke resulted in water backing up to Toll Gate Clarendon Park and beyond....” (Paragraph 39 of the witness statement of Winston Walker of WLM Farms Ltd)

Finally, Mr Tomlinson’s evidence was that:

“The flooding of my property was caused by the dyking of the area of the Milk River Basin and the inadequate outlet created for the flow of water to the Milk River Basin and by the ponds created on McGilchrist Pen which overflowed into the adjoining properties and neighbouring gullies. The water backed up from the dyke to the main road flooding the properties in its path and joining with the flow from the ponds which overflowed from McGilchrist Pen.” (Paragraph 12 of the witness statement of Rupert Tomlinson)

In addition to the evidence of the respective claimants, a number of witnesses were also called to give evidence in proof of the damage and loss suffered by each claimant. For reasons that will become clear, I need not give any details of that evidence.

To a man, the claimants accepted that they were not trained in hydrology and had no expertise in any such area. It is my view that, in the circumstances, their allocation of blame is based on an opinion which each has formed or has accepted as valid. Not being experts, their respective opinions are of very little, if any, value in deciding this issue. The court will, therefore, be inclined to rely heavily on the expert evidence adduced, always bearing in mind that it may accept or reject the reports and testimony, or any part thereof, of expert witnesses, as it may do with any other witness.

I now examine the expert evidence secured by the claimants.

That evidence was primarily in the form of an expert report from FCS. Regrettably, because of reasons personal to another of its principals, Mr David Chung, was the person obliged to present the report prepared by the firm. He, however, had only a very limited knowledge of the areas under review and of the hydrological modelling. He was, therefore, unable to give the court any assistance on those aspects of the report.

In their report, FCS outlined the usual route that waters take, moving from north to south on that section of the Vere Plains. FCS addressed the types of soil in those areas and the levels of percolation of surface water that each soil-type accommodates. Land use and rainfall data for the areas were also outlined. Most importantly, however, the experts outlined that the standard used for designing community drains was based on a peak flow expected to recur once in every 25 years. They stated:

“The 1:25 year (T_{25}) storm was chosen for the analysis of the study area as it is generally considered the minimum return period for community of regional drains...The accepted practice in Jamaica is to design community drains for T_{25} with adequate freeboard to convey the T_{100} . The T_{25} year peak flow in Milk River is $91 \text{ m}^3/\text{s}$ (3226 cfs) while the reported base flow for the Milk River is $0.689 \text{ m}^3/\text{s}$. This peak discharge was used to determine composite curve number (CN) that would produce runoff from the drainage basin equivalent to the flow in the river.” (Page 8 of the report)

The experts concluded that the size of the hydraulic openings at the Milk River railway crossing “is inadequate to convey the minimum acceptable design storm through a regional waterway”. They stated that as a result:

“...this crossing overtops the railway line during the T_{25} storm. It will not allow debris during the T_{25} storm and as such the culvert is likely to be clogged during a smaller storm event which would increase the height of the water upstream of the culvert before any water overtops the railway line.” (Page 13 of the report)

In cross examination, Mr Chung stated his opinion of the impact of the construction of the railway on flood events. He said:

“0.1m would be the increase from what it was previously, to what followed from the addition of the railway line.... [That is the] difference of one over the other in terms of metres. 0.1m is approximately 4”. The 25 year frequency is 0.5m. The Decoy flood depth with the railway is 0.6m. There is no difference in the 100 year [model].”

Mr Chung opined that an increase in flood levels of 0.1m, or 4” would result from the construction of the railway line. This, he said, would be the level of increase, whether or not debris blocked the openings constructed in the dyke allowing the Milk River to flow under the railway line.

It is also important to note that the hydrologists ABDJU Sciences Inc. Ltd, with whom FCS consulted, and upon whose report they relied, reached a somewhat different conclusion. ABDJU said:

“Finally, the railway does impede flow and the six culverts [designed to have the Milk River cross under the railway line] cannot accommodate the 25 year flow without overtopping, **however there is very little scientific evidence to suggest that its presence, as it is constructed today, increased the flood levels at the Decoy site significantly above its pre-existing condition.**” (Page 10 of the ABDJU report of dated October 2009) (Emphasis supplied)

The case for the defendant

Three witnesses testified on behalf of Jamalco. Two of those were employees of Jamalco. Unfortunately, neither of the two impressed the court as being honest, forthright and candid. It seemed, in cross-examination, that evasion was their primary motive. The first was Mr Richard Hall. He is a civil engineer who was involved in the preliminary design of the civil works for both projects. He did not accept any of the suggestions made to him by counsel for the claimants to the effect that the ponds at McGilchrist Pen caused flooding to nearby properties. He also pleaded ignorance of any flooding of lands to the north of the railway line in the aftermath of the heavy rains in 2002. He testified that there had been a circular drain installed below ground in the McGilchrist subdivision

which was designed to take water off the various roads and lots and lead it to one or other of the two ponds in the subdivision. He termed those ponds “detention ponds”.

Mr George Morgan was the second Jamalco employee to testify. He was cross-examined extensively by counsel for the claimants. Mr Morgan is the environmental health and safety manager for Jamalco. It was he who had the responsibility of submitting the applications for the various permits for the development work and for securing the approvals from the environmental monitoring agency the Natural Resources Conservation Authority (NRCA). He testified that all the required approvals were received.

Mr Morgan insisted that the impact of water runoff from each of the sites was considered by the design team. He, however, did not seem to have had much exposure to the respective sites.

The expert report secured by Jamalco was from Hydrology Consultants Ltd (HCL) a firm of water resources specialists. The witness who testified on behalf of those experts was Mr Michael White, a hydrogeologist.

Mr White testified that HCL’s approach did not use the frequency return period which was used by FCS. He noted with agreement, however, that the FCS report had concluded that, based on the flow of the Milk River, the railway line bridge crossing the river would have had very little impact on either the 23 May 2002 or the 18 October 2005 events. His approach, he said, was to examine the evidence in respect of those events.

HCL’s report showed that “the Thomas, Knight, Morris, WLM and Tomlinson properties are all located within the Flemmings gully catchment”. In respect of Mr Thomas’ property the report concludes at page 5-16:

“Such flooding as may have impacted the Thomas property is best explained by sheet overland flow moving down slope through the farm on its way to the

Flemings Gully, in response to the excessive rainfall intensity of 420 mm depth in a 24-hour period.”

Ms. Morris was unable to pursue her claim at the time of this trial and therefore I shall not outline the findings in respect of her property. In respect of Ms Knight’s property, HCL’s report confirmed, consistent with Ms Knight’s evidence, that there would have been overflow of the Flemmings Gully in the vicinity of her home which would have resulted in flooding there. The report asserted, at page 5-19:

“A right bank elevation of 42.5 m amsl [above mean sea level] was a clear indication that the Knight farm would have been flooded by this [2002] event. The 2005 October event produced a flood stage elevation that was confined within the channel of the Flemings Gully at the bridge and therefore was unlikely to have caused flooding of the Knight farm.

Also note that the construction of the Jamalco Railroad had no effect on the flood stage elevation at the bridge.”

For WLM Farms, the report stated, at page 5-17, that the flood stage elevations for both flooding events did exceed the maximum elevation of the WLM farm (confirming the flooding) but stated that “the construction of the Jamalco Railroad had negligible effect on the flood stage elevations, **albeit minor increases**” (emphasis supplied).

Finally, in respect of the impact of the Flemmings Gully, the report dealt with Mr Tomlinson’s property. It said, in part, at page 5-19:

“The flood plain map indicated that the lower section of the Tomlinson farm, near to the channel of the Flemings Gully was flooded during the 2002 May event and to a much lesser extent during the 2005 October event. Also note that **the construction of the Jamalco Railroad seem (sic) not to have impacted the flood stage, with post railroad elevations showing very little, if any change.**” (Emphasis supplied)

Turning from the Flemmings Gully feature, the HCL report addressed the Rhymesbury feature of the subject area. At page 5-21, a general description was given:

“The upper Rhymesbury Gully catchment is significantly different from the Flemings Gully catchment in two primary respects. The upper Rhymesbury Gully

catchment has no well defined stream channel and its main feature is the presence of two relatively large surface depressions....

Essentially surface runoff flows from north to south into eastern and western terminal depressions, the southern boundaries of which are formed by the Osbourne Store/Clarendon Park main road. The western depression has a smaller storage capacity (0.155Mm³), its main road boundary occurs at a higher elevation...and its overflow threshold is higher...it spills to the east into the larger eastern depression. The eastern depression has a storage capacity of 0.998Mm³ and spills across the Osbourne Store/Clarendon Park main road at an elevation of 38.5m amsl....”

The depressions mentioned in the excerpt are those east and west of the McGilchrist Pen (Palms) development.

HCL accepted that the Mr Chin’s farm would have been flooded by water flowing from the eastern depression in both the 2002 and 2005 events, but was of the view that the flooding would have been less severe in 2005. It however concluded that “[t]he increased runoff that resulted from the development of the McGilchrist Palms housing development would serve to increase the spill on to the Chin farm but is unlikely to have been the cause of the flooding”(page 5-24).

For completeness I shall set out HCL’s summary of the results of their findings.

“A hydrologic investigation of the cause(s) of alleged flood damage to Claimants (sic) properties in the Milk River/Flemings Gully and Upper Rhymesbury Gully catchments in the Milk River Sub-basin, associated with rainfall events of 2002 May and October 18 (sic) has concluded as follows:-

- (i) The pre development surfacewater (sic) runoff was sufficient to cause the flooding of the Tomlinson, WLF, Knight and Chin properties;
- (ii) Such flood damage as may have impacted the Thomas property is best explained by heavy overland flow of surfacewater runoff on its way down slope to the Flemings Gully;
- ...
- (iv) The Jamalco Railroad bridge crossing the Milk River near Spring Plain was found to not cause or contribute to the flooding of any of the Claimants (sic) properties; and

- (v) The Jamalco McGilchrist Palms housing subdivision did not cause the flooding of any of the Claimants (sic) properties, but is likely to have made a minor contribution to increased flooding of the Chin property.”
(Page 6-1)

Analysis

I have opined above that the approach of the experts would be a surer guide to assessing the relevant issues than that of the laymen. Mr Adedipe, for the claimants, submitted a different view. He argued that the court ought not to rely on the experts. He criticised the approach of the experts on both sides; categorising the approach of both as flawed. He said, as part of his closing submissions:

“Any assessment of the level to which the water rose and the area is covered, that focuses on the Milk River crossing only, without taking into account other tributaries; water that accumulates along the railway, East and West, must be treated as flawed, unreliable and as underestimating the volume of water that existed.

It is in this context that the evidence of Mr Walker and Mr Tomlinson must be viewed”

Mr Adedipe advocated what, I believe, he would term a commonsense approach. Having dismissed the expert opinions as flawed, Mr Adedipe then outlined the evidence which, he said, demonstrated that the lay witnesses’ theory as to the cause of the flooding should be accepted as credible and preferable. He pointed to evidence that in 1986 there was severe rainfall of the magnitude of the 2002 and 2005 events. In the 1986 event, a major bridge over the Rio Minho was destroyed and yet there was no such flooding in Clarendon Park, Toll Gate, Osbourne Store, Decoy or Spring Plain, as occurred in the 2002 and 2005. He pointed out that the lay witnesses were not challenged on that evidence. The intervening factor between 1986 and 2002, said Mr Adedipe, was Jamalco’s development projects. It stands to reason, therefore, on Mr Adedipe’s

submission, as I understand it, that the flooding in May 2002 and October 2005 were a direct consequence of those development projects.

I hope that I have not done any disservice to Mr Adedipe's submissions by this summary, but in my view, it reduces the matter to a level of simplicity which I find inappropriate. Because of the vast area said to have been flooded, the court must, in my view, rely heavily on the expert evidence adduced. It is difficult, based on mere observation of the area, to arrive at a causal conclusion concerning the flooding. The area is far too large to allow such deduction. A layman's approach would, therefore, be of limited value in such circumstances. That is not to say that the experience of residents of the area is irrelevant. Indeed the experts on both sides of the divide acknowledged that they conducted interviews with residents concerning the local conditions.

Finally, to say that a bridge was damaged in the 1986, in the nearby Milk River area, cannot lead logically to the conclusion that the rainfall in the Osbourne Store area was of the same intensity. Nor can it inescapably mean that the flooding at Osbourne Store would have been as great as that at the Milk River, which runs from an area north of McGilchrist Pen.

In my view, the claimants cannot use laymen's theories to meet the standard of proof of causation for flooding of their respective properties. Although it is the civil standard of proof, these theories do not take into account the elements of the various catchment areas, the surveyor's reports as to land contours or the hydrologists' reports as to levels of rainfall and the volume and flow of the resultant surface water. In my view, in the context of this large area of land, a scientific approach must be applied in resolving the question of causation.

It is true that the court is not bound to accept the opinions of the experts. If it is the court's opinion that an expert's opinion is flawed because it fails to take into account a relevant factor; has been unprofessionally arrived at; is biased; is dishonestly rendered or simply does not make sense, then the court will reject that opinion. I, however, have no such complaints about Mr White's opinion or his testimony before this court. I found him to be knowledgeable, experienced and possessed of on-the-ground information about the plains of Vere, to be able to render a professional expert opinion. I find that he did so honestly, without bias and in conformity with the duties of an expert witness rendering an opinion to this court.

There were one or two discrepancies in relation to his testimony. For example, he testified that a circular drain which led storm water from the McGilchrist subdivision toward both detention ponds was not an underground drain. This was contrary to the evidence of Mr Hall who testified in cross-examination that that drain was below ground. I did not find the discrepancies, as there were, sufficiently grave to disturb my finding that Mr White's testimony and expert report are reliable.

I acknowledge the slight difference in opinion between HCL and FCS on the one hand and ABDJU on the other in respect of the impact of the railway bridge across the Milk River. Whereas FCS opines that there would be a 0.1m or four-inch increase in flood levels as a result of the construction of the bridge, and HCL indicates a "negligible effect on the flood stage elevations, albeit minor increases", ABDJU asserts that there is no scientific evidence to suggest that its presence resulted in any increase in flood levels which would affect either Mr Tomlinson's or WLM's farms. Neither WLM nor Mr Tomlinson can find any solace in these differences. The level of increase could not have caused the damage to their respective properties. Certainly, that level of increase would

be insignificant in the context of Mr Walker's evidence that the waters rose to cover all but the tallest of the mature sugar cane growing on WLM's farm.

Conclusion

I would not say that the claimants' claim, like the name Parnassus, is based in myth, but I find that its basis cannot stand the test of scientific scrutiny. Based on the scientific evidence, which I accept as reliable, I find that the flooding of their respective properties was caused, not by the erection by Jamalco of any of the subject structures, but by extreme rainfall. That rainfall, in the main, produced flooding of a level which would have occurred even if those structures were not in place.

In the case of Mr Chin's and WLM's respective properties, I accept that Jamalco's civil works did contribute in a minor way to the flooding. I find, however, that the loss which was suffered by them has not been proved to have been attributable to that contribution. I therefore find that Jamalco cannot be found liable for the loss suffered by these claimants and that their respective claims must fail.

It is ordered that:

1. Judgment for the Defendant in Claims 2008 HCV 00457, 2008 HCV 00458, 2008 HCV 00460, 2008 HCV 00461 and 2008 HCV 01741 respectively;
2. Costs to the Defendant in each claim, such costs are to be taxed if not agreed.