



# Upper Lillooet Hydro Project

## Weekly Environmental Monitoring Report #93

Reporting Period: April 24 – May 7, 2016

Upper Lillooet River Hydroelectric Facility (Water File No. 2002561, Water licence No. C130613), Boulder Creek Hydroelectric Facility (Water File No. 2003049, Water licence No. C129969) & Transmission Line (TX Line)

Distribution List		Prepared By
Name	Organization	
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Pontus Lindgren	Westpark Electric Ltd.	
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## Owner Construction Permits and Approvals

Environmental Assessment Certificate No. E13-01 (Amendment 1, 2, 3, 4, 5, 6, 7)  
 Fisheries Act Subsection 35(2)(b) Authorization No. 09-HPAC-PA2-000303 (Amendment 1, 2)  
     Letter of Advice for the Transmission Line No. 09-HPAC0-PA2-000303  
         Leave To Commence Construction (ULRHEF) File No. 2002561  
         Leave To Commence Construction (BDRHEF) File No. 2002453  
     Leave To Commence Construction (TX Line) File No. 2002561/2002453  
         Conditional Water Licence (ULRHEF C130613) File No. 2002561  
         Conditional Water Licence (BDRHEF C129969) File No. 2002453  
         Conditional Water Licence (BDRHEF C131153) File No. 2003601  
         Licence of Occupation (ULRHEF #232384) File No. 2409871  
         Licence of Occupation (BDRHEF #232386) File No. 2409998  
         Licence of Occupation (TX Line #2423386) File No. 2410654  
     Occupant Licence to Cut (ULRHEF) No. L49717 (Amendments 1, 2, 3, 4, 5, 6, 7)  
         Occupant Licence to Cut (BDRHEF – KM 38 laydown) No. L49698  
         Occupant Licence to Cut (BDRHEF) No. L49816 (Amendments 1, 2, 3)  
     Occupant Licence to Cut (TX Line) No. L49697 (Amendments 1, 2, 3, 4, 5, 6, 7, 8, 9)  
 General Wildlife Measure Exemption Approval Letter (TX Line & BDRHEF) File No. 78700-35/06 UWR and 39585-20 WHA  
     Heritage Conservation Act – Alteration Permit (ULRHEF) File No. 11200-03/2014-0033  
 Road Use Permit No. 6123-13-02 (Lillooet River FSR); 5673-13-01 (Rutherford Creek FSR); 7977-13-01 (Lillooet South FSR); 8015-13-01 (Ryan River); 8188-13-01 (Pemberton Creek FSR); and 9717-13-01 (Miller Bench FSR)  
     Junction Permit (ULRHEF & BDRHEF) File No. 11250-32/6123 (Amendment 1)  
     Aeronautical Obstruction Approval (Tx Line - Lillooet River Crossing) File No. 2013-004  
         Aeronautical Obstruction Approval (Tx Line - Ryan River) File No. 2013-005  
         Aeronautical Obstruction Approval (Tx Line - North Miller) File No. 2013-006  
         Aeronautical Obstruction Approval (Tx Line - South Miller) File No. 2013-007  
         Aeronautical Obstruction Approval (Tx Line - Pemberton Creek) File No. 2013-008  
         Aeronautical Obstruction Approval (Tx Line - Lillooet River near Pemberton) File No. 2013-009  
         Aeronautical Obstruction Approval (Tx Line - Lillooet River near Meager Creek) File No. 2013-010  
     Navigable Water Protection Act (ULRHEF) File No. 8200-2009-500434-001  
     Navigable Water Protection Act (BDRHEF) File No. 8200-2012-501-032-001  
     Navigable Water Protection Act (Tx Line – North Creek) File No. 8200-2013-500103-001  
     Navigable Water Protection Act (Tx Line – Lillooet River) File No. 8200-2013-500101-001  
     Navigable Water Protection Act (Tx Line – Lillooet River) File No. 8200-2013-500102-01  
     Navigable Water Protection Act (Tx Line – Ryan River) File No. 8200-2013-500104-001  
     Navigable Water Protection Act (Tx Line – South Miller River) File No. 8200-2013-500100-001  
     Navigable Water Protection Act (Tx Line – Boulder Creek) File No. 8200-2013-500099-001  
     Navigable Water Protection Act – Extension Approval (ULRHEF, BDRHEF, Tx Line)  
     Navigable Water Protection Act (Bridge – Ryan River) File No. 8200-2013-500381  
 Navigable Water Protection Act (Bridge – Upper Lillooet Side Channel; Extension Approval) File No. 8200-2013-500383  
     Section 57 Authorization (ULRHEF) File No. 16660-20/REC202717  
         SLRD Temporary Use Permit No. 34 – Boulder Creek HEF  
         SLRD Temporary Use Permit No. 35 – Upper Lillooet River HEF  
         SLRD Building Permit (10864) – Upper Lillooet River HEF Powerhouse  
         SLRD Building Permit (10865) – Boulder Creek HEF Powerhouse  
     Works Permit for Construction within FSR Right-of-Way No. 6123-14-01  
     Works Permit for Construction within FSR Right-of-Way No. 7977-15-01  
     Section 52(1)(b) FRPA Authorization for Ryan River Wet Crossing File No. FOR-19400-01/2014  
 MOTI Permit to Construct, Use and Maintain Works Upon the Right-Of-Way of a Provincial Public Highway No. 2014-06099  
     Magazine Licence File No. UL76018 (Renewal 1)  
     Section 8 Approval – Short Term Use of Water File (Lillooet River and Tributaries) No. A2006123 (Amendment 1)  
     Section 8 - Special Use Permit issued for the operation of an avalanche weather station on Crown land (File No. S25988)

## Contractor Construction Permits and Approvals

*Waste Discharge under the Code of Practice for the Concrete and Concrete Products Industry under the Environmental Management Act (Authorization No. 107204) Tracking No. 349424 (Renewal 2)*  
*Wildlife Act Permits – Pacific Tailed Frog Salvage Permit # SU15-164805; Fish Salvage Permit # SU15-174722*  
*Fisheries and Oceans Canada – Anadromous Fish Salvage Permit #XR 178 2015*  
*BC Safety Authority – Temporary Construction Electrical Service Permit EL-140698-2014*  
*Municipal Wastewater Regulation - Authorization # 107032*  
*Water Supply System Construction Permits – VCH-14-613 for Main Camp*  
*Water Supply System Permit to Operate Issued July 30th, 2014 for Main Camp*  
*Section 6(3) and Schedule 3 Wildfire Regulations Fire Exemption for Ryan River Bridge File No. 14350-07*  
*SLRD Building Inspection Report dated August 13, 2014 - Construction Camp Building Permit No. 10830*  
*Lillooet River FSR Temporary Road Closures Approval File No. 11250-32/6123 (Amendment 1, 2)*  
*Lillooet South FSR Temporary Road Closures Approval File No. 11250-32/7977*  
*SLRD Building Permits for Mechanic Shop (10862) and Carpentry Shop (10836) March 18, 2015*  
*SLRD Building Permit Stages 1 - 4 – Boulder Powerhouse Architectural, Electrical and Mechanical (10865) October 8, 2015*  
*SLRD Building Permit Stages 1 - 4 – Upper Lillooet Powerhouse Architectural and Mechanical (10864) October 6, 2015*  
*Water Sustainability Act Section 10(1) Use Approval dated March 24, 2016*  
*Section 7 Explosives Act – Magazine Licence (U76018) Renewal April 30, 2016*

### ACRONYMS:

<b>AMBNS</b>	Active Migratory Bird Nesting Survey	<b>IE</b>	Independent Engineer (True North Energy)
<b>Andritz</b>	Andritz Hydro Canada Inc.	<b>IEM</b>	Independent Environmental Monitor
<b>ANFO</b>	Ammonia nitrate fuel oil (industrial explosive)	<b>INX</b>	Innergex Renewable Energy Inc.
<b>ARD M/L</b>	Acid Rock Drainage and Metal Leaching	<b>ISW</b>	Instream Works
<b>BCEAO</b>	British Columbia Environmental Assessment Office	<b>ITM</b>	Environmental Issue Tracking Matrix
<b>BCWQG</b>	British Columbia Water Quality Guidelines	<b>JEM</b>	JEM Energy Ltd. (Delegate Independent Engineer)
<b>BDRHEF</b>	Boulder Creek Hydroelectric Facility	<b>LTC</b>	Leave to Construct
<b>BG</b>	Background	<b>MFLNRO</b>	Ministry of Forests, Lands and Natural Resource Operations
<b>BKL</b>	BKL Consultants Ltd.	<b>MOE</b>	Ministry of Environment
<b>CE</b>	CRT-ebc Construction Inc.	<b>MOTI</b>	Ministry of Transportation and Infrastructure
<b>CEMP</b>	Construction Environmental Management Plan	<b>OGMA</b>	Old Growth Management Area
<b>CTF</b>	Coastal Tailed Frog	<b>OLTC</b>	Occupational License to Cut
<b>DFO</b>	Fisheries and Oceans Canada	<b>PAG</b>	Potentially Acid Generating
<b>DS</b>	Downstream	<b>QP</b>	Qualified Professional
<b>EPP</b>	Environmental Protection Plan	<b>ROW</b>	Right of Way
<b>EAC</b>	Environmental Assessment Certificate	<b>RVMA</b>	Riparian Vegetation Management Area
<b>EAO</b>	Environmental Assessment Office	<b>SES</b>	Sartori Environmental Services
<b>Ecofish</b>	Ecofish Research Ltd.	<b>SLRD</b>	Squamish-Lillooet Regional District
<b>Ecologic</b>	Ecologic Consulting	<b>True North</b>	True North Energy (Independent Engineer)
<b>EIR</b>	Environmental Incident Report	<b>TX Line</b>	Transmission Line
<b>ESC</b>	Erosion and Sediment Control	<b>ULRHEF</b>	Upper Lillooet Hydroelectric Facility
<b>FAM</b>	Field Advice Memorandum	<b>UWR</b>	Ungulate Winter Range
<b>FSR</b>	Forest Service Road	<b>VC</b>	Valued Component
<b>Golder</b>	Golder Associates	<b>WEL</b>	Westpark Electric Ltd.
<b>GWR</b>	Mountain Goat Winter Range	<b>WEMR</b>	Weekly Environmental Monitoring Report
<b>Hedberg</b>	Hedberg and Associates Ltd.	<b>WHA</b>	Wildlife Habitat Area
<b>HWM</b>	High water mark		

## 1.0 Summary of Site Inspections for Reporting Period

The table presented below summarizes the IEM team site presence, weather and monitoring locations by component:

Date	IEM Team Personnel	Key Monitoring Locations & Activities
April 24 – 30, 2016	SE, TH, AS, DA	<p><b>Construction Camp, Laydown Areas, and the Lillooet River FSR</b></p> <ul style="list-style-type: none"> <li>• Road maintenance and dust control on the Lillooet River FSR</li> <li>• Pebble Creek main culvert re-installation (ITM ULR#52)</li> <li>• Silt fence repairs along the Lillooet River FSR</li> </ul> <p><b>ULRHEF Intake &amp; Upstream Tunnel Portal</b></p> <ul style="list-style-type: none"> <li>• Grout injection program and canopy tubes</li> <li>• Intake rebar and formwork</li> <li>• Blasting and excavation, formwork and rebar for pre-cast arch support wall</li> <li>• Dredging sediment from cell 1 of the sediment ponds</li> </ul> <p><b>ULHEF Downstream Tunnel Portal</b></p> <ul style="list-style-type: none"> <li>• Drilling, blasting and tunnel stabilization</li> <li>• Removal of portions of the deposited soil and snow within UWR replacement area</li> <li>• SUMAS service of water treatment system, including sediment removal</li> </ul> <p><b>ULRHEF Powerhouse</b></p> <ul style="list-style-type: none"> <li>• Tailrace excavation (in the dry behind the natural earth berm)</li> <li>• Tailrace rebar and formwork</li> <li>• Andritz works</li> </ul> <p><b>BDRHEF Intake &amp; Upstream Tunnel Portal</b></p> <ul style="list-style-type: none"> <li>• Trenching and conduit installation along BDR Intake access road</li> </ul> <p><b>BDRHEF Downstream Tunnel Portal</b></p> <ul style="list-style-type: none"> <li>• Drilling, blasting and tunnel stabilization</li> </ul> <p><b>BDRHEF Powerhouse</b></p> <ul style="list-style-type: none"> <li>• Andritz electrical works</li> <li>• Switch yard works</li> </ul> <p><b>TX-Line</b></p> <ul style="list-style-type: none"> <li>• Segment 11 <ul style="list-style-type: none"> <li>➢ Pole foundation survey layout</li> </ul> </li> </ul>
May 1 – 7, 2016	TH, MC, SE, AS, DA., TJ	<p><b>Construction Camp, Laydown Areas, and the Lillooet River FSR</b></p> <ul style="list-style-type: none"> <li>• Road maintenance and dust control on the Lillooet River FSR</li> </ul> <p><b>ULRHEF Intake &amp; Upstream Tunnel</b></p> <ul style="list-style-type: none"> <li>• Grout injection program</li> <li>• Sluiceway rebar, formwork, and concrete</li> <li>• Intake rebar, formwork, and concrete</li> <li>• Pre-cast arch support wall formwork, rebar, and concrete</li> </ul> <p><b>ULRHEF Downstream Tunnel Portal</b></p> <ul style="list-style-type: none"> <li>• Drilling, blasting and tunnel stabilization</li> <li>• Installation and commissioning of Stormtec water treatment system</li> <li>• Demobilization of Sumas water treatment system</li> </ul> <p><b>ULRHEF Powerhouse</b></p> <ul style="list-style-type: none"> <li>• Tailrace excavation (in the dry behind the natural earth berm)</li> <li>• Tailrace rebar, formwork, and concrete works</li> <li>• Andritz works</li> </ul> <p><b>BDRHEF Intake &amp; Upstream Tunnel Portal</b></p> <ul style="list-style-type: none"> <li>• Rock face consolidation (scaling and mesh installation)</li> <li>• Tree felling at intake in association with rock face consolidation</li> </ul> <p><b>BDRHEF Downstream Tunnel Portal</b></p>

Date	IEM Team Personnel	Key Monitoring Locations & Activities
		<ul style="list-style-type: none"> <li>• Drilling, blasting and tunnel stabilization</li> </ul> <p><b>BDRHEF Powerhouse</b></p> <ul style="list-style-type: none"> <li>• Tailrace excavation</li> <li>• Styrofoam installation for base of tailrace concrete works</li> <li>• Andritz electrical works</li> </ul> <p><b>TX-Line</b></p> <ul style="list-style-type: none"> <li>• Segment 15               <ul style="list-style-type: none"> <li>➢ Pre-work helicopter flight assessment of UWR SO-04 and SO-08</li> <li>➢ Pole foundation survey layout via helicopter access</li> </ul> </li> <li>• Segment 11               <ul style="list-style-type: none"> <li>➢ Pole foundation survey layout</li> <li>➢ re-activation of the Ryan South access road</li> </ul> </li> </ul>

**IEM Team Personnel:** TH – Tom Hicks; SS – Stephen Sims; DA – Danita Abraham; SE – Stephanie Ellis; AS – Anne Sutherland; ML – McKenzie Lee; MC – Mike Champion; TJ - Tammie Jenkins

## 2.0 Administrative Summary

Key communications and meetings the IEM team had with the licensees, contractors and/or environmental authorities:

Date	Communication Type	Participants	Issues Discussed	ITM ID No.
April 24	<i>Pre-work meeting</i>	SES, CE, INX	A pre-work meeting for BDRHEF tailrace (in the dry behind the natural earth berm) construction was held to review the Work Plan and discuss water management during the construction.	-
April 25	<i>Emails</i>	SES, CE, INX	Re: Lower Truckwash Treatment System Exceedance, April 24, 2016. The IEM provided an email to CE indicating that an observed exceedance of BCWQG had occurred within ASTR-03 where the lower Truckwash water treatment system was discharging. Ongoing exceedances were a result of the current treatment system capacity and efficiency, and it was recommended that CE consult their supplier immediately to rectify the situation. CE responded on the same day indicating that the supplier would be onsite the following day and water treatment capacity would be increased as soon as possible.	-
	<i>Email</i>	CE, SES, INX	RE: ULHP Road & Water Management Issues Identified by MFLNRO. CE issued an email responding to issues identified by the IEM, and indicated the culvert installed across the Pebble Main FSR below camp road has been re-installed to provide long term erosion protection.	<i>ULR#52</i>
April 26	<i>Email</i>	CE, SES, INX	RE: Updated ITM list for April 15, 2016. CE provided an update regarding 'Open' issues on the current ITM.	<i>ULR#50., #51, 52 &amp; 53</i>
	<i>Email</i>	SES, MFLNRO, INX, Ecofish, JEM	RE: ULHP – Notification of Non-Project related Mountain Goat disturbance (Hyper-Vigilance & Disturbance) - April 25, 2016. The IEM issued an email to MFLNRO indicating that disturbances had	-

Date	Communication Type	Participants	Issues Discussed	ITM ID No.
			been observed in two mountain goats on UWR UL-19 as a result of helicopter activity in the area of Mt. Athelstan. Observations were characterized in individual goats as a Stage IV – disturbance and Stage III – hypervigilance. The IEM confirmed with Blackcomb Helicopters that the flights were not Project related.	
April 27 & 28	<i>Pre-work Meeting</i>	SES, Andritz, INX	A pre-work meeting at ULRHEF powerhouse was held for phase 2 of mechanical works. The work plan was reviewed and no environmental concerns were presented.	-
	<i>Emails</i>	True North, JEM, CE, INX, SES	RE: IE Concerns for 2016. The IE distributed an email directed at the civil contractor indicating concerns regarding onsite protocols with respect to the environment and communication processes. The IE requested a meeting organized by CE during the next site visit to understand how CE intends to rectify on-site communication protocols, thus mitigating unnecessary environmental issues and incidents. INX and CE responded directly to the IE addressing the concerns and reiterating commitments to address communication issues onsite and facilitate a meeting with multiple levels of personnel in supervisory positions.	-
April 28	<i>Email</i>	CE, INX, SES	The IEM and INX received confirmation that CE renewed their Waste Discharge Authorization under the Code of Practice for the Concrete and Concrete Products Industry under the Environmental Management Act ( <i>Authorization No. 107204</i> ) <i>Tracking No. 349424 (Renewal 2)</i>	-
	<i>Presentation</i>	INX, SES, Pemberton Community Open House	INX hosted a community open house at the Village of Pemberton Community Center to provide an update on the ULHP and provide information on the Mountain Goat Monitoring Program being implemented by the IEM according to conditions of the EAC and CEMP.	-
April 29	<i>Email</i>	INX, CE, SES	RE: Sunrise and Sunset timing restriction beginning May 1 in the Truckwash Creek mountain goat migration corridor. CE confirmed that signage was in place, and two checkpoint gates were installed and manned to prevent project related traffic from travelling through the migration corridor during the sunrise and sunset shutdown periods.	-
April 29 & May 1	<i>Emails</i>	INX, CE, SES, Ecofish, JEM, Ecologic	RE: Boulder Intake Spring Works Timing – Approval Letter. INX distributed MFLNRO’s letter ‘ <i>Additional Exemption from General Wildlife Measures for Ungulate Winter Range Related to Boulder Creek Hydroelectric Project</i> ’, and Ecofish’s Memorandum ‘ <i>Boulder Creek Mountain Goat Helicopter Survey Protocol Prior to Any Blasting or Helicopter Activity between May 1 – June 14, 2016</i> ’. On May 1, the contractor’s QP (Ecofish and Ecologic) and the IEM performed a mountain goat survey via helicopter; observations and recommendations regarding	-

Date	Communication Type	Participants	Issues Discussed	ITM ID No.
			permitted blasting and helicopter activities were provided in an email.	
May 2	<i>Email</i>	SES, JEM, INX	RE: 2016-05-02_BDRHEF Tailrace Design – Fish Stranding (IEM Review). The IEM provided the IE with a memorandum to satisfy approval condition ‘xv’ of the BDRHEF Tailrace LTC.	-
	<i>Helicopter survey</i>	SES, WEL	The IEM and WEL environmental manager performed a pre-work assessment of UWRs SO-04 and SO-08 via helicopter on May 2, 2016. The flight included two passes of the UWRs (one high elevation, one low elevation) to assess mountain goat presence in UWRs. Visibility during the flight was excellent and it was determined that the UWRs were unoccupied at the time of the survey. See Sections 3.0 & 6.1 for further details related to helicopter access in Segment 15 within 500m of UWR SO-04 and SO-08 from May 1 - June 15.	-
May 3	<i>Email</i>	CE, SES, INC	RE: INN-1463E: WP-CE-074 – KM41.2 Culvert Extension. CE provided a memo prepared by their aquatic QP assessing culvert extension works at KM41.2. The memo was titled ‘ <i>Summary Report on Ecofish’s Site Visit of the Upper Lillooet Hydro Project on April 25, 2016</i> ’, and included additional assessment of proposed works along the BDRHEF intake access road and within the tailrace.	-
May 3 & 4	<i>Email</i>	SES, CE, INX, JEM, True North	RE: Lower portal water treatment concerns. The IEM provided an email summary of concerns at the ULRHEF downstream portal water treatment system following site inspection on May 3, 2016. Concerns included flocculent shortages, an over capacity oil-water separator and the recommissioning of previously decommissioned sediment treatment ponds without IEM notification. The IE followed with email correspondence reiterating concerns regarding communications and ESC Protocols. CE responded promptly with action items to address the IE/IEM concerns.	-
May 5	<i>Conference call</i>	INX, SES, CE	RE: High Level Environmental Discussion. A call was held to discuss environmental concerns this year at a high level.	-
	<i>Emails</i>	CE, SES, INX	RE: Issue with the new (upgraded) active water treatment system installed to treat the lower tunnel portal process water. CE provided the IEM and INX with notification of a malfunction with the water treatment system outlet hose, which resulted in erosion of penstock fill and transport of sediment laden water to ASTR-03 (non-fish bearing and a non-CTF stream). CE indicated that the problem had been rectified during nightshift. Following assessment of the area, the IEM responded acknowledging proper response and reporting to the environmental issue, and requesting that CE prepare an EIR to document the event and response measures. A draft version of EIR#20 was submitted	EIR#20

Date	Communication Type	Participants	Issues Discussed	ITM ID No.
			the same day. The final version will be distributed once approved by the IEM.	
	<i>Emails</i>	INX, Westpark, SES	RE: ULHP Tx Line Works Notices – Spring Start. INX sent a reminder to Westpark reminding them to ensure that daily/weekly notifications of works, particularly those of an environmentally sensitive nature, must be sent on a regular basis to the IEM and INX. Westpark responded promptly with an update and assurance that scheduling updates would be provided as in previous construction seasons.	-
	<i>Email</i>	CE, SES, INX	RE: Migratory Bird Nest Survey - Clearing Approval. CE forwarded a clearing approval from their terrestrial QP for both the BDRHEF intake areas and Truckwash Creek at the ULRHEF downstream portal.	-
May 6	<i>Emails</i>	INX, MFLNRO, SES, Ecofish	RE: Migratory Bird Nest Survey - Clearing Approval. INX updated MFLNRO on wildlife cameras within the Truckwash Corridor and near KM47. Additional productive correspondence occurred between MFLNRO and Ecofish in regards to the identification of black and grizzly bears.	-
	<i>Email</i>	INX, SES, Ecofish	RE: BDRHEF Noise Monitoring at Boulder Creek - Approval to Remove. Following communications between MFLNRO and INX concerning the requirements for ongoing mountain goat acoustic threshold monitoring, the IEM was provided with email correspondence from MFLNRO confirming that they were prepared to recommend rescinding the requirements for monitoring at the BDRHEF station due to conflicts with the activities of other industrial operations in the immediate area.	-
	<i>Email</i>	CE, SES, INX	RE: Updated ITM list for April 15, 2016. CE provided an update regarding the progress of action items specific to ITM <i>ULR#53</i> . The IEM responded indicating that <i>ULR#53</i> would be considered 'Closed,' while <i>ULR#50</i> and <i>ULR#51</i> would remain open as of the end of this reporting period.	<i>ULR#50, #51 &amp; #53</i>
May 7	<i>Emails</i>	CE, SES, Ecofish, INX	RE: Helicopter Goat Survey above Boulder Intake. CE requested that an additional mountain goat survey be scheduled for the BDRHEF intake area as scheduling wire mesh installation to protect workers which may require helicopter lifts. Ecofish responded indicating that MFLNRO would be contacted with an invite for the flight as per approved survey protocols.	-
	<i>Email</i>	CE, SES, INX	RE: Water overflow at the water Treatment System near KM42.5. CE issued an email indicating that the water treatment system near KM42.5 had overflowed as a result of a failed generator that resulted in erosion and sediment transport similar to that occurring on the evening of May 4, 2016. CE is investigating the issue that occurred May 6, 2016 to determine if corrective actions are necessary and is preparing EIR#21 to document the incident.	EIR#21
	<i>Email</i>	CE, True North, JEM, SES, INX	RE: IE Concerns for 2016. CE's Project Manager emailed the IE with an update in regards to improving	-



Date	Communication Type	Participants	Issues Discussed	ITM ID No.
			operations and streamlining communications between CE and the IEM.	

### 3.0 Current Work Restrictions and Timing Windows

The table presented below outlines work restrictions applicable during the reporting period for each active Project component location:

Component	Location	Wildlife/Archeology Concern	Construction/Timing Restrictions & Mitigations
Lillooet River FSR & ULRHEF	Access roads above the lower limit of the 200m buffer Truckwash Creek Migration Corridor to the ULRHEF intake	Mountain Goat UWR & Migration Corridor	<p>Daily construction equipment shutdowns occurred throughout the reporting period beginning one hour before and two hours after sunrise as well as two hours before and one hour after sunset. CE has guards stationed on either side of the migration corridor 15 minutes before and during the morning and evening shutdown periods to stop all project related travel through the migration corridor. This timing restriction is effective within the Migration Corridor and 200m buffer throughout the month of May.</p> <p>Noise monitoring equipment is in place to monitor background noise levels and exceedances of the 75dbA noise level maximum resulting from blasting activities. Adaptive drilling/blasting noise mitigation strategies will be developed and implemented should activities show persistent exceedances of the noise level threshold.</p> <p>Mountain Goat monitoring activities will occur daily throughout the winter and spring (November 1 – June 15) when construction activities are occurring at the ULRHEF lower tunnel portal and/or the ULRHEF intake.</p> <p>If a mountain goat is observed within 500m line of sight of construction operations, construction must cease for at least 48 hours. The IEM must record and submit all goat observations to FLNR within 48 hours.</p>
BDRHEF intake	Portion of intake access road and intake structure within UWR u-2-002 UL 12	Mountain Goat UWR	<p>Access to BDRHEF intake must be gated at least 500m from UWR to restrict public access within the UWR u-2-002 UL 12 from May 1 – June 15, unless otherwise directed by MFLNRO.</p> <p>If a mountain goat is observed within a 500m line of site of a construction activity within UWR u-2-002 UL 12, construction activities will cease for at least 48 hours. Approval from the IEM must be obtained prior to recommencing construction activities.</p>

Component	Location	Wildlife/Archeology Concern	Construction/Timing Restrictions & Mitigations
TX Line	Segment 15 & 16 UWRs	Mountain Goat UWRs SO-04 & SO-08	If a mountain goat is observed within 500m line of sight of construction operations, construction must cease for at least 48 hours. The IEM must record and submit all goat observations to MFLNR within 48 hours.
		Moose, Deer, & Mountain Goat UWRs	Helicopter flight paths will avoid UWRs and landing locations will be located further than 500m away from the UWRs during the sensitive late winter period and natal period (March 1 – May 15; May 15 – June 15).

## 4.0 Upper Lillooet River HEF – Monitoring Results

### 4.1 Construction Camp, KM 38 Laydown, Access Roads & Lillooet River FSR

Activities:

- Routine maintenance of construction equipment within the mechanic shop and fuel management continued at the KM38 laydown. All hazardous substance materials (waste oil, contaminated soil, used oil/hydraulic fluid containers, etc.) were stored temporarily for off-site disposal in a designated area at the laydown. The materials were all well contained and protected from the weather.
- CE applied water on site access roads to minimize fugitive dust production throughout the reporting period (Photo 1).
- On April 26, CE repaired silt fencing at various locations along the Lillooet River FSR.

Environmental Summary:

- On April 12, MFLNRO emailed INX presenting concerns regarding substantial flow in the roadside ditch between KM42.5 and KM41.5 of the Lillooet River FSR. On April 18, CE indicated that they would review the permanent drainage plan for the area and distribute a plan to the IE, IEM, and INX for approval once the permanent design was prepared. The drainage does not currently present significant risk to the environment; however, the concern will be tracked until a permanent drainage plan is presented (ITM ULR#51).
- On April 24, CE removed and re-installed a culvert on the Pebble Creek Main road to address deficiencies reported by the IEM following the previous culvert installation (Photo 2; ITM ULR#52). The culvert and slopes have now been sufficiently armoured to prevent runoff from the camp road from eroding the Pebble Creek Main road. This installation has addressed road drainage concerns presented by MFLNRO; therefore, this portion of ITM ULR#52 was closed on April 24, 2016.

Photos:



Photo 1– CE water truck in use for dust suppression on the Lillooet River FSR (May 7, 2016).



Photo 2 – Re-installation of the Pebble Creek Main road culvert performed under IEM supervision (April 24, 2016).

## 4.2 Intake (North & South Sides), and Upstream Tunnel Portal

Construction Activities:

- Grout injection operations and canopy tube installation within the ULRHEF upstream tunnel continued from April 24 – May 7, 2016.
- Formwork, rebar, and concrete works at the concrete arch foundation wall occurred



throughout the monitoring period (

- Photo 3 and Photo 4).
- Rebar, formwork, and concrete works continued on the intake structure and sluiceway throughout the monitoring period (Photo 5).

Environmental Summary:

- On May 2, the IEM was onsite to monitor a concrete pour for the concrete arch foundation wall. The first portion of the pour was contained within formwork; however, the IEM expressed concern that there was significant seepage water flowing through the area, which was not completely isolated from a clean water sump/pump pumping clean water directly to

the Lillooet River (Photo 3 and Photo 4). CE attempted to isolate the water flowing through the second section of the pour from connecting with the clean water sump; however, during water quality monitoring, the discharge to the Lillooet River measured pH = 9.62 (mixing zone pH = 8.88). To prevent a water quality exceedance at the mixing zone CE immediately directed all water to the water treatment system once the high pH was measured at the outlet. CE then abandoned the concrete pour as they could not stop the fresh concrete from washing away into the partially isolated sump/pump. No environmental incident or water quality exceedance occurred and CE worked closely with the IEM to manage water quality of the discharge throughout the pour. During the concrete pour it was identified that pumping capacity was not sufficient to direct all water to the water treatment system for prolonged periods.

- During grout injection and canopy tube installation within the ULRHEF upstream tunnel, all seepage water was directed to the ULRHEF intake sediment basins for treatment (Photo 6). CE's environmental management team ensured that the active treatment system was functioning and well maintained.
- Clean seepage water surrounding the intake structure was pumped directly back to the Lillooet River and water quality met BCWQGs during all daily inspections. Water quality sampling results are available upon request.

Photos:



**Photo 3 – CE crew attempting to isolate the clean water sump during the concrete arch foundation wall mudslab pour (May 02, 2016).**



**Photo 4 – Concrete arch foundation wall mudslab pour was abandoned as the seepage water could not be controlled (May 02, 2016).**



Photo 5 – Intake structure concrete pour (April 30, 2016).



Photo 6 – Sluiceway concrete pour (May 7, 2016).

### 4.3 Downstream Tunnel Portal

#### Construction Activities:

- Drilling, blasting, mucking and stabilization works (shotcrete application) within the tunnel.
- Removal of snow and associated sediment plowed into mountain goat UWR replacement area at lower portal parking area with a vacuum truck (Photo 7). Not all material was removed. An assessment of impacts to the area will be completed once the snow melts.
- On May 4, CE completed the installation and commissioning of a new active water treatment system capable of handling the full volume of process water emanating from the downstream tunnel. The discharge is directed into ASTR-03 at the penstock crossing location. ASTR-03 is non-fish bearing and a non-CTF stream (Photo 8).

#### Environmental Summary:

- Water quality discharged from the lower-portal water treatment system was monitored daily for compliance with BCWQG. Water quality at the mixing zone of ASTR – 03 exceeded BCWQG on three occasions;
  - April 24 background in ASTR-03 = 0.58NTU and mixing zone turbidity = 32.4NTU,
  - April 27 background in ASTR-03 = 0.64NTU and mixing zone turbidity = 22.3NTU,
  - May 3 background in ASTR-03 = 3.58NTU and mixing zone turbidity = 15.3NTU.
- All three exceedances were communicated to CE who performed maintenance of the system (removed excess sediment and flocculant from the settling tanks via vacuum truck) following the notification, to prevent continued exceedance of BCWQGs. As this treatment system is no longer capable of treating all water from the downstream tunnel CE, was forced to replace it with a larger system with scalable treatment capacity. On April 29, the first pieces of the new water treatment system were mobilized to site and the final installation was completed on May 4. The system was installed at the ASTR-03 penstock crossing location with the discharge hose entering the upstream side of the culverts.

- On the nightshift of May 4, the hose discharging water to ASTR-03 from the new water treatment system broke free of its anchor and resulted in erosion of the penstock backfill and the transport of an unknown volume/quantity of sediment-laden water/material to ASTR-03 (non-fish bearing and a non-CTF stream)(Photo 8; EIR#020). A similar result occurred during the failure of a generator on the night of May 6, which caused the water treatment system to overflow and further erode the penstock fill slope (EIR#021). As both of the instances occurred on night shift no water quality samples were taken. The IEM requested that CE prepare environmental incident reports (EIRs) for both events for submission to agencies once complete. The completed reports will be appended to the following environmental monitoring report. Additional water quality sampling results are available upon request.

Photos:



Photo 7– Removal of snow and sediment from Mountain Goat Winter Range via vacuum truck (May 4, 2016).



Photo 8 – Location of new active water treatment system and slope erosion resulting from a hose anchor failure reported as EIR#20 (May 5, 2016).

#### 4.4 **Powerhouse & Access Road**

Construction Activities:

- Excavation of tailrace (in the dry behind the natural earth berm) at the ULHEF powerhouse.
- Backfill and compaction for tailrace footing.
- Rebar, formwork, and concrete works for the tailrace (Photo 9 & Photo 10).
- Switchyard subgrade and foundation works

Environmental Summary:

- All excavation, backfill, formwork, rebar placement, and concrete pours for the tailrace structure occurred in isolation of seepage water. All water seeping into the excavation was discharged directly to the Lillooet River from clean sumps, which were monitored daily by the IEM. A recirculating CO<sub>2</sub> diffuser remained installed and on standby throughout the monitoring period, but was not used, as pH remained unaffected by the work activities.

Photos:

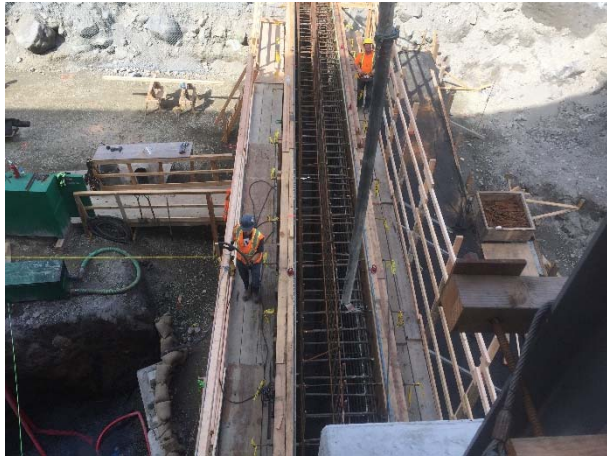


Photo 9– Concrete pour for the northwest wall of the ULRHEF tailrace (April 29, 2016).



Photo 10 – Rebar and form work for the tailrace at ULHEF powerhouse (May 7, 2016).

#### 4.5 Water Quality Results

The following table presents the results of the routine WQ sampling program for the ULRHEF. The IEM is undertaking a weekly monitoring program according to the conditions outlined in the Surface Water Quality Protection Plan. The regular monitoring sites have been selected to quantify WQ conditions within the Lillooet River upstream and downstream of active construction areas. The IEM acknowledges the natural variability of instream WQ conditions in the Lillooet River due to seasonal fluctuations in snowmelt. In the event that an exceedance of *in-situ* WQ (turbidity and/or pH) is deemed to be caused by project-related activities, the IEM will highlight the exceedance, discuss the cause, and outline measures undertaken by the Contractor to correct the issue. When an exceedance cannot be attributed to project related activities, the exceedance will be marked by an asterisk (\*). The table also presents the results of WQ sampling collected at both the ULRHEF intake and downstream tunnel portal water treatment systems.

Date	Time	Sample Location Description	pH	Turbidity (NTU)	Cond (µS)	Temp (°C)
<b>Routine Water Quality</b>						
April 28, 2016	14:30	ULR Background – ULRHEF Intake	7.78	16.1	124	6.8
	14:20	ULR #0.5 – Downstream of ULRHEF intake at Keyhole Bridge	7.73	15.9	75	6.4
	15:30	ULR # 1 – Upstream of ULRHEF Powerhouse	7.46	18.8	102	7.9
	16:02	ULR #2 – Downstream of ULRHEF Powerhouse between KM 40.5 and KM 41	7.54	16.4	72	7.8
	16:30	ULR #3 – Lillooet River FSR KM 38 Laydown – D/S of Boulder confluence	7.5	11	94	6.8
	10:07	ULR #4 – Lillooet River FSR KM 24 – D/S of all works and Meager confluence	7.65	9.81	93	6.1
May 5, 2016	15:25	ULR Background – ULRHEF Intake	7.67	23.9	-	6

Date	Time	Sample Location Description	pH	Turbidity (NTU)	Cond (µS)	Temp (°C)
	16:50	ULR #0.5 – Downstream of ULRHEF intake at Keyhole Bridge	7.6	21.3	-	6
	13:50	ULR # 1 – Upstream of ULRHEF Powerhouse	7.84	30.7	-	8
	14:10	ULR #2 – Downstream of ULRHEF Powerhouse between KM 40.5 and KM 41	7.82	32.6*	-	8
	14:40	ULR #3 – Lillooet River FSR KM 38 Laydown – D/S of Boulder confluence	8.09	20.6	-	8.1
	9:10	ULR #4 – Lillooet River FSR KM 24 – D/S of all works and Meager confluence	8.02	71.6*	-	7.5

### 4.6 Recommendations

ITEM recommendations for the ULRHEF are as follows:

- All water from the ULRHEF upstream tunnel heading should be conveyed to the sediment basins for treatment. CE should perform regular monitoring to ensure that the water treatment system is functioning as intended and that discharge to the Lillooet River continues to meet BCWQGs. The pumping capacity within the stage 1 concrete lined sump, should be assessed and upgraded as needed.
- CE should regularly monitor the new water treatment system installed to treat water emanating from the downstream tunnel to ensure the system is functioning as intended and that discharge into ASTR-03 continues to meet BCWQGs. The water treatment system capacity should be regularly assessed to ensure the system can handle the necessary volumes of water and to prevent discharging process water above BCWQGs offsite. An assessment of the Lillooet River Trail should be performed to determine the extent of erosion caused by water discharging offsite once the snow melts from the area.
- CE should continue to remove deposited material within the mountain goat UWR replacement area, as the snow melts. Once CE has removed as much of the deposited material as possible, and the snow is fully melted, the area should be inspected by a QP to determine what remedial actions are needed (ITM ULR#49; FAM#11).

### 4.7 Upcoming Works

The following new and/or environmentally sensitive construction activities are scheduled to occur at the ULRHEF:

- Canopy tube installation, umbrella lattice structure installation, grout injection, drilling, and blasting in class 4CT material will continue at the ULRHEF upstream tunnel portal.
- Drilling, blasting and tunnel stabilization at the ULRHEF downstream tunnel.
- Dewatering to the ULRHEF intake sediment basins will continue.
- Formwork, rebar and concrete pours at the intake and sluiceway structures will continue.



## 5.0 Boulder Creek Hydroelectric Facility – Monitoring Results

### 5.1 Access Road & Intake

#### Construction Activities:

- Trenching and conduit installation in the BDRHEF intake access road outside of the UWR 500m buffer and below the locked gate continued until May 1 (Photo 11).
- On May 1, CE began to repair the intake access road ditch lines and running surface that was impacted by spring runoff and some debris slides (Photo 12).
- Once access to the intake was restored, CE began scaling, rock bolting, and mesh installation to stabilize the slopes surrounding the intake work area (Photo 13).
- Bulk excavation of the intake structure footprint began in isolation from Boulder Creek and occurred above the water table throughout the reporting period (Photo 14).

#### Environmental Summary:

- The contractors QP (Ecofish) and the IEM conducted a pre-work helicopter flight on May 1, 2016 to assess mountain goat presence within UWR UL-12, in accordance with the Survey Protocol attached to the spring timing amendment to the General Wildlife Measures Exemption letter. Two mountain goats were observed during the helicopter flight within 1500m but outside of 500m from the intake work area. Accordingly, blasting is permitted at the BDRHEF intake as of May 1, since mountain goats were outside of the 500m zone of influence. Helicopter work (both for construction purposes and avalanche control) is not permitted until June 15, or until occupancy of the UL-12 is confirmed to have changed and no mountain goats are within 1500m of the helicopter flight path. Occupancy changes will be determined via subsequent helicopter assessment flight(s), which must be spaced a minimum of six days apart.

#### Photos:



Photo 11 – Trenching for conduit installation in the BDRHEF intake access road outside of the UWR 500m buffer (April 29, 2016).



Photo 12 – BDRHEF intake access road ditch maintenance and culvert repairs (May 1, 2016).



Photo 13 – Rock scaling and consolidation work above the future sluiceway location (May 5, 2016).



Photo 14 – Hauling material from the bulk excavation of the intake footprint (May 5, 2016).

## 5.2 *Downstream Tunnel Portal and Powerhouse*

### Construction Activities:

- Drilling, blasting and tunnel stabilization in the downstream tunnel portal.
- Electrical component installation in the BDRHEF powerhouse.
- Tailrace excavation, sub-grade preparation, and sheet foam installation occurred greater than 15m from Boulder Creek (behind the natural earth berm) (Photo 15 & Photo 16).
- Switchyard sub-grade preparation.

### Environmental Summary:

- All wastewater related to the BDRHEF tunnelling works continued to be contained and conveyed to the downstream portal settling ponds for treatment.

### Photos:



Photo 15 – Start of excavation of the BDRHEF powerhouse tailrace (April 30, 2016).



Photo 16 – Installing sheet foam at the base to the tailrace (May 5, 2016).

### 5.3 Water Quality Results

The following table presents the results of the routine WQ sampling program for the BDRHEF. The IEM is undertaking a weekly monitoring program according to the conditions outlined in the Surface Water Quality Protection Plan. The regular monitoring sites have been selected to quantify WQ conditions within Boulder Creek upstream and downstream of active construction areas. The IEM acknowledges the natural variability of instream WQ conditions in Boulder Creek due to seasonal fluctuations in snowmelt. In the event that an exceedance of *in-situ* WQ (turbidity and/or pH) is deemed to be caused by project-related activities, the IEM will highlight the exceedance, discuss the cause, and outline measures undertaken by the Contractor to correct the issue. When an exceedance cannot be attributed to project related activities, the exceedance will be marked by an asterisk (\*).

Date	Time	Sample Location Description	pH	Turbidity (NTU)	Cond (uS)	Temp (°C)
<b>Routine Water Quality</b>						
April 28, 2016	-	BDR BG – Upstream of BDRHEF intake *not accessible*	-	-	-	-
	-	BDR #1 – Downstream of BDRHEF intake *not accessible*	-	-	-	-
	16:07	BDR #2 – Upstream of BDRHEF Powerhouse	7.58	3.05	54	5.7
	16:19	BDR #3 – Downstream of BDRHEF Powerhouse at Pebble Creek Bridge	7.60	3.31	58	5.6
May 5, 2016	11:57	BDR BG – Upstream of BDRHEF intake	7.92	9.20	-	6.0
	11:50	BDR #1 – Downstream of BDRHEF intake	7.92	9.30	-	6.0
	14:20	BDR #2 – Upstream of BDRHEF Powerhouse	7.93	9.24	-	7.0
	14:50	BDR #3 – Downstream of BDRHEF Powerhouse at Pebble Creek Bridge	7.9	11.5	-	7.4

### 5.4 Recommendations

IEM recommendations for the BDRHEF are as follows:

- All wastewater related to the BDRHEF tunnelling works should continue to be contained and conveyed to the downstream portal settling ponds for treatment. Regular inspections of the treatment ponds should be performed to ensure the necessary maintenance activities outlined in the work plan are performed.

### 5.5 Upcoming Works

The following new and/or environmentally sensitive construction activities are scheduled to occur at the BDRHEF in the coming weeks:

- BDRHEF downstream portal tunnelling, switchyard subgrade and tailrace construction.
- Electrical component installation will continue at the BDRHEF powerhouse.
- Installation of an active water treatment system to treat water from the base of the intake structure excavation.

- Slope protection measures will continue to be installed at the intake work area. Scaling, rock bolting, and mesh installation will occur between the upper and lower cofferdams.

## 6.0 Transmission Line – Monitoring Results

### 6.1 Transmission Line Construction Activities

#### Construction Activities:

- Segment 15
  - Pole foundation survey and pre-work helicopter assessment of UWRs (Photo 17).
- Segment 11
  - Pole foundation survey layout and re-activation of the Ryan South access road.

#### Environmental Summary:

A pre-work helicopter flight occurred on May 2, to assess the UWRs SO-08 and SO-04 adjacent to the Segment 15 ROW (Photo 17). Both UWRs were unoccupied during the assessment. A monitoring station was setup on the Rutherford FSR to monitor the UWRs during active construction and helicopter work in Segment 15 to ensure no Mountain Goats moved into the area. No Mountain Goats were observed by the IEM or during the helicopter flight on either UWRs during this reporting period.

#### Photos:



Photo 17 – Conditions during helicopter assessment of UWRs SO-04 and SO-08 in Segment 15 (May 2, 2016).

### 6.2 Recommendations

IEM recommendations for the TX Line are as follows:

- With the return to site for the construction season, WEL and their sub-contractors are reminded of the need to appropriately manage wildlife attractants while onsite and to report all wildlife sightings.

### 6.3 Upcoming Works

The following new and/or environmentally sensitive construction activities are scheduled to occur along the TX Line in the coming weeks:

- Installation of bridge 272a.
- Re-activation of assess roads and re-mobilization to work areas.

### 7.0 Wildlife Sightings

As per the CEMP, a wildlife sightings record has been implemented and will be updated regularly by Project Personnel. It is mandatory for all personnel to report wildlife sightings including, but not limited to bears, cougars, mountain goats and deer. Wildlife sighting will be reported and recorded by the contractor(s). Wildlife Observation forms will be included in first reporting period following month end. Observation or detection of the following species will trigger notification to identified parties according to the following table.

Species Observed or Detected	Notification Period	Agencies to be Notified
Northern rubber boa	Immediately	IEM, Owner
Grizzly bear	24hrs	IEM, Safety Officer, Conservation Officer, Owner
Wolverine den	24hrs	IEM, MFLNRO, Owner
Spotted owls	24hrs	IEM, MOE, Owner
Mountain goats	48hrs	IEM, MFLNRO, Owner

Wildlife sightings reported by the Owner, Contractors, and IEM team in April 2016, are appended to the end of this report.

### 8.0 Mountain Goat Monitoring Program

The following mitigation measures related to mountain goats were implemented during this monitoring period:

- As of May 1, CE successfully implemented the daily sunrise/sunset equipment shutdown periods within the Truckwash Creek mountain goat migration corridor as outlined in the Mountain Goat Management Plan. CE staff are assigned the responsibility for stopping Project related traffic at each end of the migration corridor during the shutdown periods, to prevent any accidental travel through the migration corridor.
- The BDRHEF intake access road was gated and manned by CE staff to restrict motorized public access to the UWR (UL-12). The gate will continue to be manned by CE until June 15.
- Noise level monitoring data continued to be collected at three monitoring locations (upper and lower Truckwash Creek and at Keyhole Falls) and used to adaptively manage construction noise and ensure that the 75db noise level threshold is not exceeded as outlined in the Mountain Goat Management Plan. Construction related noise at the BDRHEF intake was also monitored beginning on May 3, but ended on May 6, following communications between MFLNRO and INX concerning the requirements for ongoing

mountain goat acoustic threshold monitoring given conflicts with other industrial users operating helicopters in the vicinity of the BDRHEF intake. The requirement to monitor construction related noise at the BDRHEF intake was rescinded by MFLNRO on May 6, due to conflicts with nearby heli-logging activities.

- The IEM or designate was on site to monitor Mountain Goat activity within 500m of construction activities at the ULRHEF intake and the ULRHEF downstream tunnel portal. Mountain goats were monitored from four sites:
  - Truckwash Creek viewing river right of the Migration Corridor– MG-OBS01 (10U 467955 5612773);
  - Keyhole Falls viewing the south side u-2-002 UL11 – MG-OBS02 (10U 466593 5613988); and,
  - Garibaldi Pumice mine site viewing u-2-002 UL 19 – MG-OBS03 (10U 467388 561408); and,
  - Salal Creek monitoring site viewing u-2-002 UL 8 – MG-OBS04 (10U 466133 5613991).

Monitoring effort was split between all sites during daylight hours, unless safety concerns or weather conditions interfered. The order of site visits rotated daily. Construction activities must cease if a goat(s) is/are observed moving towards the ULRHEF intake and/or if a goat(s) is/are observed within a 500m line of site of a construction activity. No goats were observed within 500m line of sight of construction activities and no work stoppages were required.

- A pre-work helicopter flight was conducted on May 2 to assess mountain goat presence in UWRs SO-08 and SO-04 adjacent to the Segment 15 ROW. Both UWRs were unoccupied during the assessment. To mitigate potential impacts to any mountain goats moving into the UWRs or that were missed during the pre-work assessment, the IEM monitored the UWRs via spotting scope from a monitoring station on the South Rutherford FSR. Monitoring occurred during active construction and helicopter work in Segment 15 to ensure no mountain goats were present within the UWRs. The helicopter pilots were reminded that no landing is permitted within 500m of mountain goats and that the observation of a mountain goat on the UWRs would trigger a halt in works and immediate IEM notification. No Mountain Goats were observed by the IEM from the monitoring station or during the helicopter flights on either UWRs during this reporting period.

## 9.0 Environmental Issues Tracking Matrix (ITM)

### 9.1 Hydroelectric Facilities (ULRHEF & BDRHEF)

ITM Tracking Legend:		Work Item Open		Work Item Complete		Issue Closed	
Issue Tracking		Environmental Issue		Mitigation Measures			
ID No.	Status	Location	Issue Description	Action Taken/Recommended	Date of Identification	Targeted Date for Completion	Date Completed
ULR#50	OPEN	ASTR04 Woodbox Culvert at penstock access road crossing	A failure of the outside edge of the road has occurred and the whole woodbox structure appears to be compromised. Water is now ponding on the upstream side of the crossing.	Assess the woodbox culvert and develop a plan to replace it with QP designed crossing structure during the instream work window or according to the recommendations of a QP if it has been compromised.	April 7, 2016	April 21, 2016	-
ULR#51	OPEN	Woodbox Culvert at KM41.2 if the Lillooet River FSR	The watercourse over topped the woodbox culvert requiring emergency works to install an additional culvert next to the woodbox to handle the additional flow. The woodbox culvert may have been compromised by the additional flows and the temporary culvert installed as an emergency measure may need to be extended.	Assess the woodbox culvert and develop a plan to replace it with QP designed crossing structure during the instream work window or according to the recommendations of a QP if it has been compromised. Update April 18 – CE indicated that they will be reviewing the permanent drainage plan in this area and will distribute the plan to the IE, IEM, and INX for approval once the permanent drainage and crossing structure designs are finalized.	April 8, 2016	April 22, 2016	-

ITM Tracking Legend:		Work Item Open		Work Item Complete		Issue Closed	
ID No.	Status	Location	Issue Description	Action Taken/Recommended	Date of Identification	Targeted Date for Completion	Date Completed
ULR#52	CLOSED	Pebble Creek Main Road, KM42.5 to KM 41.5 of the Lillooet River FSR	<ol style="list-style-type: none"> <li>The first 100m of the Pebble Creek Main Road, where it leaves the camp road, is quite eroded - cut slope, road surface and fill are damaged.</li> <li>MFLNRO is concerned with the substantial amount of flow in the ditch between KM42.75 – KM41.5 of the Lillooet River FSR.</li> </ol>	<ol style="list-style-type: none"> <li>Protect slopes from erosion caused by run-off from the camp road ditch line and install an appropriate permanent crossing structure where the road surface has been eroded. Once completed repair the road surface as needed. Update April 18 – Install of the culvert and armouring was not executed according to best management practice and requires repair work before the IEM considers the repairs completed to the Forest Road Engineering Guidebook, CEMP and EPPs.. Update April 24 – CE removed and re-installed the culvert and rip-rap armouring. The installation was inspected by the IEM and found to meet the objectives of the FPC, CEMP and EPPs.</li> <li>Assess drainage patterns in this section to ensure ditch lines and crossing structures are appropriately sized to accommodate additional flows now that two previously installed road crossing structures have been removed to accommodate the penstock installation. Update April 18 – CE indicated that they will be reviewing the permanent drainage plan in this area and will distribute the plan to the IE, IEM, and INX for approval once the permanent design is finalized. This ITM will continue to be tracked as ULR#51.</li> </ol>	April 12, 2016	April 26, 2016	April 24, 2016
ULR#53	CLOSED	ULRHEF tailrace excavation water treatment ponds	On April 14, the IEM directed CE to cease pumping to the ULRHEF tailrace excavation water treatment ponds as significant piping out of the side walls was observed.	Provide the IE with confirmation from a QP on the stability of the ponds as well as sign-off from a QP on the design of the ponds for the purposes of sediment retention prior to resuming their operation. Update May 6 – CE confirmed that these ponds will not be used and that a separate water treatment is being sourced for the ULRHEF powerhouse excavation works	April 14, 2016	April 21, 2016	May 6, 2016
No outstanding environmental issues (next ITM – BDR#28 & ULR#54)							



## 9.2 Transmission Line

<b>ITM Tracking Legend:</b>	<i>Work Item Open</i>							
	<i>Work Item Complete</i>							
	<i>Issue Closed</i>							
Issue Tracking		Environmental Issue			Mitigation Measures			
ID No.	Status	Location	Issue Description	Action Taken/Recommended	Date of Identification	Targeted Date for Completion	Date Completed	
<i>No outstanding environmental issues (next ITM – Tx#3)</i>								











## Environmental Incident Reporting Form

<b>General Information</b>	
<b>Project Name:</b> Upper Lillooet Hydro Project	<b>Project Component:</b> ULRHEF penstock crossing at ASTR-03
<b>Time/Date of Incident Start:</b> 2016-05-04, around 10:00 PM	<b>Time/Date Incident Stopped:</b> 2016-05-05 around 12:05 AM
<b>Date of Report:</b> 2016-05-05	<b>Project Incident Report Number:</b> 2016-05-05 CE-EIR-020
<b>Report Prepared By:</b> Jean M. Pelletier	
<b>Contractors Environmental Manager:</b> Jean M. Pelletier	
<b>Independent Environmental Monitor:</b> Tom Hicks	
<b>Licensee's Environmental Coordinator:</b> Julia Mancinelli	

<b>Contact Information for Company Involved in Incident</b>	
<b>Company:</b> CRT-ebc, s. e. n. c.	<b>Address:</b> PO Box 585, Pemberton BC – V0N 2L0
<b>Phone #:</b> 604-*894-5002	<b>Email:</b> jdrapeau@crtconstruction.ca
<b>Contact Person:</b> Jonathan Drapeau	<b>Position:</b> Ass. Project Manager

<b>Incident Type (check all that apply)</b>			
<b>Encroachment of an Environmentally Sensitive Area (e.g. Riparian/Wildlife Buffer)</b> Please provide details in "Description" section below.	<input type="checkbox"/>	<b>Adverse Impacts to Fish/Wildlife (e.g. Mortality/Injury)</b> Please provide details in "Description" section below.	<input type="checkbox"/>
<b>Water Quality/Quantity</b> Please provide details in "Description" section below.	<input checked="" type="checkbox"/>	<b>Hazardous Material Spills (to ground or water)</b> Please provide details in description section in regards to: <ul style="list-style-type: none"> <li>Perceives extent of damage</li> <li>Type, quantity and area of the spill</li> <li>Containment Procedures</li> <li>Environmental features in close proximity to the spill</li> </ul>	<input type="checkbox"/>
<b>Disturbance of known or unknown archeological /heritage site</b> Please provide details in "Description" section below.	<input type="checkbox"/>	<b>Air Quality</b> Please provide details in "Description" section below.	<input type="checkbox"/>
<b>Spill reported to external agencies</b> If yes, describe the receiving environment and substance/quantity spilled.	<input type="checkbox"/>	<b>Other</b> Please provide details in "Description" section below.	<input checked="" type="checkbox"/>

<b>Incident Profile</b>			
<b>Weather at time of incident</b>	 <input checked="" type="checkbox"/> Clear	 <input type="checkbox"/> Partly Cloudy/ Variable	 <input type="checkbox"/> Cloudy
	 <input type="checkbox"/> Showers/ Periods of Rain	 <input type="checkbox"/> Rain	 <input type="checkbox"/> Heavy Rain (>25mm in 24hr)
	 <input type="checkbox"/> <b>Storm</b> (Heavy rain and high winds)		 <input type="checkbox"/> Snow
<b>Specific Location:</b> On the penstock, near Astr-03			
<b>Description and Cause of Incident:</b>			
<p><u>Description:</u> A large rock was initially used to anchor the discharge hose in the riprap. After multiple pumping cycles the anchoring rock was dislodged and the hose pulled out of the riprap and redirected to the road and penstock fill. Discharging water eroded the penstock fill and conveyed large quantities of sediment to ASTRO3. A large volume of sediment was directly conveyed to Astr-03 and washed down stream. It is unknown, but likely, if turbid water was discharged to the Lillooet.</p> <p>The incident was identified by the Stormtec technician who immediately called for assistance. This was around 10:00 PM. Joshua Zandbergen, from Innergex, heard the call and when on site. He asked our CSO Angel Orejas to get someone from the environment team on site asap. Jean M. Pelletier, Sr Env. Manager was waked up at 10:30 PM and on site at 10:45 PM. The night foreman assisted by 2 labors managed to re anchor the hose. J. Pelletier and J. Zandbergen watched the pump being turned on again and the situation was resolved. It was about midnight. Alex, from Stormtec, confirmed that the water being discharged was very clean, turbidity reading at 1.4 NTU</p> <p><u>Cause:</u> The root cause of the incident was that the discharge hose was not properly anchored.</p>			
<b>Incident Witness:</b> J. Zanbergen, A. Orejas, J. M. Pelletier			
<b>Were there any Potential Environmental impacts as a result of the incident?</b> (e.g., surface contamination, storm sewers, or fish/wildlife mortalities)		<b>Yes</b> <input checked="" type="checkbox"/>	<b>None Observed</b> <input type="checkbox"/>
<b>If Yes, please describe:</b> An unknown volume of sediment and turbid water was inadvertently discharged to the ASTR-03 watercourse. ASTR-03 is non-fish bearing/non-coastal tailed frog (CTF) bearing but has a downstream connection to fish habitat.			
<b>Has Wildlife Salvage Protocol been followed?</b>		<b>Yes</b> <input type="checkbox"/>	<b>No</b> <input type="checkbox"/>
		<b>N/A</b> <input checked="" type="checkbox"/>	
<b>If No, please explain:</b>			
<b>Water Quality Samples Collected?</b>		<b>Yes</b> <input type="checkbox"/>	<b>No</b> <input checked="" type="checkbox"/>
		<b>N/A</b> <input checked="" type="checkbox"/>	
<b>If yes, attach results of water quality analysis to report in table format. Include Laboratory analysis if completed.</b>			
<b>If No please explain:</b>			



Have applicable photos and/or drawings been attached to the incident report?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
<b>Incident Response Measures</b>			
<ol style="list-style-type: none"> <li>Response by CRT-EBC was rapid: workers and supervisor were on site within 45 minutes</li> <li>This rapid response helped mitigate further damage.</li> </ol>			
<b>Actions to Prevent Incident Recurrence</b>			
<ol style="list-style-type: none"> <li>The hose has been temporary anchored to rock and was tested to ensure it will not dislodge again.</li> <li>On Friday, during day time, the outlet of the water treatment system was relocated and is now released in an existing culvert, t just above current location. This new setup will allow a better dissipation of energy, and the water will fall in a riprap location designed for this purpose.</li> </ol>			

Notification Record						
Agency Reported to	Contact Information	Agency Contacted		Date Reported	Reported By	Method of Reporting
		Yes	No			
<b>External</b>						
MFLNRO	James Davies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 9, 2016	Julia Mancinelli	Email
BCEAO	Justin Carlson	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 9, 2016	Julia Mancinelli	Email
Lil'wat Nation	Harriet VanWart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 9, 2016	Julia Mancinelli	Email
PEP	1-800-663-3456	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
DFO	Herb Klassen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 9, 2016	Julia Mancinelli	Email
Environment Canada	604-666-6100	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Canadian Coast Guard	604-666-6011	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Local Fire Rescue	911	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<b>Internal</b>						
Owner Innergex	Julia Mancinelli <a href="mailto:jmancinelli@innergex.com">jmancinelli@innergex.com</a>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 5 <sup>th</sup> 2016	J M. Pelletier	Phone call and Email
IEM Sartori Environmental	Tom Hicks <a href="mailto:tom@sartorienv.com">tom@sartorienv.com</a>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 5 <sup>th</sup> 2016	J. M. Pelletier	Phone call and Email



**Independent Environmental Monitor:**

Tom Hicks	Lead Monitor - SES	<i>Tom Hicks</i>	2016-05-09
Print Name	Position and Company	Signature	Date

**Contractor's Manager:**

Jonathan Drapeau	Project Manager – CRT-ebc	<i>Jonathan M. Pelletier</i> For Jonathan Drapeau	2016-05-09
Print Name	Position and Company	Signature	Date

May 9th, 2016 4:28 PM



1. Water

spraying on the night of the incident



2. Water spraying on the night of the incident



3. Extend of the erosion as seen daytime the next day.



4. Another view of the erosion on site.













## Environmental Incident Reporting Form

General Information	
Project Name: Upper Lillooet Hydro Project	Project Component: ULRHEF penstock crossing at ASTR-03
Time/Date of Incident Start: 2016-05-06, around 9:20 PM	Time/Date Incident Stopped: 2016-05-06 around 10:30 PM
Date of Report: 2016-05-08	Project Incident Report Number: 2016-05-06CE-EIR-021
Report Prepared By: Jean M. Pelletier	
Contractors Environmental Manager: Jean M. Pelletier	
Independent Environmental Monitor: Tom Hicks	
Licensee's Environmental Coordinator: Julia Mancinelli	

Contact Information for Company Involved in Incident	
Company: CRT-ebc, s. e. n. c.	Address: PO Box 585, Pemberton BC – V0N 2L0
Phone #: 604-894-5002	Email: jdrapeau@crtconstruction.ca
Contact Person: Jonathan Drapeau	Position: Ass. Project Manager

Incident Type <i>(check all that apply)</i>			
<b>Encroachment of an Environmentally Sensitive Area (e.g. Riparian/Wildlife Buffer)</b> Please provide details in "Description" section below.	<input type="checkbox"/>	<b>Adverse Impacts to Fish/Wildlife (e.g. Mortality/Injury)</b> Please provide details in "Description" section below.	<input type="checkbox"/>
<b>Water Quality/Quantity</b> Please provide details in "Description" section below.	<input checked="" type="checkbox"/>	<b>Hazardous Material Spills (to ground or water)</b> Please provide details in description section in regards to: <ul style="list-style-type: none"> <li>Perceives extent of damage</li> <li>Type, quantity and area of the spill</li> <li>Containment Procedures</li> <li>Environmental features in close proximity to the spill</li> </ul>	<input type="checkbox"/>
<b>Disturbance of known or unknown archeological /heritage site</b> Please provide details in "Description" section below.	<input type="checkbox"/>	<b>Air Quality</b> Please provide details in "Description" section below.	<input type="checkbox"/>
<b>Spill reported to external agencies</b> If yes, describe the receiving environment and substance/quantity spilled.	<input type="checkbox"/>	<b>Other</b> Please provide details in "Description" section below.	<input checked="" type="checkbox"/>

<b>Incident Profile</b>			
<b>Weather at time of incident</b>	 <input checked="" type="checkbox"/> Clear	 <input type="checkbox"/> Partly Cloudy/ Variable	 <input type="checkbox"/> Cloudy
	 <input type="checkbox"/> Showers/ Periods of Rain	 <input type="checkbox"/> Rain	 <input type="checkbox"/> Heavy Rain (>25mm in 24hr)
	 <input type="checkbox"/> <b>Storm</b> (Heavy rain and high winds)		 <input type="checkbox"/> Snow
<b>Specific Location:</b> On the penstock, near Astr-03			
<b>Description and Cause of Incident:</b>			
<p><u>Description:</u> Around 9:20 PM on the night of May 6<sup>th</sup>, one of our workers noted that water was overflowing from the Stormtec Water Treatment System (SWTS) near 42.5 km. The generator for the WTS had stopped. He immediately called for a mechanic and an electrician. The generator was started again and the situation was resolved within the hour.</p> <p><u>Cause:</u> The root cause of the incident was that the generator stopped working. However, we do not know why the generator stopped working. A service call has been made to the manufacturer.</p>			
<b>Incident Witness:</b> A. Orejas.			
<b>Were there any Potential Environmental impacts as a result of the incident?</b> (e.g., surface contamination, storm sewers, or fish/wildlife mortalities)			<b>Yes</b> <input checked="" type="checkbox"/>
			<b>None Observed</b> <input type="checkbox"/>
<b>If Yes, please describe:</b> An unknown volume of sediment, turbid water and potentially high pH water was inadvertently discharged to the ASTR-03 watercourse. ASTR-03 is non-fish bearing/non-coastal tailed frog (CTF) bearing but has a downstream connection to fish habitat.			
<b>Has Wildlife Salvage Protocol been followed?</b>			<b>Yes</b> <input type="checkbox"/>
			<b>No</b> <input type="checkbox"/>
			<b>N/A</b> <input checked="" type="checkbox"/>
<b>If No, please explain:</b>			
<b>Water Quality Samples Collected?</b>			<b>Yes</b> <input type="checkbox"/>
			<b>No</b> <input checked="" type="checkbox"/>
			<b>N/A</b> <input type="checkbox"/>
<b>If yes, attach results of water quality analysis to report in table format. Include Laboratory analysis if completed.</b>			
<b>If No please explain:</b>			
<b>Have applicable photos and/or drawings been attached to the incident report?</b>			<b>Yes</b> <input checked="" type="checkbox"/>
			<b>No</b> <input type="checkbox"/>
			<b>N/A</b> <input type="checkbox"/>
<b>Incident Response Measures</b>			
<ol style="list-style-type: none"> <li>1. CRT-EBC responded rapidly to assess and repair the generator. Once the water quality issue was identified, the situation was resolved within the hour</li> <li>2. This rapid response helped mitigate further damage to the road surface and prevent additional turbid/high pH water inputs to watercourse ASTR-03.</li> </ol>			



**Actions to Prevent Incident Recurrence**

1. The generator is now closely watched.
2. Actually, 2 solutions are been analysed: The first solution is to connect the WTS to BC Hydro grid with a generator back up in case of power outage. The second solution is to connect the WTS to a new generator with a second generator ready to start if the first one fails. Both solutions require transformers. The transformers should be delivered shortly. The set-up will be done as soon as we get the generator.

**Notification Record**

Agency Reported to	Contact Information	Agency Contacted		Date Reported	Reported By	Method of Reporting
		Yes	No			
<b>External</b>						
MFLNRO	James Davies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 10, 2016	Julia Mancinelli	Email
BCEAO	Justin Carlson	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 10, 2016	Julia Mancinelli	Email
Lil'wat Nation	Harriet VanWart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 10, 2016	Julia Mancinelli	Email
PEP	1-800-663-3456	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
DFO	Herb Klassen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 10, 2016	Julia Mancinelli	Email
Environment Canada	604-666-6100	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Canadian Coast Guard	604-666-6011	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Local Fire Rescue	911	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<b>Internal</b>						
EC	Julia Mancinelli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 7 <sup>th</sup> 2016	J M. Pelletier	Phone call and Email
IEM	Tom Hicks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 7 <sup>th</sup> 2016	J. M. Pelletier	Phone call and Email

**Independent Environmental Monitor:**

Tom Hicks	Lead Monitor - SES	<i>Tom Hicks</i>	2016-05-10
Print Name	Position and Company	Signature	Date

**Contractor's Manager:**

Jonathan Drapeau	Project Manager – CRT-ebc		2016-05-10
Print Name	Position and Company	Signature	Date



1. Flooded area near the sand filters



2. Water treatment tank overflowing



3. Water flowing down Truckwash access road



4. The generator at fault

<b>Upper Lillooet Hydro Project - Wildlife Observation Form</b>					
<b>Date</b>	<b>Time</b>	<b>Observer (Company)</b>	<b>Species or Description</b>	<b>Location</b>	<b>Comments</b>
4/3/2016	12:00	Julien Gagnon (CRT)	Moose	40KM FSR	Travelling
4/4/2016	7:50	Ian McKeachie (CRT)	Moose	40.5KM FSR	unspecified
4/4/2016 - 9/42016		Various obs	Moose	37.5 km - 41.2 km	Numerous observation late afternoon/evening
4/6/2016	6:30	Mike Champion (Sartori)	Moose	KM12 Upper Lillooet FSR	Travelling
4/8/2016	10:30	Anne Sutherland	Moose Tracks	Truckwash 2	10U 0467991 / 5612884
4/12/2016	9:35	Ian McKeachie (CRT)	Moose	3+500 Penstock	travelling
4/13/2016	16:50	Gaetan Turgeon	Black Bear	43km	feeding
4/13/2016	17:00	Eric Coderre	Black Bear	43km	Brown black bear (cub from last year?)
4/14/2016	PM	Dean Murray	Wolf	10 km	unspecified
4/14/2016	PM	Dean Murray	Black Bear	8 km	travelling
4/14/2016	PM	Dean Murray	Deer	1 km	travelling
4/14/2016	15:30	Danita Abraham	Black Bear	Keyhole Falls	Left side of Keyhole Falls
4/14/2016	17:00	Danita Abraham	Black Bear	Keyhole Falls	Right side of Keyhole Falls
4/15/2016	15:45	Eric Martin Gagnon	Black Bear	43.5KM FSR	feeding
4/15//2016	14:30	Alain Girard	Black Bear	Penstock near 42.5	travelling
4/15/2016	13:00	Danita Abraham	Moose	43.7KM FSR	Feeding in burnt area
4/15/2016	15:00	Danita Abraham	Black Bear	44KM FSR	Cinnamon bear
4/16/2016	18:00	Danita Abraham	Black Bear	44KM FSR	Cinnamon bear
4/16/2016	7:30	Eric Paquet	Moose	Penstock near 42.5	Female and 2 young
4/19/2016	12:30	Luc Morin	Black Bear	Truckwash Creek, near laydown	Female and 4 young
4/19/2016	8:30	Corey Newsome	Deer	Near pad 4 at Camp	feeding
4/19/2016	8:30	Ian McKeachie	Cooper's Hawk	Laydown	travelling
4/20/2016	13:45	Jason Patey	Grizzly	UL DSP laydown	unspecified
4/21/2016	17:00	Lianne Leblond	Mule deer	Pebble creek bridge	unspecified
4/21/2016	20:45	Bill Lillico	Black Bear	17KM Lillooet River FSR	Juvenile
4/21/2016	21:10	Bill Lillico	Deer	37KM Lillooet River FSR	on road
4/22/2016	13:00	Justin	Mountain Goat	Above pad 4	1 adult female and 2 young
4/22/2016	17:30	Bill Lillico	Deer	0.5KM Camp Rd	Juvenile

<b>Upper Lillooet Hydro Project - Wildlife Observation Form</b>					
<b>Date</b>	<b>Time</b>	<b>Observer (Company)</b>	<b>Species or Description</b>	<b>Location</b>	<b>Comments</b>
4/22/2016	13:00	Cindy McPherson	Bald Eagle	KM 41	Flying
4/24/2016	10:30	Lianne Leblond	Mule deer	UL DSP access road	walking up road
4/25/2016	8:00	Anne Sutherland	moose	11 km side of road	standing, then went into bush
4/25/2016	14:00	Public	moose	44.5km	by the bridge
4/25/2016	8:00	Donald Danis	Moose	KM 38.5	On road
4/25/2016	9:15	Donald Danis	Deer	KM 48	Near Road
4/25/2016	11:15	Lianne Leblond	Deer	KM 38.8	On road
4/25/2016	16:45	Matt Fallaise	Coyote	0.2KM Camp Rd	Ran across road
4/25/2016	18:30	Stephanie Ellis	Black Bear	KM6 Lillooet River FSR	on spur road
4/25/2016	18:34	Stephanie Ellis	Black Bear	KM2 Lillooet River FSR	In field next to FSR
4/26/2016	13:10	Ian McKeachie	Deer	Truckwash Creek	travelling
4/27/2016	11:00	Anne Sutherland	Moose	Truckwash Creek	Next to the goat monitoring station
4/27/2016	1:10	Danita Abraham	Black Bear	KM43.6 Upper Lillooet FSR	Adult, off to side eating vegetation
4/27/2016	14:03	Ian McKeachie	Moose	Penstock near Truckwash	Standing looking at me
4/27/2016	18:00	Stephanie Ellis	Black Bear	KM2 Lillooet River FSR	In field next to FSR
4/28/2016	9:30	Stephanie Ellis	Black Bear	KM3 Lillooet River FSR	Eating next to school