

GEOHAZARD ASSESSMENT PROGRAM
PEACE REGION – PEACE-HIGH LEVEL
2012 INSPECTION



Site Number	Location	Name	Hwy	km
PH12	Judah Hill	Heart River Slides	744:04	57.30
Legal Description		UTM Co-ordinates		
SE¼ 20-083-21 W5M		11V E 483284	N 6229209	

	Date	PF	CF	
Previous Inspection:	25-May-2011	12	2	
Current Inspection:	22-Jun-2012	13	3	
Road AADT:	570		Year:	2011
Inspected By:	Rocky Wang Ed Szmata		Don Proudfoot Shawn Russell	
Report Attachments:	<input checked="" type="checkbox"/> Photographs <input checked="" type="checkbox"/> Plans <input type="checkbox"/> Maintenance Items			

Primary Site Issue:	Four slides on the east side of Hwy 744, adjacent to a layby (brake check lane). Slide 1 was repaired in March 1998. Slides 2, 3 and 4 are active and have retrogressed into the northbound layby lane. During the summer of 2011, the northbound layby lane was closed and the guardrail was moved to the edge of the northbound lane. The backscarp for Slide 2 has since retrogressed to about 1.7m from the new guardrail. The backscarps of Slides 3 and 4 are presently within 1 m and 3.4 m from the new guardrail. For comparison, in 2011 the scarps for Slides 3 and 4 were 4.8 m and 0.95 m respectively from the old guardrail, with the scarp for slide 2 extending into the old highway layby lane pavement by 0.7m.		
Dimensions:	Slide 1: 45 m wide. Slide 2: 44 m wide, backscarp 1.7 m to new guardrail Slide 3: 35 m wide, backscarp 1 m to new guardrail Slide 4: 32 m wide, backscarp 3.4 m to new guardrail		
Maintenance:	Northbound layby lane closed and guardrail moved to edge of northbound lane.		
Observations:	Description	Worsened?	
<input checked="" type="checkbox"/> Pavement Distress	Slide 3 has now encroached to within 1 m of the new guardrail undermining the asphalt pavement. Cracks in the asphalt pavement surface of the roadway have appeared beyond the backscarps of Slides 2, 3 and 4 along the front of the guardrail alignment.	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/> Slope Movement	Repairs at slide 1 are still performing well. Continuing movement, retrogression and expansion of the slide bowls at Slides 2, 3 and 4. Backscarp of Slide 2 has retrogressed about 1 m since August 2011. Backscarp of Slide 3 has retrogressed by about 5 m since August 2011 (Photos 5 and 6). Backscarp of Slide 4 has retrogressed by 0.4 m since August 2011 (Photos 7 and 8).	<input checked="" type="checkbox"/>	

<input type="checkbox"/> Erosion		<input type="checkbox"/>
<input checked="" type="checkbox"/> Seepage	White salt stains and wet/dark areas in backscarps indicates seepages zones	<input checked="" type="checkbox"/>
<input type="checkbox"/> Bridge/Culvert Distress		<input type="checkbox"/>
<input type="checkbox"/> Other		<input type="checkbox"/>
Instrumentation:		
No instrumentation installed at this site.		
Assessment:		
A combination of weathering, heavy precipitation, seepage and surface water drainage in the ditch appears to be driving retrogression of the slides that have not been repaired. The repairs at slide 1 continue to perform well. Slides 2, 3 and 4 are expected to continue to expand laterally and retrogress back into the road. The incipient failure between slides 2, 3 and 4 (Photo 1) is expected to cause these slides to coalesce in the future. Slides 2, 3 and 4 are active and are now encroaching into the reduced northbound lane shoulder.		
Recommendations:		Cost
Inspect the slides regularly (particularly after heavy and/or prolonged rain, rapid snowmelt), posing a greater hazard to the public. Post a warning sign "Steep Slopes" and/or "Landslide Hazard".		Maintenance
Repair slides 2, 3 and 4 using a similar method as slide 1 (drain to the toe of the slope, gravel fill to buttress backscarp). Alternate stabilization methods could include a pile wall, micro-pile supported retaining wall and smaller gravel buttress.		\$ 350,000 (all 3 slides) or higher for alternates