

## **DECISION NO. 2008-FOR-011(a)**

In the matter of an appeal under section 82 of the *Forest and Range Practices Act*, S.B.C. 2002, c. 69.

<b>BETWEEN:</b>	Tembec Enterprises Inc.	<b>APPELLANT</b>
<b>AND:</b>	Government of British Columbia	<b>RESPONDENT</b>
<b>AND:</b>	Forest Practices Board	<b>THIRD PARTY</b>
<b>BEFORE:</b>	A Panel of the Forest Appeals Commission David H. Searle, CM, QC, Panel Chair R.G. (Bob) Holtby, PAg, Member Ken Long, PAg, Member	
<b>DATE:</b>	September 23-25, 2009 and October 1, 2009	
<b>PLACE:</b>	Cranbrook, BC and Victoria, BC	
<b>APPEARING:</b>	For the Appellant: Owen James, Counsel For the Respondent: Bruce Filan, Counsel For the Third Party: John Pennington, Counsel	

## **APPEAL**

[1] This is an appeal brought by Tembec Enterprises Inc. ("Tembec") against a December 8, 2008, determination by Tony Wideski, the District Manager, Rocky Mountain Forest District (the "District Manager"), that followed an investigation of a landslide on or around March 24 or 25, 2007. The landslide occurred in the Sundown Creek watershed near Yahk, British Columbia, approximately 160 metres below a recently constructed portion of Tembec's logging road.

[2] In his determination, the District Manager found that Tembec had contravened four sections of the *Forest Practices Code of British Columbia Act* (the "Code") and four sections of the *Forest Road Regulation*; specifically, sections 45(1), 45(3)(a), 63(1) and 63(2) of the *Code*, and sections 9(1)(c)(ii) and (iv), 9(1)(d) and 13(2)(b) of the *Regulation*. These sections deal with various aspects of road construction, drainage systems and maintenance of roads, as well as damage to the environment. The District Manager determined that Tembec had not exercised due diligence to prevent the contraventions from occurring and levied a total penalty of \$8,000.

[3] Although the contraventions are under the *Code*, this appeal is heard pursuant to Division 4 of the *Forest and Range Practices Act*. The District

Manager's reliance on *Code* provisions was not explained by the Parties but it appears to be because the original development plan and other site level plans were approved under the *Code*. As the determination was issued after the *Forest and Range Practices Act* came into effect, the District Manager's decision is made under that legislation. Similarly, the appeal process was conducted in accordance with the requirements of the *Forest and Range Practices Act*.

[4] The powers of the Commission on this appeal are set out in section 84 of the *Forest and Range Practices Act*, which states:

**84** (1) On an appeal

...

the commission may

(c) consider the findings of the person who made the determination or decision, and

(d) either

(i) confirm, vary or rescind the determination or decision, or

(ii) with or without directions, refer the matter back to the person who made the determination or decision, for reconsideration.

[5] Tembec asks the Commission to rescind the determination and penalties.

[6] The Forest Practices Board was added as a Third Party in these proceedings and provided a substantial argument on the defence of due diligence.

## **BACKGROUND**

[7] The landslide occurred on a slope below a recently constructed portion of road covered by Road Permit R07637; specifically, Sections 29 and 30 of the road. Those sections of road lie within the boundary of Block 945 of CP 465, running roughly parallel to the block boundary. Section 30 is approximately 75 to 90 metres east of the boundary.

[8] The Road Permit is held by Tembec, but it was originally issued to Crestbrook Forest Industries Ltd. in June of 1996. On a date unknown to the Commission, Tembec applied for an amendment to the road permit to allow construction of Sections 29 to 41.

[9] In applying for the requisite approvals, Tembec performed a terrain reconnaissance Level D assessment for the proposed road, as well as a site reconnaissance of the actual terrain. No stability concerns were identified in the Level D assessment or the site reconnaissance. This is not in dispute. There is no suggestion that the proposed road was on unstable or potentially unstable terrain.

[10] On November 8, 2006, the Rocky Mountain District of the Ministry of Forests and Range approved the amendment to Road Permit R07637, allowing Tembec to construct Sections 29 to 41.

[11] On December 4, 2006, prework for the road was completed by Barry Cherepak, Tembec's Road Supervisor, and construction of Section 29 and the drainage system commenced. By January 23, 2007, construction of Sections 29 and 30 were completed. Mr. Cherepak reviewed the completed road construction for a final time on January 29th.

[12] Section 29 of the road proceeds in a southerly direction and then curves to the east. At the point where Section 29 heads east, Section 30 of the road begins. This is referred to as the junction. From the junction, Section 30 descends to the south.

[13] An important feature in this appeal is "the swale", an area of moist or marshy land. The northern end of the swale is more or less at the junction of Sections 29 and 30. The southern end of the swale is at a location identified as GPS 2, approximately 75 metres south of the junction along Section 30.

[14] During construction, Mr. Cherepak decided that a culvert should be placed below the junction of Sections 29 and 30. It is referred to as the GPS 1 culvert. An additional culvert was placed on Section 30, at GPS 2. It is referred to as the GPS 2 culvert. The drainage was to work as follows. Water collected upslope of Section 29 would be channelled through a ditch running along the high side of the road to the culvert at GPS 1. The culvert ran under the road and drained the water into a ditch along the high side of the Section 30 road. From there, the water would flow in the ditch along Section 30 for approximately 75 metres before it entered a culvert at GPS 2. The culvert went under the Section 30 road, and water would empty into a small depression below a modest ridge. The water would then flow to the north into the only visible natural drainage feature in the vicinity, the swale, where it would dissipate into the soil.

[15] Attached to this decision at Appendix 1 is a map showing the general location of Sections 29 and 30 of the road and the GPS 1 and 2 culverts.

[16] On or around February 2, 2007, Sections 29 and 30 were inspected by Forest Officer, Patric Pictin. Under the heading "Road/Trail maintenance (water mgmt, integrity)" the Road Inspection Report indicates compliance with the permit. This report also states that the crew "cleared majority of ditchline prior to leaving."

[17] Tembec began logging the block in early March of 2007. Logging was substantially completed in mid-March, but further logging and hauling was to be done following the spring "break up" period.

[18] A rainfall warning was issued for the weekend of March 24 to 25, 2007. Tembec pre-positioned a backhoe in the vicinity of the road.

[19] Approximately 30 mm of rain fell that weekend. A number of landslides occurred in surrounding areas, as well as the one involved in this appeal.

[20] The subject landslide was discovered on Monday, March 26, approximately 160 metres downslope of Section 30 and the culvert at GPS 2. The slide was approximately 340 to 350 metres long, from 10 to 35 metres wide, and less than 1 metre deep at the point of failure. The area of the landslide was approximately 0.5 hectares, and the volume of earth moved in the slide was estimated to be between 3,000 m<sup>3</sup> and 9,000 m<sup>3</sup>. The landscape scar was approximately 250 metres

upslope of a Forest Service Road, with a debris flow continuing for an additional 100 metres. It covered a section of the Forest Service Road (at kilometre 5.5) and some debris spilled into Sundown Creek. The general location of the landslide is shown on the Appendix 1 map as "Recent Debris Slide", but the extent of the slide is not fully depicted; the map does not show the debris flow crossing a Forest Service Road (shown as a solid black line) and entering Sundown Creek.

[21] The Appendix 1 map also shows two older debris slides to the north of the recent slide. The subject landslide and the older debris slides occurred in an area that was recognized as "potentially unstable terrain".

[22] John Hatalcik, RPF, Division Roads Superintendent of Tembec, reported the slide to Ken Gibbard of the Ministry of Forests and Range. Bill Laflin of Tembec reported the slide to Dwain Boyer and Al Davidson of the Ministry of the Environment. The following day, Mr. Hatalcik reported the slide to Forest Officer Patric Pictin.

[23] Mr. Pictin inspected the landslide on Thursday, March 29, 2007. Following his inspection, Mr. Pictin informed Tembec that there appeared to be a correlation between the newly constructed Section 29 and Section 30 and the partially harvested Block 945, and the mechanism of the landslide. He also advised that Tembec should consider the matter now under investigation.

[24] Tembec retained KALJON Forest Engineering Ltd. ("KALJON") to review the landslide. Shawn Vokey, P.Eng., of KALJON completed a field review of the slide and adjacent area on April 2 and 3, 2007. During his initial site review, he discovered and mapped the two older debris slides to the north of the recent slide, shown in Appendix 1. The old slides occurred below the cut block boundary.

[25] Forest Officer Pictin conducted a second site inspection on April 3, 2007.

[26] On Tuesday, April 10, 2007, a joint inspection was conducted by Mr. Pictin and Dr. Peter Jordan, PhD, P.Geo., a Research Geomorphologist with the Ministry of Forests and Range. Dr. Jordan reviewed the landslide, terrain, soil conditions and the forest development, including the condition of the roads and logging above the landslide. The information he gathered is set out in a report to Mr. Pictin dated May 1, 2007, and titled "Observations on the Sundown Creek landslide of March 2007". This report was later provided to the District Manager as part of the District's Evidence Package.

[27] In March of 2008, Mr. Vokey of KALJON was retained by the law firm Fraser, Milner, Casgrain, LLP, to review the district's compliance and enforcement package and to complete an additional review of the area in the vicinity of Road Permit R07637, where the debris slide occurred. He performed an additional site visit and review on May 6, 2008. Mr. Vokey's report on this later work is dated April 20, 2009.

[28] On August 27, 2008, the District Manager held an Opportunity to be Heard prior to determining whether Tembec had contravened various sections of the *Code* and the *Forest Road Regulation*. Tembec presented evidence and made submissions in support of its position that it did not contravene the legislation, as well as submissions in support of a defence of due diligence.

**THE DETERMINATION**

[29] On December 8, 2008, the District Manager issued the determination that is the subject of this appeal. A summary of his conclusions on the contraventions and associated penalties are as follows:

<b>Act/Regulation and Section</b>	<b>Finding of the District Manager</b>	<b>Penalty Assessed</b>
Section 62(1) of the <i>Code</i>	No contravention	
Section 63(2) of the <i>Code</i>	The road has not been maintained in accordance with the legislation or conditions of the road permit.	No penalty assessed
Section 9(1)(c)(ii) of the <i>Forest Road Regulation</i>	No contravention	
Section 9(1)(c)(iv) of the <i>Forest Road Regulation</i>	Failure to prevent drainage water being deposited on a potentially unstable slope.	\$1,500.00
Section 9(1)(d) of the <i>Forest Road Regulation</i>	No contravention	
Section 13(2)(b) of the <i>Forest Road Regulation</i>	Components of the drainage system of the road were in a non functional state.	\$1,500.00
Section 45(1) of the <i>Code</i>	Damage to the environment has occurred as a result of a forest practice.	\$3,000.00
Section 45(3)(a) of the <i>Code</i>	Sliding of land has occurred as a result of a forest practice.	\$2,000.00
Total Penalty		\$8,000.00

[30] For convenience, the legislation, the District Manager's reasons for his findings of contravention and Tembec's general position on the contraventions are set out below. The Forest Practices Board took no position on these matters.

**Contravention of section 63(2) of the Code**

**63** (2) A person who is required to maintain a road under subsection (1), (5) or (7) must maintain it in accordance with the requirements of

- (a) any forest development plan,
- (b) the Act, regulations and standards, and

- (c) the cutting permit, road permit, timber sale licence that does not provide for cutting permits, road use permit or special use permit.

[31] The District Manager found that the road had not been maintained in accordance with the legislation or conditions of the road permit. He found that the ditches had logging debris accumulation within them, and rutting of the road surface channelled the water toward low spots on the road. In his view, seasonal deactivation should have included some contingencies to intercept water from the road surface such as waterbars or cross ditches<sup>1</sup>.

[32] Tembec argues that the District Manager's decision on this point is flawed because there is no requirement under applicable legislation for waterbars or cross ditches to be employed on an active forestry road, and there was no requirement in the road permit for these things. Moreover, Tembec submits that the District Manager failed to observe the following:

- Tembec had not concluded harvesting activities in the Sundown Creek area, or its hauling activities on the road. Therefore, it was premature to temporarily deactivate the road.
- The drainage system consisted of a series of drains and culverts to channel water to natural drainage features (i.e., the swale) identified at the time these road sections were constructed.
- Installing waterbars could undermine the capacity of the drainage system to maintain natural drainage flows.
- The surface condition of the road, including any ruts, did not appear to adversely affect the integrity of the drainage system (either before or after the slide), as ruts along the road did not prevent water from flowing into, and through culverts GPS 1 and GPS 2.
- The drainage system employed along the road was functioning during the days prior to the slide.
- Much of the rutting shown in the photographs relied on by the Ministry at the Opportunity to Be Heard was caused by vehicle traffic on the road *after* the slide.

**Contravention of section 9(1)(c)(iv) of the *Forest Road Regulation***

- 9 (1) A person required to construct or modify a road in compliance with section 62 (1) of the Act or to maintain a road in compliance with section 63 of the Act must do all of the following when building or installing the drainage system for the road:

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<sup>1</sup> A waterbar is a combination of a shallow depression and berm of soil running diagonally across a roadway to divert water off of the road. A cross ditch is a ditch excavated across the road at an angle and at a sufficient depth, with armouring as appropriate, to divert both road surface water and ditch water off or across the road.

...

(c) ensure that the drainage system

...

(iv) prevents water from being directed onto potentially unstable slopes or soil material, and

[33] The District Manager found that Tembec failed to prevent drainage water being deposited onto a potentially unstable slope. His reasons for this decision were that more water flowed to the swale due to a few factors including rutting of the road and the lack of waterbars. He concluded that the issue could have been avoided through managing the quantity of water flowing along the ditch lines and the road surface, and that a better drainage strategy could have avoided, or certainly reduced, the concentration of water at this particular location.

[34] Tembec argues that, in finding this contravention, the District Manager interpreted and applied this section in an unduly restrictive manner, and without reference to section 9(1)(a)(i) of the *Regulation* which requires, in part, that the road maintenance and construction maintain natural drainage patterns. In doing so, he failed to consider material facts, including those listed above respecting the appropriateness of the drainage system adopted by Tembec in the circumstances.

**Contravention of section 13(2)(b) of the *Forest Road Regulation***

**13** (2) A person required to comply with section 62 or 63 of the Act who ... maintains a road, must ensure that, for the road and included structures,

...

(b) the drainage systems of the road are functional,

[35] The District Manager found that components of the drainage system of the road were in a non-functional state. This finding was based on the evidence of water moving down the road's running surface long distances, without any interception structures (i.e., waterbars) and concentrating water at particular locations.

[36] Tembec argues that section 13, like section 9 of the *Regulation*, must be read in the context of the entire *Regulation*. It submits that the District Manager erred in his interpretation and application of this section by failing to acknowledge that Tembec's drainage system layout and upkeep were intended to maintain natural drainage patterns. Further, he failed to consider material facts, including those listed above, respecting the appropriateness of the drainage system adopted by Tembec in the circumstances.

**Contravention of section 45(1) of the *Code***

**45** (1) A person must not carry out a forest practice that results in damage to the environment.

[37] The District Manager found that damage to the environment occurred as a result of a forest practice. In assessing whether the contravention occurred, he determined that it was not necessary to prove causation. He concluded that the slide temporarily closed the Forest Service Road and deposited material into Sundown Creek. He found that, in all likelihood, the consequences of the landslide were negative to fish and fish habitat.

[38] Tembec argues that the District Manager erred in his application of this subsection. It refers to subsection 45(2) which states:

(2) Subject to subsection (3), a person does not contravene subsection (1) if, with respect to the forest practice referred to in subsection (1), the person is acting in accordance

(a) with this Part, Part 5 and with the regulations for this Part and Part 5, and

(b) with any of the following:

...

(iii) a permit issued under this Act or the regulations.

[39] Tembec submits that, according to this subsection, a party cannot be found to have contravened section 45(1) if it acted in accordance with the relevant sections of the *Code*, the regulations, plans or permits. For the reasons cited earlier, Tembec submits that it complied with section 9 and 13 of the *Regulation*. Further, it complied with all plans and permits respecting construction and maintenance of the road. Therefore, there was no basis for him to find that Tembec failed to comply with the requirements of section 45(2).

**Contravention of section 45(3)(a) of the Code**

**45** (3) A person must not carry out a forest practice if he or she knows or should reasonably know that, due to weather conditions or site factors, the carrying out of the forest practice may result, directly or indirectly, in

...

(a) slumping or sliding of land,

[40] The District Manager found that the "sliding of land" occurred as a result of a forest practice. He found that the landslide did occur, and the likely cause of that landslide was a concentration of drainage water to the initiation point. Also, the concentration was the result of ditch and road surface water flowing into a low point of Sections 29 and 30, and from there flowing into the swale above the landslide initiation point. There was knowledge that the terrain below the road was potentially unstable and there was existing evidence of old landslide scars in that area. In his view, this knowledge would serve as a "red flag" that the forest road drainage would need special attention, especially during seasonal runoff. He

concluded that it was not reasonable for Tembec to allow drainage water to concentrate at locations above this terrain.

[41] Tembec submits that the District Manager erred by performing a retrospective analysis to find this contravention. It submits that the proper question is whether the party should reasonably have known, due to site factors "at the time", that its forest practices may result in significant damage to the environment (*Kalesnikoff Lumber Co. Ltd. v. Government of British Columbia et al.* (Decision Nos. 2003-FOR-005(b) and 2003-FOR-006(b), August 2, 2006) (Forest Appeals Commission) (unreported)). Tembec submits that it reasonably believed that its existing drainage system channelled water onto a natural drainage feature (the swale) which, in turn, dispersed the water, and that Tembec had no reason to believe that the road surface would compromise this drainage system. It also submits that it did not know, and couldn't reasonably have known, of the old slide scars in that area.

### **Defence of due diligence**

[42] With regard to the defence of due diligence, the District Manager cited a test with two parts:

1. Was the event that led to the contravention reasonably foreseeable?
2. Did the person exercise reasonable care to avoid the event from occurring?

[43] Since he already found that Tembec should have reasonably known that the event could occur (it was reasonably foreseeable), the District Manager focussed on the second part of the test: i.e., did Tembec exercise a sufficient degree of care to prevent the event from occurring.

[44] The District Manager reiterated his findings that road maintenance was not to an acceptable standard and that the lack of waterbars and the concentration of water into critical locations were key contributors to the landslide. Regarding Tembec's evidence, he states:

I heard of many precautions taken to manage road related risk, all of which are good practises. However, it appears that some key elements did not have sufficient oversight. Those elements involved a more frequent monitoring regime on road conditions and ensuring that drainage water concentrations did not end up at locations where a slope failure risk would be increased. I have considered that given the knowledge of the potentially unstable terrain adjacent to this cut block and road, it is reasonable to believe that a higher degree of monitoring and road maintenance would be practised on this road system and in particular, drainage water would be managed more carefully. It is my conclusion that this did not occur in this instance.

[45] He found that "due diligence has not succeeded as an applicable defence for this contravention."

[46] Tembec submits that the slide was not reasonably foreseeable and that it exercised reasonable care by taking steps to ensure that its forest practices complied with applicable legislation, standards and permits.

### **Penalty**

[47] The District Manager considered that the Crown suffered a loss of .5 hectares of productive forest land and that there was an impact on Sundown Creek with respect to loss of fish habitat. Regarding the loss of timber and productive land, he calculated the lost volume, the time it will take to recover to full productivity and assessed a compensatory penalty of \$3,000.

[48] Regarding deterrent penalties, the District Manager considered the list of relevant factors and assessed the penalties set out in the chart (above), for a total penalty of \$8,000.

[49] Tembec submits that the District Manager erred in assessing these penalties.

### **ISSUES**

[50] The issues in this appeal are three:

1. Did Tembec contravene any of the following sections: 45(1), 45(3) and 63(2) of the *Code*, and/or section 9(1)(c)(iv) or 13(2)(b) of the *Forest Road Regulation*?
2. If the answer to the above is "yes", then, on a balance of probabilities, did Tembec exercise due diligence to prevent the contravention(s) from occurring?
3. If there are contraventions to which no defence applies, what are the appropriate penalties?

### **EVIDENCE OF THE APPELLANT**

[51] The Appellant called three witnesses: two Tembec employees, Eirik Pighin and Barry Cherepak, and an expert witness, Shawn Vokey.

[52] Mr. Pighin is a Registered Professional Forester (RPF). As planning forester for the area in which the slide occurred, Mr. Pighin was responsible for determining the location of the cut block and associated roads, including Sections 29 and 30 of the road.

[53] Mr. Pighin testified that:

- While he determined the location from map and photo information, Sections 29 and 30 were actually located on the ground by a field crew, made up of an experienced RPF and a forester-in-training.
- The field crew did not find or report any indicators of instability.
- He walked the proposed road location, but did not see any instability indicators along the road.
- He did not observe any evidence of the two old landslides.
- He was aware that the area below the cut block was potentially unstable, but as neither the road nor cut block was proposed for the potentially unstable area, he did not walk into it.

- A road checklist was followed and, once completed, the checklist was handed off to the operations group for implementation. If cross drainage issues (e.g., cross ditching or waterbar issues) had been noted in the road reconnaissance, they would have been noted in the checklist. No cross-drainage issues were reported in the checklist.
- He approved the checklist and passed it on to operations.
- The final location of culverts was an operations decision.

[54] Tembec's second witness was Mr. Barry Cherepak. Mr. Cherepak is Tembec's Roads Supervisor. He has been in the position for eight years. He supervised the construction of Sections 29 and 30. He had reviewed all of the information showing the cut block, polygons, heritage information and stream crossings. While he was aware of the potential unstable polygon below the proposed road and cut block boundary, saw no "red flags".

[55] Mr. Cherepak testified that:

- He gets the information necessary to carry out the construction of a road from the planning forester.
- He relies on the road checklist to identify any "red flags" or issues. There were no "red flags" indicated in the checklist provided to him by Mr. Pighin.
- He walked the proposed road and road right-of-way, as well as the area in and around the swale.
- He did not see the two old slides and had no knowledge of them until after the landslide event.
- The construction of a road is a continuous process; the plan will be modified to reflect new information as construction proceeds.
- He has developed techniques for road construction in winter and has no concerns about the integrity of a road solely on the basis of it being built in winter.

[56] Regarding the culverts, Mr. Cherepak testified as follows:

- The location of the culverts was his responsibility. Although there were experienced equipment operators and sub contractors working on the road, he decided not to leave the culvert placement to others in this case.
- He assessed the area and used site indicators to determine the layout of the drainage system. He observed that the terrain north of what became the junction of Sections 29 and 30 was relatively dry, and there were no downslope features that indicated the slope was conditioned to receive water.
- His initial plan was to install a culvert on Section 30 just below the culvert at GPS 1. However, he changed his plan when he identified the swale.

- He believed that this swale was conditioned to water and was the best location into which to move the water from the drainage system. This was why he located a culvert at GPS 2. He was more confident of where the water would go at this GPS 2 location than he was in relation to the first option. In general, his idea was to contain the water in the "sub-basin" and deliver it to the distinct water receiving area in the swale. He anticipated that the water would dissipate into the soil.
- He expected that the water flowing from the culvert at GPS 2 would flow north into the swale because the landform below that culvert would direct the flow of water there.
- He insisted on being present when the culvert at GPS 2 was installed in order to ensure that it was placed in the location that he determined. Once he had identified the only place that he thought was safe to deposit water (the swale), he wanted to make sure that it was placed correctly.
- While he has used waterbars in the past, he saw no need for their use on Sections 29 and 30 in the circumstances of the road's use at the time. He said it was an operational road and, in his view, the ditch lines and culverts should take care of the water. He didn't see any risk of the drainage system being compromised.
- In terms of road maintenance, Mr. Cherepak noted that there had been recent clearing of the culverts just before March 25th, and that a loader was on site for the anticipated severe rainfall. While Tembec's logging was substantially completed in mid-March, it planned to continue harvesting in the area and hauling its timber, so it continued to maintain the road.

[57] On March 27, one day after the landslide event, Mr. Cherepak took photographs of the roads and drainage features. These photographs were tendered in evidence. These photos showed comparatively modest amounts of surface erosion and rutting. Water appeared to be flowing freely in the ditches.

[58] When asked, Mr. Cherepak said that if constructing the road system again, he would do the same things.

[59] The next witness for the Appellant was Shawn Vokey. Mr. Vokey is a Professional Engineer whose main area of practice is in terrain stability and the management of drainage on forest roads. He has some 15 years of experience in the Kootenay region.

[60] Mr. Vokey was the independent consultant working with KALJON. He was retained by Tembec to assess the stability of the terrain within and adjacent to the slide area, and to determine the factors that likely contributed to the landslide event.

[61] Mr. Vokey was qualified by the Commission to give expert evidence in the areas of terrain stability, forest engineering, and procedures employed in managing water in terrain drainage systems.

[62] Mr. Vokey reviewed various documents and carried out a field review of the slide area on April 2 and 3, 2007, with a further review on May 6, 2008. His April 20, 2009 report was accepted as an expert report at the hearing.

[63] In his report, Mr. Vokey described the area that he reviewed to include "the roads above the slide and the terrain up and downslope of the roads for 500 metres North and 100 metres South of the slide. The terrain area was reviewed to define the surface drainage areas, potential seepage locations and to identify any historical landslide activity prior to forest development."

[64] His methodology included identifying points of interest with a GPS unit, taking photos, measuring slope distances, excavating soil pits, observing soil and bedrock and reviewing aerial photographs. He also reviewed the District's Evidence Package, and documents and photographs supplied by Tembec, which included weather information.

[65] Mr. Vokey described the subject landslide as well as the soils, slope and evidence of surface and subsurface flow in that area in his report and his oral evidence. He also described the two old landslide scars that he discovered and mapped. He describes them in his report as follows:

Less than 50 metres to the North a similar sized landslide scar, estimated to have occurred around 200-300 years ago, is found on similar terrain and is recorded as GPS 6-2007. Less than 75 metres North of that slide a smaller landslide scar, estimated to have occurred around 100-200 years ago on straight, slightly convex 45 to 50% ground slope is found at GPS 7-2007. The estimated age of the slide occurrences is based on the lack of soil development at the debris slide scars at the top of narrow shallow gully formation and from the debris runout piles found near the valley bottom.

[66] He goes on to say that, "These slides are indications of previous natural landslide activity prior to forest development". Regarding their visibility, he states that the slide scars are located approximately 120 metres downslope of the new road construction and that the gully formations are not evident from upslope. In his oral evidence, Mr. Vokey advised that he reviewed the aerial photographs and noted that the gullies were very hard to distinguish on the photos.

[67] Regarding terrain stability and whether there was a need for further assessments, Mr. Vokey states in his report that:

The road system and harvested areas above the slide occurred within terrain mapped as stable at the terrain reconnaissance Level "D". The slide area is found in terrain classified as potentially unstable. Terrain stability assessments were not completed on the recently constructed roads or harvested cutblock area directly above the slide location.

[68] However, he then points out that licensees are not legislated to complete detailed terrain stability assessments under circumstances where forest development is proposed in stable terrain upslope of potentially unstable or unstable terrain.

[69] In any event, Mr. Vokey testified that there were no indicators to suggest a need to look at the polygon below the terrain crest and that, based on the

information they had at the time, there was nothing to suggest to Tembec employees that they should have carried out additional investigations further below the road than they did. He also testified that the coding of a polygon with respect to instability is a function of activities carried out within the polygon.

[70] Mr. Vokey described the weather conditions prior to the slide in his report. He states that it was warm for the time of year, and that significant amounts of rain fell in the area, with some snow still on the ground upslope from the slide. Based on measurements at weather stations within 30 kilometres, he estimates that between 25 to 40 litres per square metre of rainfall occurred during a two day period, combined with an unknown quantity of snow melt resulting from the rain and warm temperatures.

[71] At the hearing, Mr. Vokey described his observations of natural drainage patterns both surface and sub-surface, and Tembec's system for dealing with water, particularly the culvert at GPS 2. He observed as follows:

- There were not a lot of distinct drainage patterns on the terrain.
- The only distinct drainage area is the area northwest of the culvert at GPS 2. This area is marked on Appendix 1 by lines and is generally referred to as "the swale".
- The water from the culvert at GPS 2 split and went southwest and northwest.
- Viewed from the road, he would have expected all of the water to go northwest and into the swale. However, closer examination revealed a small elevation change which allowed some water to flow southwest.
- This elevation change is very subtle; it would have taken a formal survey with elevations to determine precisely the difference in landforms. However, it is not normal practice to do a survey for this level of road.
- Water from the culvert at GPS 2 went a short distance on the surface in both directions, and then went subsurface.
- He estimates that 75% of the water from the GPS 2 culvert went south, downslope toward the slide area, and 25% went north into the swale.
- There is no single point where water comes out at the head of the slide; water came out at many places. This suggests water came from a wide area.

[72] With respect to culvert placement at GPS 2, Mr. Vokey believes that the location was reasonable, even "ideally" located because just to the south of it is a ridge. This ridge, located at GPS points 14 through 19, is a terrain break that delineates drainage areas. He also states that the culverts along Sections 29 and 30 were spaced within the "Guidelines for Maximum Culvert Spacing for Forest Roads".

[73] Mr. Vokey was asked whether a culvert should have been placed to the north of the junction, at GPS 8 or 9. In his opinion, culverts here could have caused a landslide. He also said that more culverts do not necessarily mean less risk.

[74] At the hearing, Mr. Vokey provided a number of opinions based on his observations of the road, Tembec's drainage system and the slide area:

- The condition of the ditch lines, some of the culverts and the road surface "looked messy" but was functioning properly during the rain event.
- Rutting of the road was more likely caused by light truck traffic subsequent to hauling during the Spring freshet when road subgrades were weakened with moisture from snowmelt and precipitation, than by water movement. In any event, the rutting would not have affected the drainage system. This is further explained in his report at page 6:

Forest operational roads are not constructed to a standard that permits a shedding of water into ditch lines or across a fill slope. Road surface drainage on forest roads flows off the road surface at good road grade sags, at in or out sloped road sections or where road surface water finds a path out of the wheel traveled surface. The rutting adjacent to the spur road junction was a result of a low spot at the junction where ditch line standing water percolated through and weakened the road fill. Light truck traffic created ruts at this area and permitted ditch line water to flow on the road surface to the next low spot at GPS 2 culvert where the ditch line water was intended to flow.

- Ditch blocks were adequate, with the design of a ditch block to permit water to be directed into a culvert. When the capacity of a culvert is exceeded, the function of a ditch block is to permit the excess water to flow over the ditch block and to the next culvert. There was no evidence that ditch line flow exceeded culvert capacity, that ditch blocks were not operational and that cut slope failures blocked ditch lines.
- Waterbars were not necessary. In his report he states that waterbars for this configuration of road would be excessive. Waterbars would be necessary where cut slopes were likely to experience sloughing that could result in a blocked ditch line, diverted seepage or ditch line water onto the road the road surface and down over unstable fills or potentially unstable slopes.
- Mr. Vokey testified that waterbars are also needed where a road prism or drainage system is in danger of being compromised. For instance, he would use them if the capacity of the culverts was not sufficient. In this case, they were. He observed that the "wash pattern" within the culvert at GPS 2 was 13 cm within a 400 mm (40 cm) pipe. Based on his assessment, only 1/3 of the capacity of the culvert was used.

[75] Mr. Vokey was also asked to comment on the standards of practice for all forest industry operators in the Kootenays. His response was that Tembec's actions were consistent with normal practice in the area for the Ministry of Forests and Range, British Columbia Timber Sales and other major licensees. In his opinion, the actions taken by Tembec with respect to road location and drainage design were consistent with normal practice, and, in his view, probably superior to the average.

[76] In his report, Mr. Vokey outlined what he viewed as the contributing factors to the slide:

1. Soil texture (loose to compact gravelly sand to sandy gravel) and benches in the topography upslope of the slide area permitted water infiltration within the soil and permitted the saturation along a plane above a dense impermeable silt till sub-surface layer.
2. Near surface fractured bedrock creates avenues for concentrated subsurface water movement along bedrock layers.
3. Increased surface runoff associated with the logged areas on a South aspect upslope of the slide. The logged areas can result in an increased Spring snow melt rate compared to the adjacent timbered slopes. In the future a greater snow accumulation potential exists within the recent harvest.
4. Installed culverts on the spur roads above the slide area, collected minor seepage, rainfall, snowmelt and combined with terrain shape diversion downslope resulted in an increase of the natural surface runoff below the road.
5. Subsurface flow delivery to the escarpment is not conclusively from the culvert. Subsurface seepage was delivered through rainfall, snowmelt and via subsurface seepage along the bedrock. There is no evidence that the water from the culvert flowed overland directly to the failure. Water flow was noted at the culvert during field visits on April 2, 2007 and May 6, 2008 and was not noted at the debris slide escarpment. In both cases water was noted 25 to 30 metres downslope of the escarpment at exposed bedrock.
6. Historical landslide scars on the terrain adjacent to the recent slide indicate potentially unstable terrain and previous natural landslide activity prior to forest development.

#### **EVIDENCE OF THE RESPONDENT**

[77] The Respondent called three witnesses: Patric Pictin, Dave Rebagliati and Dr. Jordan.

[78] Forest Officer Patric Pictin has been a Compliance and Enforcement Technician with the Rocky Mountain Forest District for 12 years. He led the investigation of the slide incident and prepared the case that was put before the District Manager and which is the subject of this appeal. In his testimony and in his report, Mr. Pictin provided detailed information on the course of his investigation. The information he presented included:

- He learned of the landslide on March 27, 2007 and visited the site on March 29 and April 3, 2007. He took numerous photographs on both visits. He also accompanied Dr. Jordan on an April 10, 2007 site visit.
- There were no temporary deactivation measures taken by the licensee or the logging contractor such as waterbars, cross drain ditches or culverts backed-up with fail safes. He noticed water running in the ruts on the road.
- He inspected the landslide that crossed the Forest Service Road and noted that the slide carried on to Sundown Creek. He located the two natural gullies (the old slides) to the north of the slide.

[79] Regarding winter road construction, Mr. Pictin acknowledged that it is common practice in the area for harvest roads to be constructed in winter.

[80] Mr. Rebagliati is the Engineering Supervisor for the Rocky Mountain Forest District. He has considerable road development and construction experience. Mr. Rebagliati testified that:

- He has seen licensees use waterbars for maintenance.
- Waterbars are used to control water on the surface of roads.
- Drainage systems address drainage of subsurface water flows.
- The use of waterbars is optional and choosing whether or not to use them is a judgement call.

[81] The Respondent's third witness was Dr. Jordan. Dr. Jordan is the Research Geomorphologist for the region, a position he has held since 1991. Dr. Jordan holds a PhD in Geomorphology and is a Professional Geoscientist. He was qualified by the Commission to give expert evidence in the area of landslides, their causes, measures to be taken to reduce their risks and water hydrology.

[82] Dr. Jordan spent 3.5 hours on the site on April 10, 2007. He recorded some site information and made some measurements. He also reviewed other material related to the area. In his May 1, 2007 report to Mr. Pictin, he provided a detailed description of the slide, noting that:

- There is no evidence that water flowed over the ground.
- Rilling on the slide surface indicate that water emerged as a shallow subsurface flow.
- Water from the culvert located at GPS 2 ran southwest, likely infiltrating into the soil directly upslope from the landslide headscarp.
- The weather was unusually warm and rainy for the time of year, but not uncommon in the area.

[83] In his report and testimony, Dr. Jordan provided his opinion on a number of matters. In his report, he states at page 4:

The state of maintenance of the culverts, ditches, and road surfaces was poor. Culverts at GPS 1 and 2 had damaged inlets and were only partly functional. Ditch blocks at culverts were inadequate.

He also states:

The main problem was the state of the road surfaces – having been built and used in winter, the roads were very soft (after the melting of any snow and ice they contained), and ruts down the road kept water on the road surface. No waterbars or cross ditches had been installed to keep water off the road or to back up culverts.

[84] In his opinion, because the site was on a dry area between gullies, the landslide could only occur because an unusual amount of water had been delivered to it. In his view, the triggering event for the slide was the high flow of water to the culvert at GPS 2 from the rain on snow event of March 24 to 25, 2007. He described this as a “one-in-five-year” event, with a two day rain fall of 30 mm measured at the Moyie Mountain Station. He described this rainfall as “unusual but not exceptional”.

[85] Dr. Jordan states that additional water had been delivered by both the road(s) and the culvert located at GPS 2. Most of the water flowed down the road via the wheel ruts and then flowed off the road at GPS 2, not through the culvert at GPS 2. He provided photographs that he took on April 10<sup>th</sup> showing the roads, drainage and the ruts. On questioning, Dr. Jordan admitted that he didn't do measurements of water volumes and admitted that it was impossible to prove that the larger volume of water came down the ruts.

[86] Dr. Jordan said he would have put a culvert at GPS 9 and additional culverts in other places, in addition to those at GPS 1 and 2, but that the exact location of his additional culverts is a matter of judgment and debate.

[87] In Dr. Jordan's opinion, there were four factors that contributed to the landslide:

1. Tembec failed to install waterbars and/or cross ditches to control drainage on the road.
2. There were insufficient culverts and, of the culverts installed, they were poorly located. He would have installed one or two extra culverts but they may not be an absolute requirement; reasonable opinion could differ.
3. It was poor planning to build a road in the winter and then immediately use it for log hauling.
4. There was increased snow accumulation and increased snowmelt rate in the cut block.

[88] In general, Dr. Jordan believes that there was poor planning with respect to identification of risk and management of risk.

[89] Dr. Jordan admitted that he is not licensed to design roads and doesn't claim road design as being within his scope of expertise.

#### **EVIDENCE OF THE THIRD PARTY**

[90] The Forest Practices Board appeared as a Third Party in this appeal and was ably represented by counsel who cross examined witnesses called by the parties and otherwise fully participated in the proceedings, with the exception of calling

witnesses. The Third Party took no position as between the Parties as to whether this appeal should or should not be allowed, but focused on what it believed to be the true test of due diligence.

## **DISCUSSION AND ANALYSIS**

### **Conflicting Expert Evidence**

[91] Most of the evidence on the adequacy and reasonableness of the road planning and construction, including drainage, came from the two experts, Dr. Jordan and Mr. Vokey. The Commission's decisions on the issues raised in this appeal, more often than not, come down to a question of whose evidence is to be preferred.

[92] The opinion evidence of Dr. Jordan and Mr. Vokey conflict on many of the key questions, notwithstanding that each are qualified experts. For example, Mr. Vokey expressed the opinion that the culvert located at GPS 2 is reasonable, indeed ideally located, in part because of its location relative to a natural drainage-break ridge that begins at GPS 14 and extends out to GPS 18. Mr. Vokey also opined that Tembec not only met, but probably exceeded the standards for road construction. Dr. Jordan would have placed a culvert at GPS 9, whereas Mr. Vokey would not. Dr. Jordan criticizes Tembec for the lack of waterbars, whereas Mr. Vokey would not recommend them. Dr. Jordan also condemns Tembec's planning, drainage control, road maintenance and culvert placement and concludes that the volume of water directed to the GPS 2 culvert "caused" the landslide. He opined that, at the time of his inspection, which was conducted on April 10, 2007, the road was heavily rutted with as much water running down the ruts as there was through the ditches and culverts.

[93] The difficulty with Dr. Jordan's evidence is that he describes conditions as he saw them two weeks after the event. By April 10<sup>th</sup>, there had been many visits to the location of the slide by light vehicular traffic, undoubtedly causing much of the rutting that Dr. Jordan observed. Conversely, Mr. Vokey visited the site of the landslide on the 2nd and 3rd of April, 2007, much closer to the time of the event. He also conducted a further review on May 6, 2008. As a professional geotechnical engineer and independent consultant, he was qualified by the Commission as an expert in terrain stability, forest engineering and in procedures employed in the management of water in terrain drainage systems. Dr. Jordan, by contrast, is a geoscientist, with degrees in physical geography, hydrology, and geomorphology. He was qualified by the Commission as an expert on landslides, their causes, and measures to be taken to reduce their risks and water hydrology. He visited the site for 3.5 hours on April 10, 2007.

[94] In considering the expertise of these two witnesses, the Commission has decided to put greater weight on the opinions expressed by Mr. Vokey where they conflict with the evidence of Dr. Jordan. In the Commission's view, Mr. Vokey's qualifications are more appropriate to the circumstances of this matter (i.e., road and drainage design, construction and maintenance in a forestry context). By contrast, Dr. Jordan admitted that he is not licensed to design roads and doesn't claim road design as being within his scope of expertise.

## Analysis of the Issues

### 1. Did Tembec contravene sections 45(1), 45(3) and 63(2) of the Code and sections 9(1)(c)(iv) and 13(2)(b) of the Forest Road Regulation?

#### Did Tembec contravene section 63(2) of the Code?

[95] The District Manager found a contravention of section 63(2), which, for convenience, is repeated below:

**63** (2) A person who is required to maintain a road under subsection (1), (5) or (7) must maintain it in accordance with the requirements of

(a) any forest development plan,

(b) the Act, regulations and standards, and

(c) the cutting permit, road permit, timber sale licence that does not provide for cutting permits, road use permit or special use permit.

[96] The District Manager found that the road had not been maintained as the ditches had logging debris accumulation within them and there was rutting of the road surface that channelled water towards low spots on the road. In his view, seasonal deactivation should have included some contingencies to intercept water from the road surface such as waterbars or cross ditches.

[97] In reviewing the determination of the District Manager and in light of the evidence before the Commission, the Commission rescinds this finding of the District Manager. The evidence before the Commission is that the road was adequately maintained. The Commission is particularly persuaded by the photographic evidence. It has compared Mr. Cherepak's photos with those taken by Forest Officer Pictin and those of Dr. Jordan. Mr. Cherepak's photographs were taken on March 26 and 27, right after the weekend rain event. Mr. Pictin's were taken on March 29<sup>th</sup>. These photos show that where there was water on the road, and where there was rutting, it was minor. There was some pooling in low areas, but no signs of significant water flow down the road, nor of any significant rutting.

[98] Conversely, the relevant photographs of the road and drainage system taken by Dr. Jordan were not taken until April 10<sup>th</sup>, two weeks after the landslide event. His photographs show more rutting and water on the road and in the ditches than any of the other photographs. However, the photographs taken in close proximity to the event are more representative of the situation at the relevant time, particularly those taken on the 26<sup>th</sup> and 27<sup>th</sup> by Mr. Cherepak.

[99] While some of Mr. Pictin's March 29<sup>th</sup> photographs show some logging debris in the ditch lines, it was Mr. Vokey's opinion that the ditches looked "messy", but were functioning properly during the rainfall. From the Commission's review of the March 27<sup>th</sup> photographs taken by Mr. Cherepak and the March 29<sup>th</sup> photographs, it is apparent that the debris was not completely blocking the ditches and culverts.

[100] In addition, the Commission finds that seasonal deactivation was not required. While the road would not be used for several weeks, the drainage system

was functioning properly at the time the seasonal break began, and the system was expected to continue functioning properly throughout the break period. The Commission finds that the system did function properly throughout the period and, therefore, additional measures were unnecessary. The Commission also finds that the road was properly maintained.

[101] Accordingly, this contravention is hereby rescinded.

*Did Tembec contravene sections 9(1)(c)(iv) of the Forest Road Regulation?*

[102] The District Manager found that Tembec contravened section 9(1)(c)(iv) of the *Forest Road Regulations* as a result of a failure to prevent drainage water being deposited on a potentially unstable slope. The section reads as follows:

9 (1) A person required to construct or modify a road in compliance with section 62 (1) of the Act or to maintain a road in compliance with section 63 of the Act must do all of the following when building or installing the drainage system for the road:

...

(c) ensure that the drainage system

...

(iv) prevents water from being directed onto potentially unstable slopes or soil material, and

[103] In reviewing the reasons of the District Manager and the evidence before the Commission, the Commission concurs with this finding of the District Manager but not wholly for the reasons stated by him.

[104] The District Manager relied, in part, upon the Forest Service's evidence regarding road rutting and a lack of waterbars. The evidence that compels the Commission to its finding of contravention includes the following:

- a. The culvert at GPS 2 is located directly above the landslide. All of the surface water draining off of the 3 hectare area of the cut block was directed via both ditching, and the other culvert at GPS 1, to this culvert at GPS 2.
- b. Tembec's intent was to direct water from the culvert at GPS 2 into the swale. Mr. Vokey, expressed the opinion that, from the road he would have guessed that the water from the culvert at GPS 2 would have all flowed north to the swale. He then said "But as you walk the area, you understand how 75% of the water went south, because the elevation difference was very subtle". That flow then proceeded underground for some distance before emerging just above the landslide area.

[105] Thus, Tembec's drainage system failed to prevent water from being directed onto a potentially unstable slope.

[106] The Commission confirms this contravention.

Did Tembec contravene section 13(2)(b) of the Forest Road Regulation?

[107] In answering this question, the District Manager found that there were “components of Road Permit R07637, Section 29’s drainage system that were in a non-functional state”. He refers specifically to the non-existence of waterbars, stating: “In this case, water was moving down the road’s running surface long distances, without any interception structures (i.e. Waterbars) and concentrating water at particular locations.”

[108] The *Regulation* reads as follows:

**Road inspection and maintenance**

**13** (2) A person required to comply with section 62 or 63 of the Act who modifies a road other than by relocating it, or maintains a road, must ensure that, for the road and included structures,

...

(b) the drainage systems of the road are functional,

[109] The Commission finds that Tembec did not contravene this section. The Commission has reviewed the reasons of the District Manager and the evidence before the Commission, in particular the expert evidence of Mr. Vokey. Mr. Vokey was of the opinion that waterbars were not necessary for these sections of road. While there was certainly damage to the more remote culverts, their performance was not necessary to the proper functioning of the drainage system.

[110] Further, Mr. Cherepak, an experienced road supervisor, also believed that waterbars were not necessary. The Commission notes that even the Respondent’s Engineering Supervisor, Dave Rebagliati, did not say that there should have been waterbars in this case. He just said that the use of waterbars is optional, and choosing whether or not to use them is a judgement call.

[111] The Commission finds that the ditches did drain water to the two critical culverts located at GPS 1 and GPS 2, as designed, and that both of those culverts were functional.

[112] The Commission rescinds this finding of contravention.

Did Tembec contravene section 45(1) of the Code?

[113] The District Manager concluded that damage to the environment occurred as a result of a “forest practice”, specifically, road maintenance, therefore section 45(1) of the *Code* had been contravened. The relevant portions of section 45 is reproduced below:

**45** (1) A person must not carry out a forest practice that results in damage to the environment.

(2) Subject to subsection (3), a person does not contravene subsection (1) if, with respect to the forest practice referred to in subsection (1), the person is acting in accordance

(a) with this Part, Part 5 and with the regulations for this Part and Part 5,  
and

(b) with any of the following:

...

(iii) a permit issued under this Act or the regulations.

[Emphasis added]

[114] There is no dispute that, by definition, road maintenance is a "forest practice".

[115] In a previous decision of the Commission, *Kalesnikoff Lumber Co. Ltd. v. Government of British Columbia et al.* (Decision Nos. 2003-FOR-005(b) and 2003-FOR-006(b), August 2, 2006) (unreported), the Commission interpreted this section as follows at page 19:

This panel of the Commission agrees with the conclusion in *Riverside* that subsections 45(1) and (2) reflect a desire to control and regulate the type of damage that will be caused as a result of allowing harvesting in the Province. Whereas certain environmental damage will necessarily occur as a result of logging operations, in particular through road building, the Commission notes that the Legislature has tried to minimize these impacts through the development of plans, requirements for permits and so on. Thus, although logging and associated activities will necessarily involve damaging the environment to some degree, a licensee has a defence to a general contravention of subsection 45(1), "damage to the environment", provided that the licensee complies with certain legislative provisions and its plans and permits (per subsection 45(2)).

[116] The Commission went on to interpret this section as applying to some type of "significant damage".

[117] There is no doubt that the slide event caused some damage to the environment, although neither party made submissions as to whether this should be considered "minor" or "significant" damage. Nevertheless, the Commission accepts the evidence that the slide went across the Forest Service Road and into a fish-bearing stream, leaving some debris and roots in the stream, although it was not completely blocked. However, can it be said that Tembec's forest practice "resulted" in damage to the environment, and if so, does the defence in section 45(2) apply?

[118] In reviewing the reasons of the District Manager and the evidence before the Commission, the Commission finds that road construction and maintenance was not an issue, nor was the flow of water on the surface of the road at the time of the landslide. The pictures and evidence of the witnesses for the Appellant support this view. It was not until Dr. Jordan's visit to the site on April 10<sup>th</sup>, two weeks after the landslide event, that extensive rutting and roadway surface flow was reported.

[119] There is also no doubt that water flowing from the culvert located at GPS 2 increased the amount of water flowing to the slide area because of the slight elevation difference: the evidence of Mr. Vokey is that 75% of the flow unintentionally went in a southerly direction. However, on a balance of probabilities, the Commission is unable to conclude that the slide and the consequential damage to the environment was "a result" of Tembec's forest practices for the following reasons.

[120] There was a significant rain on snow event that occurred on the weekend of March 24 to 25. Mr. Jordan describes it as a one-in-five-year event. This rain event was clearly beyond the control of Tembec. Mr. Vokey testified that this rain event caused an increase in the amount of water flowing to the slide area from other areas.

[121] As well, during the investigation of the landslide, two old landslides were found a short distance away. The evidence is that they were naturally occurring slide events, unrelated to any human activity in the area.

[122] For all these reasons the Commission rescinds this finding of contravention.

*Did Tembec contravene section 45(3)(a) of the Code?*

[123] In answering the question, the District Manager found that sliding of land occurred as a result of a forest practice and, therefore, section 45(3)(a) was contravened.

[124] Section 45(3)(a) is reproduced below:

**Protection of the environment**

**45** (3) A person must not carry out a forest practice if he or she knows or should reasonably know that, due to weather conditions or site factors, the carrying out of the forest practice may result, directly or indirectly, in

...

(a) slumping or sliding of land,

[125] When considering what Tembec staff knew, or should have known, the District Manager stated as follows:

I have also considered that the pathway to the slide initiation point was not absolutely apparent on the ground. In particular, the slide is located approximately 160 metres below the road, in a gentle over steep terrain situation. This raises the question of whether it is reasonable to find that Tembec staff should have reasonably known that the drainage water would have eventually ended up at the slide initiation point. I find that there was knowledge that the terrain below Road Permit R07637, Section 29/30 was potentially unstable and certainly there were existing evidence of old landslide scars in that area. This knowledge would serve as a "red flag" situation and that forest road drainage would need special attention, especially during seasonal runoff. I do not find it reasonable that drainage water would be allowed to be concentrated at locations above this terrain.

[126] In reviewing the evidence before the Commission, it is clear that no one had *actual* knowledge of the two old slides until *after* the 2007 landslide event. As such, these slides could not have been “red flags”. The District Manager’s view is therefore in error. Whether Tembec should have known is more the issue.

[127] The aerial photographs presented in the evidence of the Respondent were unconvincing because the old slide areas are heavily forested, indicating that they must have occurred a long time ago. Mr. Vokey’s evidence is that one slide is 200-300 years old and the other is 100-200 years old. Their existence was not apparent to Tembec, nor were they to the Commission.

[128] The Commission finds that Tembec carried out reasonable enquiries prior to road construction, and that it paid attention to weather conditions and site factors, during construction. There were, in essence, three reviews of the site and its conditions. First, the road layout crew, an experienced RPF and a forester-in-training walked the proposed road, taped and marked the centreline. They observed no indicators of instability. Next, Mr. Pighin did the same. Finally, Mr. Cherepak, the road builder, walks the road and notices no red flags. He walked on and off the road, and walked the area where Mr. Vokey says that the water went in two directions, but did not observe what has been described as the “subtle” difference in elevation. He personally planned the culvert locations and supervised their placement.

[129] Finally, after the landslide event, Mr. Vokey walked the road and reviewed the placement of the culverts. In his view, the location of the culverts is reasonable, if not ideal.

[130] Of note to the Commission, even though there had been a slide, the Ministry did not have one of their experienced road engineers attend the location to assess the conditions. Instead, they focussed on the slide itself and had Dr. Jordan attend.

[131] The Commission further finds that there was nothing to indicate to Tembec that its forest practices may result directly, or indirectly, in a slumping or sliding of land. Moreover, as stated under the previous heading, the Commission has found, on a balance of probabilities, that Tembec’s forest practices did not result in this event and the corresponding damage.

[132] The Commission therefore rescinds this finding of contravention.

## **2. Did Tembec exercise due diligence to prevent the contravention(s) from occurring?**

[133] The only contravention confirmed by the Commission is the contravention of section 9(1)(c)(iv) of the *Forest Road Regulation*; specifically, Tembec’s drainage system did not prevent water from being directed onto a potentially unstable slope. Tembec claims a defence of due diligence to the contravention.

### *The defence of due diligence*

[134] A review of the law of “due diligence” is appropriate as a first step in this discussion.

[135] Although the defence of “due diligence” was developed through the common law, it has also been codified. Relevant to this particular appeal is section 119.1(1) of the *Code*, which is now found in section 72 of the *Forest and Range Practices Act*.

These sections provide that no person may be found to have contravened a provision of the legislation if it is established that “the person exercised due diligence to prevent the contravention”.

[136] As stated above, the defence of due diligence originated in the common law. To flesh out what a licensee must do in order to establish this defence, a review of the case law is appropriate, starting first with the seminal decision of the Supreme Court of Canada in *R. v. Sault Ste. Marie*, [1978] 2 S.C.R. 1299 [*Sault Ste. Marie*]. In this case, the Court established an additional category of offences at pages 1325 and 1326. Dickson J. explains:

I conclude, for the reasons which I have sought to express, that there are compelling grounds for the recognition of three categories of offences rather than the traditional two:

1. Offences in which *mens rea*, consisting of some positive state of mind such as intent, knowledge, or recklessness, must be proven by the prosecution either as an inference from the nature of the act committed, or by additional evidence.
2. Offences in which there is no necessity for the prosecution to prove the existence of *mens rea*; the doing of the prohibited act *prima facie* imports the offence, leaving it open to the accused to avoid liability by proving he took all reasonable care. This involves consideration of what a reasonable man would have done in the circumstances. The defense will be available if the accused reasonably believed in a mistaken set of facts which, if true, would render the act or omission innocent, or if he took all reasonable steps to avoid the particular event. These offences may be properly referred to as strict liability. Mr. Justice Estey so referred to them in *Hickey's* case.
3. Offences of absolute liability where it is not open to the accused to exculpate himself by showing that he was free of fault.

Offences which are criminal in the true sense fall in the first category. Public welfare offences would *prima facie* fall within the second category. They are not subject to the presumption of full *mens rea*. An offense of this type would fall in the first category only if such words as “willfully”, “with intent”, “knowingly” or “intentionally” are contained in the statutory provision creating the offense. On the other hand, the principle that punishment should in general not be inflicted on those without fault applies. Offenses of absolute liability would be those in respect of which the Legislature had made it clear that guilt would follow proof merely of the proscribed act. The overall regulatory pattern adopted by the Legislature, the subject matter of the legislation, the importance of the penalty, and the precision of the language used will be primary considerations in determining whether the offence falls into the third category.

[Emphasis added]

[137] In the context of the *Sault Ste. Marie* decision, the defense of due diligence is available to Tembec provided it can show that it took all reasonable care. This involves consideration of what a reasonable man would have done in the

circumstances, and whether it took all reasonable steps to avoid the particular event. The “mistaken set of facts” scenario contemplated in *Sault Ste. Marie*, as an alternative, is irrelevant in the context of the current appeal by Tembec.

[138] Counsel for the parties referred to many decisions of the courts, as well as to prior decisions of the Commission, to refine the concepts of reasonable care in the context of this defence. All of those cases have been reviewed and considered. Most helpful to the Commission has been the discussion in *R. v. Placer Developments Ltd.* (1983), 13 C.E.L.R. 42 (Y.T. Terr. Ct.) [*R. v. Placer*], specifically on the standard of care required. At paragraphs 25-28, the Court states:

- 25 .... In the very least, the care must reflect the diligence of a reasonable professional possessing the expertise suitable to the activity in issue. (*Giftwares Wholesale Co. v. Rodger* (1977), 36 C.C.C. (2d) 330 (Man. Co. Ct.))
- 26 No one can hide behind commonly accepted standards of care if, in the circumstances, due diligence warrants a higher level of care. Reasonable care implies a scale of caring. A variable standard of care ensures the requisite flexibility to raise or lower the requirements of care in accord with the special circumstances of each case. The care warranted in each case is principally governed by the gravity of potential harm, the available alternatives, the likelihood of harm, the skill required, and the extent the accused could control the causal elements of the offence. (*R. v. Gonder* (1981), 62 C.C.C. (2d) 326 (Y.T. Terr. Ct.), at 332 -3)
- 27 *Gravity of potential harm* – The greater the potential for substantial injury, the greater the degree of care required. The severe environmental consequences of a diesel fuel spill in remote northern terrain requires special care and attention by all persons involved. (*R. v. Panarctic Oils Ltd.* (1982), 12 C.E.L.R. 29 (N.W.T. Terr. Ct.), at 37 ; *Canada Tungsten Mining Corp. v. R.* (1976), 1 F.P.R. 75 (N.W.T. S.C.), at 79 )
- 28 *Alternatives* – Reasonableness of care is often best measured by comparing what was done against what could have been done. The reasonable alternatives the accused knew or ought to have known were available, provide a primary measure of due diligence. To successfully plead the defence of reasonable care the accused must establish on a balance of probabilities that no feasible alternatives could be employed to avoid or minimize harm. (*R. v. Gonder* , *supra* at 333)
- ...
- 32 *Likelihood of Harm* – The greater the likelihood of harm, the higher the duty of care. What particular facts heighten or diminish the likelihood of an accident will vary in each case. Assessment of the likelihood of harm is based on what an appropriately qualified expert might reasonably predict.
- ...

- 34 *Degree of Skill Expected* – Anyone choosing to become involved in activities posing a danger to the public, or to the environment, assumes an obligation to take whatever measures may be necessary to prevent harm. The costs of preventive measures are significantly less important in assessing the duty of care imposed upon persons who choose to undertake dangerous activities. (*Sweet v. Parsley* (1969), [1970] A.C. 132 (U.K. H.L.), at 163)
- ...
- 37 Matters beyond control of accused – No accused can be held accountable for unforeseeable accidents and for activities beyond the reach of what they might reasonably be expected to influence or control. (*Reynolds v. G.H. Austin & Sons Ltd.*, [1951] 2 K.B. 135 (Eng. K.B.), at 149) ....
- 38 .... Foreseeable adverse weather conditions require reasonable precautions.

[139] These factors were adopted by the Commission in *Weyerhaeuser Co. Ltd. v. Government of British Columbia* (Appeal No. 2004-FOR-005(5), January 17, 2006). The Third Party urged this Panel of the Commission to not apply the reasoning of the Commission found in *Weyerhaeuser*. The problem with that decision was explained by the Third Party as follows:

The problem with the *Weyerhaeuser* phrasing is that it elevates the issue of whether or not the contravention was foreseeable to a threshold, all – or – nothing question whereas the over-riding question is always whether reasonable care has been taken.

[140] In the circumstances of this appeal, it is unnecessary to indulge in that debate because the Commission has found that Tembec has established, on a balance of probabilities, that reasonable care has been taken.

#### Analyses of the Evidence on the issue of Due Diligence

[141] When the District Manager considered whether Tembec's drainage system "prevents water from being directed onto potentially unstable slopes or soil material", he considered the reasonableness of Tembec's actions although this was not required by the section itself. He concluded as follows:

It appears that, in all likelihood, this issue could have been avoided through managing the quantity of water flowing along the ditch lines and the road surface. Certainly a better drainage strategy (ie. Cross ditches etc) could have avoided or certainly reduced the concentration of water at this particular location.

[142] The Commission does not agree. Considering the standard of care analysis set out *R. v. Placer*, the Commission has placed considerable weight on the following evidence:

- Tembec's witnesses, Eirik Pighin, the planner who laid out the cut block and roads, is a registered professional forester. While not involved in locating the culverts, he knew of the potentially unstable polygon below the cut block. He walked the centre line of the proposed road and noted no stability issues

along the proposed road or right-of-way. In cross examination, he stated that, with the benefit of hind sight, he could not think of anything he could have done to prevent the landslide.

- Barry Cherepak, with eight years experience building forest roads, was responsible for the construction of the road. He reviewed all of the information showing the cut block, polygons, heritage information and stream crossings and while aware of the potential unstable polygon, saw no red flags. It was Mr. Cherepak who determined the location of the ditches and culverts. He located the swale at GPS 2 and intended to drain the water into it. He admits that the water was all directed to the culvert at GPS 2, and then inadvertently onto an unstable polygon, but states he had no other option than to put it into the swale. He also says that, with the benefit of hindsight, if he were to construct the road again he would do the same thing.
- Drainage to a natural feature is supported by the *Forest Road Regulation*, which states at section 9(1) "A person required to construct ... a road in compliance with section 62(1) of the Act ... must do all of the following when building or installing the drainage system for the road: (a) ... install such culverts as are necessary to maintain surface drainage patterns, in accordance with any design requirements referred to in sections 7.1." (see also *Kalesnikoff*).

[143] The Commission finds that the care shown by Tembec did reflect the diligence of a reasonable professional possessing the expertise suitable to the activity in question. Mr. Vokey, whose qualifications are reviewed above, in response to a question from a member of the Panel, stated that the standard of road construction was not only consistent with normal standards, but probably exceeded them. That being the evidence, the Commission is satisfied that Tembec did not simply apply commonly accepted standards of care but, in these circumstances, probably exceeded that standard.

[144] Considering the evidence of Tembec's witnesses as a whole, the Commission is satisfied that they understood the gravity of the potential harm, and exercised the appropriate degree of care.

[145] As to reasonable alternatives, the evidence which the Commission accepts is that there were none.

[146] As to the likelihood of harm, it was well understood by Tembec that there were potentially unstable polygons downslope of the cut block but, as there were no red flags evident, the likelihood of harm was assessed as low. The Commission is satisfied that the assessment of the likelihood of harm was based on what an appropriately qualified expert might reasonably predict. The Commission is also satisfied that Tembec employed the degree of skill expected.

[147] As to matters "beyond the control of the accused", the Court in *R. v. Placer* accepted that "no accused can be held responsible for unforeseeable accidents and for activities beyond the reach of what they might reasonably be expected to influence or control." The Commission finds that it was reasonable to direct water to the swale. The placement of the culverts at GPS 1 and 2 was appropriate, and the Commission accepts evidence that it would not have been reasonable to expect

Tembec to perform a survey in order to determine the slight elevation difference in the circumstances. The Commission agrees with Tembec that one must consider the conditions that existed at the time, and ask whether the actions taken are reasonable.

[148] The Commission finds that the slide was unforeseen and beyond Tembec's control. The Commission further finds that Tembec's actions were reasonable.

[149] The standard of proof for a defence of due diligence is on a balance of probabilities. In the view of the Commission Tembec has established, on a balance of probabilities, the defence of due diligence to the contravention of section 9(1)(c)(iv) of the *Forest Road Regulation*.

## DECISION

[150] In making this decision, the Commission has considered all of the Parties' submissions, whether or not specifically reiterated here.

[151] For the reasons stated above the appeal is allowed. The administrative determinations, except for section 9(1)(c)(iv) of the *Forest Road Regulation*, are rescinded as are the penalties imposed by the District Manager.

[152] As to determination regarding section 9(1)(c)(iv) of the *Forest Road Regulation*, while that determination is confirmed, that is not the end of the matter. It is the finding of the Commission, based on a balance of probabilities and for the reasons herein stated, that the Appellant exercised due diligence in its attempts to prevent excessive drainage to the potentially unstable polygon, and therefore, it has established a defence to the contravention.

"David H. Searle"

David H. Searle, CM, QC, Panel Chair  
Forest Appeals Commission

December 16, 2009

APPENDIX 1

