

Incident Summary #II-840786-2019 (#11824) (FINAL)

SUPPORTING INFORMATION	Incident Date	March 29, 2019	
	Location	Kamloops	
	Regulated industry sector	Amusement Devices - Waterslide	
	Impact	Qty injuries	1
		Injury description	Bruising and swelling on top of head
		Injury rating	Minor
	Damage	Damage description	None
		Damage rating	None
	Incident rating	Minor	
Incident overview	Rider hit head on top of fully enclosed waterslide.		
INVESTIGATION CONCLUSIONS	Site, system and components	A waterslide consists of a flume with water being pumped onto flume. The waterslide discharges the flowing water into a run out lane, a horizontal flume with a maintained level of water. The flume is fully enclosed (tunnel) until the run out lane. The flume sections are bolted together. The CSA Z267-00 standard requires the flume shall be continuous and smooth and contact with riders will likely not cause injury. Waterslide manufacturer operating guidelines define the correct rider position is lying on back feet first arms and legs crossed. This position must be maintained until rider comes to complete stop in run out lane. Signage is in place to instruct riders of proper position and conduct. Prior to daily operation of waterslide, operators must perform pre-operational inspection, as required by the CSA Z267-00 and manufacture operating guidelines. Manufacturer requires attendant to be present at waterslide while operating. Attendants of waterslides are responsible for the safe and orderly conduct of riders.	
	Failure scenario(s)	Pre-operational inspection not being completely satisfied, a part of the flume was not smooth and continuous. Attendant supervising the use of the waterslide is at a remote location performing other duties while discontinuously watching on a video monitor. The rider was in an upright position while sliding.	
	Facts and evidence	<p><u>Reported by the injured:</u></p> <ul style="list-style-type: none"> - Hit head on a protruding upper edge of tunnel flume sections - Golf ball size bruising and swelling on head for a week - Understood rules indicate to be in laying down position <p><u>Reported by Operator:</u></p> <ul style="list-style-type: none"> - Waterslide had maintenance performed by a third party within the last month - Rider complained to operator about hitting head 	

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	<ul style="list-style-type: none"> - Questioned rider about positioning while riding - Operator staff rode waterslide after incident without issue <p><u>Manufacture Operations and Maintenance Manual:</u></p> <ul style="list-style-type: none"> - Attendants are responsible for the safe and orderly conduct of riders - Attendants must have continuous and direct supervision of waterslide - Do not operate waterslide if it poses a threat to rider safety - Details the pre-operational inspection requirements <p><u>Onsite Assessment:</u></p> <ul style="list-style-type: none"> - A flume section joint was misaligned - Upper edge of a tunnel section joint protruded ¼” into rider path - Attendants monitor waterslide from remote location while performing other duties - Operator has no documented waterslide procedures or policies - Operator had no training records of waterslide attendants
<p>Causes and contributing factors</p>	<p>A section of the ride flume (tunnel) was misaligned, creating an impact hazard. It is very likely the rider was in an upright position prior to coming to a complete stop in the run out lane causing them to impact their head on the upper portion of the flume that had a misaligned joint. Insufficient ride maintenance, inadequate procedures and training of waterslide operational requirements may have contributed to the incident.</p>



Photo 1: Waterslide Rules



Photo 2: Misaligned flume connection prior to run out lane



Photo 3: 1/4" protruding edge at flume connection