Upper Lillooet Hydro Project

Weekly Environmental Monitoring Report #24

Reporting Period: June 1st – June 7th, 2014

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	
Name	**Organization**
Trevor Andrews	Fisheries and Oceans Canada
James Davies	MFLNRO – Water Allocation
Andrea Cowgill	MFLNRO – Land and Resources
Danielle Cunningham	MFLNRO – Land and Resources
Frank DeGagne	MFLNRO – Land and Resources
Nathan Braun	BC Environmental Assessment Office
George Steeves	True North Energy – Independent Engineer
Jennifer McCash	True North Energy – Independent Engineer
Thomas Hicks	Sartori Environmental Services
Krys Muniak	Innergex Renewable Energy Inc.
Peter Ramsden	Innergex Renewable Energy Inc.
Oliver Robson	Innergex Renewable Energy Inc.
Greg Davis	Innergex Renewable Energy Inc.
Julia Mancinelli	Innergex Renewable Energy Inc.
Jackie Boruch	Innergex Renewable Energy Inc.
Liz Scroggins	Innergex Renewable Energy Inc.
Bas Brusche	Innergex Renewable Energy Inc.
Matt Kennedy	Innergex Renewable Energy Inc.
Renaud DeBatz	Innergex Renewable Energy Inc.
Claude Denault	CRT-ebc Construction Inc.
Jonathan Drapeau	CRT-ebc Construction Inc.
Éric Ayotte	CRT-ebc Construction Inc.
Jordan Gagne	CRT-ebc Construction Inc.
Ian McKeachie	CRT-ebc Construction Inc.
D'Arcy Soutar	Westpark Electric Ltd.
Pontus Lindgren	Westpark Electric Ltd.
Harriet VanWart	Lil'wat Nation

Prepared By
 **J. Alex Sartori, R. P. Bio.** Independent Environmental Monitor **&**  **J. Stephen Sims, R. P. Bio.** Delegated Environmental Monitor
Date Prepared: June 20, 2014 **Date Submitted:** June 23, 2014

sartori environmental services
106-185 forester street, north vancouver, bc v7h 2m9 tel 987.5588 fax 987.7740 email info@sartorienv.com

Owner Construction Permits and Approvals

Environmental Assessment Certificate No.E13-01 (Amendment 1, 2, 3)
Fisheries Act Subsection 35(2)(b) Authorization No. 09-HPAC-PA2-00303
Letter of Advice for the Transmission Line No.09-HPAC0-PA2-00303
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 Amendments 1, 2, 3) No. L49717
Occupant Licence to Cut (BDRHEF – km 38 laydown) No. L49698
Occupant Licence to Cut (BDRHEF Amendments 1, 2) No. L49816
Occupant Licence to Cut (TX Line Amendment 1) No. L49697
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
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
Works Permit for Construction within FSR Right-of-Way No. 6123-14-01

Contractor Construction Permits and Approvals

Magazine Licence File No. UL76018
Section 8 Approval – Short Term Use of Water File (Lillooet River and Tributaries) No.A2006123
Waste Discharge under the Code of Practice for the Concrete and Concrete Products Industry under the Environmental Management Act (Authorization No. 107204) Tracking No. 326969

ACRONYMS:

AMBNS	Active Migratory Bird Nesting Survey
ASMP	Archaeological Sites Management Plan
BCEAO	British Columbia Environmental Assessment Office
BCWQG	British Columbia Water Quality Guidelines
BDRHEF	Boulder Creek Hydroelectric Facility
BG	Background
BKL	BKL Consultants Ltd.
CRT – ebc	CRT – ebc Construction Inc.
DFO	Fisheries and Oceans Canada
DS	Downstream
Ecofish	Ecofish Research Ltd.
Ecologic	Ecologic Consulting
EIR	Environmental Incident Report
ESC	Erosion and Sediment Control
FAM	Field Advice Memorandum
FSR	Forest Service Road
GWR	Mountain Goat Winter Range
Hedberg	Hedberg and Associates Ltd.
IE	Independent Engineer (True North Energy)
IEM	Independent Environmental Monitor
Innergex	Innergex Renewable Energy Inc.
ITM	Environmental Issue Tracking Matrix
JEM	JEM Energy Ltd. (Delegate Independent Engineer)
LTC	Leave to Construct
MFLNRO	Ministry of Forests, Lands and Natural Resource Operations
MOE	Ministry of Environment
NCD	Non Classified Drainage
RVMA	Riparian Vegetation Management Area
SES	Sartori Environmental Services
TX Line	Transmission Line
ULRHEF	Upper Lillooet River Hydroelectric Facility
UWR	Ungulate Winter Range
VC	Valued Component
WQ	Water Quality
WEL	Westpark Electric Ltd.
WEMR	Weekly Environmental Monitoring Report

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	Weather Conditions	Monitoring Locations & Key On-site Environmental Information
Sunday June 1	DA, ML	Overcast	***BDRHEF Portal*** • Portal face rock scaling, rock bolt drilling, preparation for shotcrete application ***ULRHEF Intake*** • Hand falling at right bank diversion excavation work area • Removing trees at the right bank spoil area • Stripping and grubbing of the left bank spoil area and new road alignment ***ULRHEF Powerhouse*** • Bench excavation and material hauling to the access road alignment ***Truckwash Creek Bypass – FSR realignment*** • Footing excavation and road works continued at the east heading • Backfilling of the bridge footings at the east heading • Bridge footing concrete form work at the west heading
Monday June 2	AA,DA,ML, MS,VD	Periods of rain	***BDRHEF Portal*** • Portal face rock scaling, rock bolt drilling, preparation for shotcrete application ***ULRHEF Intake*** • Hand falling at left bank intake footprint and road alignment • Removal of vegetation at the right bank spoil area and diversion channel alignment • Stripping and grubbing of the left bank spoil area and new road alignment ***ULRHEF Powerhouse and Powerhouse Access Road*** • Bench excavation and material hauling for fill at the east heading of the Truckwash Creek Bypass road ***Truckwash Creek Bypass – FSR realignment*** • Road fill work at the east heading, slope finalization • Bridge stringer panels delivered and connected at east heading • Concrete pour for bridge footing at the west heading ***TX-Line*** • Pebble D.1 branch access road construction (Segment 3) • Segment 4 clearing (20-21km of the Lillooet River FSR) • Pole installation in Segments 1 & 2

Date	IEM Team Personnel	Weather Conditions	Monitoring Locations & Key On-site Environmental Information
Tuesday June 3	AA,ML,MS, TJ	Sun and Cloud	***BDRHEF Portal*** • Portal face rock scaling, rock bolt drilling, preparation for shotcrete application ***ULRHEF Intake*** • Hand falling at left bank intake footprint and road alignment • Removal of vegetation at the right bank spoil area and diversion channel alignment ***ULRHEF Powerhouse and Powerhouse Access Road*** • Bench excavation and material hauling for fill at the east heading of the Truckwash Creek Bypass road. ***Truckwash Creek Bypass – FSR realignment*** • Road fill work at the east heading, slope finalization • Bridge stringer panels delivered and connected at east heading • Concrete pour for bridge footing at the west heading ***TX-Line*** • Segment 6 - clearing heli-pads (Lillooet South FSR) • Pole installation in Segments 2
Wednesday June 4	AA,ML,MS, TJ	Sun and Cloud	***BDRHEF Portal*** • Portal face shotcrete installation ***ULRHEF Intake*** • Removing fallen trees at the north side spoil area • Hand falling completed at the south side spoil area ***ULRHEF Powerhouse and Powerhouse Access Road*** • Bench excavation and material hauling for fill at the east heading of the Truckwash Creek Bypass road. ***Explosive Magazine Area*** • Concrete pad pour for loading deck ***Truckwash Creek Bypass – FSR realignment*** • Road grade excavation west heading, from bridge abutment • Bridge stringer panels delivered and connected at east heading ***TX-Line*** • Segment 6 - clearing heli-pads (Lillooet South FSR) • Pole installation in Segments 2 • Road building in Segment 3 & 4 (near Silva Creek)
Thursday June 5	AA, MS, TJ, VD,	Sun and Cloud	***Construction Camp*** • Concrete pour for communications tower base ***BDRHEF Portal*** • Portal face shotcrete installation ***ULRHEF Intake*** • Removal of vegetation from the north side intake footprint location • Stripping and grubbing of the south side spoil area ***ULRHEF Powerhouse and Powerhouse Access Road*** • Decommissioning of old powerhouse access road ***Truckwash Creek Bypass – FSR realignment*** • Road grade excavation west heading and preparing abutment • Bridge stringer panels delivered and connected at east heading, preparing for bridge launch ***TX-Line*** • Pebble D.1 branch access road culvert installation (Segment 3) • Segment 5 & 6 clearing; Segment 5 road works • Pole installation in Segments 1 & 2

Date	IEM Team Personnel	Weather Conditions	Monitoring Locations & Key On-site Environmental Information
Friday June 6	AA,MS,TH, VD	Sun and Cloud	***BDRHEF Portal*** • Portal face shotcrete installation ***ULRHEF Intake*** • Began right bank diversion channel excavation; material hauled to the north and south spoil areas. • Removal of vegetation from the north side intake footprint area ***ULRHEF Powerhouse and Powerhouse Access Road*** • Decommissioning of old powerhouse access road ***Truckwash Creek Bypass – FSR realignment*** • Bridge launch ***TX-Line*** • Pebble D.1 branch access road culvert installation (Segment 3) • Segment 5 & 6 clearing; Segment 5 road works • Pole installation in Segments 1 & 2
Saturday June 7	AA, MS	Sun and Cloud	***38km Laydown*** • Pour concrete floor at future mechanic shop location ***BDRHEF Portal*** • Portal face shotcrete installation ***ULRHEF Intake*** • Right bank diversion channel excavation; material hauled to the north and south spoil areas. • Removal of vegetation from the north side intake footprint area • Installation began on the spring feed tributary diversion channel ***ULRHEF Powerhouse and Powerhouse Access Road*** • Decommissioning of old powerhouse access road ***Upper Lillooet River Trail*** • Falling trees, stripping and grubbing, and grading of parking lot ***Truckwash Creek Bypass – FSR realignment*** • Pre-cast bridge end caps installation and backfilling approaches ***TX-Line*** • Segment 4 clearing • Segment 1 pole installation

IEM Team Personnel: *AA – Anthony Andrews; DA – Danita Abraham; MS – Mandala Smulders; TH – Tom Hicks; TJ – Tammie Jenkins; SS – Stephen Sims; VD – Vanessa Dan*

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.
June 1	*Email, letter*	Innergex, SES, CRT - ebc	• Owner issued a Conditional Rescission of the Stop Work Order for heavy hauling on the Lillooet River FSR issued during the previous reporting period. This issue will remain open until all conditions of the rescission letter are completed by CRT-ebc and the IEM receives confirmation from Innergex.	*ULR#10*
June 3	*Submission of Final EIR003*	SES, CRT- ebc, Innergex	• Details of the incident are appended to the weekly report (*EIR003*) and action items have been updated in the ITM.	*ULR#5*

Date	Communication Type	Participants	Issues Discussed	ITM ID No.
	Submission of Final EIR004	SES, CRT- ebc, Innergex	• Details of the incident are appended to the weekly report (*EIR004*) and action items have been updated in the ITM.	*ULR#8*
	Submission of Final EIR005	SES, CRT- ebc, Innergex	• Details of the incident are appended to the weekly report (*EIR005*) and action items have been updated in the ITM.	*ULR#7*
	Site tail-board meeting	SES, Mumleqs, WEL	• Reviewed Clearing Plan for Segment 6 and discussed remote monitoring requirements due to access limitations. A pre-work meeting for Segment 6 was held in November 2013.	N/A
June 5	*Email; EIR007; Submission of Final (on June 7)*	SES, Innergex, CRT-ebc	• The IEM was informed that clearing along an existing road proceeded 195m past the end point of AMBNS on May 24-25, 2014. Details of the incident are appended to the weekly report (*EIR007*) and the findings have been updated in the ITM.	*ULR#13*
June 6	*Site meeting*	*SES, CRT-ebc, Innergex*	• Planning meeting for the construction of a small diversion channel to redirect a spring feed tributary of the Lillooet River located on the right bank that flows through the future diversion channel excavation.	N/A
	Pre-work meeting	*SES, CRT-ebc, Innergex, Formula, MFLNRO*	• Reviewed the procedure for the Truckwash Creek bridge girder installation prior to launching the bridge from the east heading.	N/A
	Submission of Final EIR006	CRT- ebc, SES, Innergex	• Details of the incident are appended to the weekly report (*EIR006*) and action items have been updated in the ITM.	*ULR#9*
	Pre-work meeting	*SES, CRT-ebc, Summit, Innergex*	• Reviewed the work plan for the installation of the construction camp facilities including; the sewer line, septic field treatment system, and the water line.	N/A
	Email	*Innergex, MFLNRO*	• Grizzly Bear Hair Snag Stations & Human-Bear Interactions	*ULR#14*
June 7	*Pre-work meeting*	*SES, CRT-ebc, Innergex, Ecofish*	• Reviewed the work plan for the construction of the Upper Lillooet River Trail parking lot located at 42.5km of the Lillooet River FSR. Confirmed flagging & AMBNS.	N/A

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
ULRHEF, BDRHEF, and Tx Line	*All ULRHEF BDRHEF, and Tx Line areas*	*Nesting Birds*	*Vegetation clearing must take place outside of the breeding bird season (May 1 – July 31) to prevent disturbance of bird nests. If not feasible, nest surveys must be conducted by qualified professionals following the Active Migratory Bird Nest Surveys prior to clearing and protective buffers surrounding discovered nests will be maintained until young are fledged and approval has been obtained from the IEM or designate.*
Tx-Line	*Segment 1 - 6*	*Suitable Raptor Nesting Habitat*	*IEM presence is required when clearing within suitable Northern Goshawk (NOGO) and SPOW (Spotted Owl) nesting habitat during the breeding period. A nest survey is required by WEL QPs prior to clearing within 600m of suitable Peregrine Falcon (PEFA) nesting habitat.*
		Within 150m of wetlands or 100m of Coastal Tailed-Frog Streams	*IEM presence is required when clearing within 150m of wetlands or 100m of Coastal Tailed-Frog Streams, to ensure clearing area is minimized.*
		Old Growth Management Areas (OGMAs)	*IEM monitoring is required when clearing within legally designated OGMAs, to ensure clearing area is minimized.*
		Ungulate Winter Range (UWR)	*IEM monitoring is required when clearing within identified deer and moose UWR, to ensure clearing area is minimized.*
		Suitable Class 1 & 2 Grizzly Bear forage habitat	*IEM monitoring is required when clearing within identified Class 1 & 2 Grizzly Bear forage habitat, to ensure clearing area is minimized.*
ULRHEF powerhouse	*Within 50m of identified archeologically significant area*	*Archaeologically significant site EdRu-3*	*The ASMP recommends that an archaeological technician from the Lil'wat Nation be present to monitor initial ground-disturbance activities within 50 m of the EdRu-3 site boundaries.*
	Within 30m of the Upper Lillooet River	*Riparian area*	*IEM presence is required when working within 30m of the Upper Lillooet River as outlined in the ULRHEF Powerhouse Stripping and Grubbing work plan.*
ULRHEF powerhouse access road	*Full length of new access road construction*	*Potential Archaeologically significant chance finds*	The potential archaeologically sites were visited by the Lil'wat Nation and their QP on May 20th who performed an assessment. The sites were not deemed archaeologically significant and works were permitted to resume with the presence of an archaeological monitor. An archaeological monitor from the Lil'wat Nation was present full time for initial ground disturbances along the access road.

Component	Location	Wildlife/Archeology Concern	Construction/Timing Restrictions & Mitigations
Lillooet River FSR; ULRHEF intake access; FSR realignment at Truckwash Creek	*Access roads above the lower limit of the 200m buffer Truckwash Creek Migration Corridor to the ULRHEF intake; including FSR realignment at Truckwash Creek*	*Mountain Goat UWR*	*Construction noise must be minimized within 500 m of* legally established *UWR during winter (November 1 – April 30) to the satisfaction of the IEM or designate.* *If a goat is observed within 500 m 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.*

4.0 Hydroelectric Facilities

4.1 Ancillary Components – Monitoring Results

Construction Camp

- Camp trailers and equipment continued being hauled to site this week. Installation of the camp sewer and water facilities began following a pre-work meeting. No environmental concerns were noted.
- The concrete foundation for a new communications tower was poured this week. The IEM was onsite to inspect the forms prior to the pour. No environmental concerns were noted.

38km Laydown

- A material crushing and screening plant operation continued this week. A watering hose was used effectively for dust control at the screening plant.
- During the previous reporting period (May 27, 2014) a truck hauling a load of sand to the 38km Laydown broke through the log-box structure spanning a dry stream bed at Silva Creek (*EIR005*). Further details of the incident, potential environmental impacts, action items and targeted completion dates are appended in the finalized environmental incident report *EIR005* and the action items have been updated in the ITM (*ULR#7 – Open*).
- A concrete pad was poured for the future mechanic shop floor on June 7th. Washout was completed within the designated geotextile lined infiltration pit. No environmental concerns were noted.

Explosive Magazine Area

- Final grading is complete. A concrete slab was poured at the loading deck on June 4th. No environmental concerns were noted.

4.2 Boulder Creek Hydroelectric Facility – Monitoring Results

BDRHEF Downstream Portal and Powerhouse Access Road

- The exposed upper section of the downstream tunnel portal rock face was scaled of loose rock, rock bolts were drilled and installed, and the face was covered with shotcrete this week.
- Water from the Boulder Creek water withdrawal site authorized in the Short Term Water Use Approval (*No.A2006123)* was used effectively for dust suppression above 37.5km of the Lillooet River FSR and on active construction site access roads.

BDRHEF Intake Access Road

- On June 5th the IEM was notified that vegetation clearing occurring between May 24 and 25 had proceeded 195m beyond the area authorized by the AMBNS clearing approval form. Further details of the incident, potential environmental impacts, action items and targeted completion dates are appended in the finalized environmental incident report (*EIR007)* and action items been updated in the ITM. All action items associated with *EIR007* are consistent with those associated with *EIR001* which were satisfied in the previous reporting period (*ULR#13 – Closed*).

Environmental Summary:

- Instream acoustic pressure monitoring will occur during the next blast at the tunnel portal location to verify that the revised blasting mitigations and procedures will successfully maintain instream acoustic pressure below the 30kPa threshold.
- No dust suppression occurred between 0-37.5km of the Lillooet River FSR this week. The IEM recommends that the application of water by water truck or an alternative approved dust control product be applied in this area to ensure adherence to the Air Quality and Dust Control Plan, the Road Use Permit, and to protect the health and safety of those traveling to and from site (*ULR#12*).

Photos:

Photo 1. Shotcrete and rock bolt installation at the

Photo 2. Concrete pour of the future mechanic shop

BDRHEF downstream portal location (June 5, 2014). **floor. (June 7, 2014).**

Water Quality Results

Date	Time	Sample Location Description	pH	Turbidity (NTU)	Temperature (°C)
No WQ measurements were recorded at BDRHEF facility locations during this reporting period. Construction activities had no visual effect on WQ.					

4.3 Upper Lillooet River Hydroelectric Facility – Monitoring Results

ULRHEF Powerhouse and Access Road

- Excavation at the ULRHEF powerhouse continued outside of 30m from the Lillooet River this week. The excavated material was used as fill for the Truckwash Creek Bypass road, and was hauled to the material screening plant installed at the 38km laydown area following the Conditional Rescission of the Owner issued Stop Work Order.

ULRHEF Intake and Access Roads

- Tree clearing on the north and south side of the Lillooet River was completed following AMBNS this week. Once clearing was complete, the trees were removed and the spoil areas and diversion channel excavation area were stripped and grubbed prior to beginning the right bank diversion channel excavation.
- The construction of the tributary channel diversion ditch began that will be used to redirect water around the right bank diversion channel excavation work area. The ditch was lined with geotextile prior to rock riprap placement. A small settling pond was constructed at the inlet of culvert that will be used to pass water under the future haul road at this location once flows are diverted. The diversion ditch will be commissioned during the next reporting period, following a fish salvage of the downstream reach.

Truckwash Creek Bypass Road - FSR Re-alignment

- The bridge abutment footings were installed at the east and west headings. During this reporting period. The form work was inspected and the concrete pour of the west bridge footing was monitored by the IEM. Once the footings were backfilled and the bridge girder sections were all connected, the clear span bridge was launched on June 6th. The IEM and MFLNRO were onsite to monitor the bridge launch. No environmental concerns were noted for any of the activities during this reporting period.
- Road fill was placed at the second switch back on the eastern portion of the road alignment.

Environmental Summary:

- Final environmental incident reports for *EIR003* (rock truck rollover at 39.9km on the Lillooet River FSR) and *EIR004* (failed crossing structure at 39.7km on the Lillooet River FSR) have been submitted by CRT-ebc and are appended to this report (*ULR#5 and ULR#8 – Open*)
- Noise monitoring stations remained operational during this reporting period; however the results have yet to be analyzed. No Mountain Goat disturbance was noted as a result of construction noise within the Migration Corridor this week.
- A final environmental incident report for *EIR006* (bank material within Truckwash Creek) has been submitted by CRT-ebc and is appended to this report. All recommended action items have been completed to the satisfaction of the IEM (*ULR#9 – Closed*)

Photos:

Photo 4. Conditions at the right bank diversion channel excavation on June 7, 2014.

Photo 5. Launch of the Truckwash Creek bridge girders form the east abutment. (June 6, 2014).

Water Quality Results

Date	Time	Sample Location Description	pH	Turbidity (NTU)	Temperature (°C)
No WQ measurements were recorded during this reporting period. Clearing, Stripping, Grubbing, and Grading activities had no visual effect on WQ.					

4.4 Hydroelectric Facilities – Recommendations

On May 28th, following the failure of three log-box structures along the Lillooet River FSR, Innergex issued a Stop Work Order for Heavy Hauling to CRT-ebc on the Lillooet River FSR (*ULR#10*). The Stop Work Order was conditionally rescinded on June 1st, after confirmation was received from CRT-ebc that maximum load weights being hauled are appropriate for the current crossing structure load ratings. This issue will remain open until all conditions of the rescission letter (included in the ITM) are completed by CRT-ebc and the IEM receives confirmation from Innergex (*ULR#10 – Open).*

On June 2nd, CRT-ebc satisfied the requested action items in *FAM#001* by submitting an email outlining revised environmental incident response communication protocols and confirmed that they had been reviewed with onsite personnel. (*ULR#11 – Closed*).

Drainage patterns should be inspected following the next rain event at the BDRHEF powerhouse access road to assess the new site flow paths to ensure surface water management is maintained.

4.5 Hydroelectric Facilities – Upcoming Works

Excavation of the intake diversion channel is scheduled to continue next week at the ULRHEF intake. The diversion channel being constructed for the small spring feed stream on the right bank of the ULRHEF intake will be completed next week and water will be diverted through the new channel. Excavation of the BDRHEF portal will continue with revised blasting procedures once the stabilization of the tunnel portal rock face with shotcrete is complete. Bench excavation at the ULRHEF powerhouse will continue next week.

5.0 Transmission Line

5.1 Monitoring Results

Pebble Main and Branch Road D.1 Upgrades

- Road upgrade work continued along Pebble Main Branch Road D.1 and along the Athel Main spur road Cross drains and ditch upgrades were performed within NCDs to eliminate surface flows over the access roads. On June 5th, the IEM was onsite to monitor the installation of a culvert along a branch road of the Pebble Main. A bypass pump was installed to divert flows around the work area prior to beginning the culvert installation. No water quality concerns were noted and results are summarized in the water quality table below.

Segment 1 & 2

- Pole installation and dressing continued in Segments 1 and 2 this week. Temporary access tracks to the pole locations were constructed. No environmental concerns were noted.

Segment 3-6

- Clearing occurred in Segment 3, 4 (outside the UWR constraint), and 5 following the completion of AMBNS.
- Access roads branching from the Lillooet River FSR were conducted in Segment 4 & 5 this week.
- Clearing of helicopter access pads began in Segment 6 during this reporting period. Due to the steep terrain and access limitation, the IEM conducted raptor monitoring from the north side of the Lillooet River from a good vantage point located at 17km of the Lillooet River FSR. The monitoring was conducted via spotting scope and no

raptor activity was observed in the vicinity of the clearing areas. Clearing within identified Grizzly Bear habitat in Segment 6 was minimized by the nature of the work as a minimal amount of trees necessary for safe landing of a helicopter landing were cleared.

Environmental Summary:

- The IEM was present during clearing activities within 150m of wetlands, 100m of Coastal Tailed Frog Streams, Class 1 & 2 suitable Grizzly Bear forage habitat, moose and deer UWR, legally designated Old Growth Management Areas, and within NOGO and SPOW suitable nesting habitat. No raptors were observed during the monitoring of clearing activities and all flagged boundaries were respected. No water quality concerns were noted.
- AMBNS were completed prior to all vegetation clearing along the tx-line alignment during this reporting period.
- A PEFA nesting survey was conducted by WEL QPs prior to clearing within 600m of suitable Peregrine Falcon nesting habitat.
- On June 5th, the IEM conducted a sweep of the area between poles 107 and 108 (corresponding to approximately 23km of the Lillooet River FSR) where 3 sightings of rubber boa (May 26, 30, 31) occurred during AMBNS. The intent was to relocate rubber boa upslope of the TX-line clearing; however none were observed during the sweep. The clearing was permitted to proceed following the sweep based on the ample rock cover available in the area and the falling prescription to hand fall and buck timber to the ground.

Photos:

Photo 6. Culvert installation work proceeding in the dry; Pebble D.1 Branch road (June 5, 2014).

Photo 7. Pole installation work in Segment 2 (June 4, 2014).

Water Quality Results

Date	Time	Sample Location Description	pH	Turbidity (NTU)	Temperature (°C)
June 5	12:45	Upstream – Before excavation	-	1.0	-
	12:48	Downstream – Before excavation	-	1.8	-
	13:15	Downstream – During culvert install	-	1.3	-

5.2 Transmission Line – Recommendations

No recommendations are provided for this reporting period.

5.3 Transmission Line – Upcoming Works

Transmission line access road upgrades will continue next week and pole installation and dressing is scheduled to continue in Segment 1 and 2 next week. Clearing is scheduled to continue in Segment 3 - 5 following the results of AMBNS. Upcoming transmission line works will be focused on road construction, pole installation, and completing the clearing within the Segments 1-5.

6.0 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) and will submitted to the IEM on a weekly basis. Wildlife Observation forms will be summarized on a monthly basis and appended to the first WEMR of the following month. 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

Four Grizzly Bear sightings were reported during this monitoring period (June 3 – two sightings, June 4, & June 6, 2014). All parties identified in the above table were notified within 24hr of the sighting log submission to the IEM. The sighting logs are appended to this report.

All parties identified in the above table were notified within 48hr of the Mountain Goat monitoring form submission. Mountain goat monitoring forms are appended to this report.

Please refer to the attached Wildlife Observation Form for a summary of observations recorded in May 2014.

7.0 Mountain Goat Monitoring Program

The following mitigation measures were implemented for work activity within the Migration Corridor during this monitoring period;

1. Mountain Goat monitoring when works are occurring within 500m of Mountain Goat habitats and migration routes.

2. Noise level monitoring to ensure that the 75db noise level threshold is not exceeded as outlined in the Mountain Goat Management Plan.

3. Works must be immediately suspended and the IEM notified if Mountain Goats are observed within 500m of the line of sight of work activities. Works will resume in consultation with the IEM.

As of May 19th, the IEM reinitiated a Mountain Goat Monitoring program as works resumed within the Mountain Goat Migration Corridor at Truckwash creek and near the ULRHEF intake. The IEM or designate was on site to monitor Mountain Goat activity within 500 m of construction activities at the Truckwash Creek Bypass road, and Keyhole bridge reinforcement works. Mountain Goats were monitored from three 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).

Monitoring effort will be split between all three sites between sunrise and sunset, unless safety concerns precluding from doing so. The order of site visits will rotate daily. Construction activities will cease if a goat(s) are observed moving towards the ULRHEF intake and/or if a goat(s) 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.

Please refer to the attached Mountain Goat Monitoring Daily Observation Forms for a summary of observations from this reporting period.

8.0 Environmental Issues Tracking Matrix (ITM)

8.1 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/Comp-letion Date	Date Completed
ULR#4	**Open**	47km – Lillooet River FSR	A log box structure failed while being crossed by an excavator (see appended ***EIR002***).	1. CRT-ebc to prepare an EIR detailing the cause, description and actions items related to the incident. 2. IEM to review and approved the EIR. 3. CRT-ebc employees will be reminded of spill response procedures and how to use the spill kits in a potential future event. 4. CRT-ebc to confirm that load ratings of equipment adhere to maximum crossing structure load ratings.	May 23, 2014	May 26, 2014.	-
				5. Complete FSR and temporary access road crossing assessment by a Qualified Professional. 6. Determine the requirements for crossing structure remediation or replacement and execute according to the appropriate work planning protocols.		*Completion of action item 5 and 6 to be determined*	
ULR#5	**Open**	39.9km – Lillooet River FSR	Rock truck rollover and spill (see appended ***EIR003***).	1. CRT-ebc to prepare an EIR detailing the cause, description and actions items related to the incident. 2. IEM to review and approved the EIR. 3. CRT-ebc employees will be reminded of spill response procedures and how to use the spill kits in a potential future event. 4. Road shoulder delineation (where applicable). 5. CRT-ebc to develop and implement communication protocols for environmental incident response.	*May 27, 2014*	*June 3, 2014*	-
				6. Road stability assessment to be completed on Lillooet River FSR and temporary roads.		*To be determined*	

Issue Tracking		Environmental Issue		Mitigation Measures			
ID No.	Status	Location	Issue Description	Action Taken/Recommended	Date of Identification	Targeted/Comp-letion Date	Date Completed
ULR#7	**Open**	34.9km – Lillooet River FSR	Silva Creek log structure failed while being crossed by a Megaton Truck (see appended ***EIR005***).	1. CRT-ebc to prepare an EIR detailing the cause, description and actions items related to the incident. 2. IEM to review and approved the EIR. 3. CRT-ebc employees will be reminded of spill response procedures and how to use the spill kits in a potential future event. 4. CRT-ebc to confirm that load ratings of equipment adhere to maximum crossing structure load ratings.	*May 27, 2014*	*June 3, 2014*	-
				5. Complete FSR and temporary access road crossing assessment by a Qualified Professional. 6. Complete repairs of the crossing structure as per MFLNRO recommendations (May 30, 2014) in accordance with appropriate work planning protocols and construction procedures.		*Completion of action items 5 and 6 to be determined*	
ULR#8	**Open**	39.7km – Lillooet River FSR	Stream 9 – log box structure failure (see appended ***EIR004***).	1. CRT-ebc to prepare an EIR detailing the cause, description and actions items related to the incident. 2. IEM to review and approved the EIR. 3. CRT-ebc employees will be reminded of spill response procedures and how to use the spill kits in a potential future event. 4. CRT-ebc to confirm that load ratings of equipment adhere to maximum crossing structure load ratings.	*May 28, 2014*	*June 3, 2014*	-
				5. Complete FSR and temporary access road crossing assessment by a Qualified Professional. 6. Determine the requirements for crossing structure remediation or replacement and execute according to the appropriate work planning protocols and construction procedures.		*Completion of action items 5 and 6 to be determined*	

Issue Tracking		Environmental Issue		Mitigation Measures			
ID No.	**Status**	**Location**	**Issue Description**	**Action Taken/Recommended**	**Date of Identification**	**Targeted/Comp-letion Date**	**Date Completed**
ULR#9	**Closed**	Truckwash Creek at new bridge crossing of Lillooet River FSR	Rock into Truckwash Creek (see appended ***EIR006***).	1. CRT-ebc to prepare an EIR detailing the cause, description and actions items related to the incident. 2. IEM to review and approved the EIR. 3. CRT-ebc employees will be reminded of spill response procedures and how to use the spill kits in a potential future event. 4. CRT-ebc to develop and implement communication protocols for environmental incident response. 5. CRT to reiterate and communicate the requirement for IEM notification and on-site presence for works within riparian areas to engineers, superintendents and foremen.	*May 28, 2014*	*June 6, 2014*	*June 6, 2014*
ULR#10	**Closed**	Lillooet River FSR	Innergex issued stop work order for heavy hauling on Lillooet River FSR	1. CRT-ebc to confirm load ratings of equipment adhere to maximum crossing structure load ratings.	*May 28, 2014*	*May 30, 2014*	-
				2. Conditional Rescission of the Stop Work Order for Heavy Hauling on the Lillooet River FSR was issued on June 1st, 2014 subject to the following: a. CRT-ebc obtaining approval from MFLNRO for the temporary steel plate modifications. b. Crossing assessments completed by a QP and recommendations submitted to MFLNRO for review and approval. c. Hauling above 38km of the Lillooet River FSR to be restricted to BCL-625 until modifications are approved by MFLNRO.		*To be determined*	
ULR#11	**Closed**	CRT-ebc Project site	SES issued *FAM#01* (see appended) Improvement of environmental incident response communication protocols	3. CRT-ebc to prepare environmental incident response protocols specific to communications 4. CRT-ebc to complete and document training of environmental incident communication protocols for on-site personnel by CRT-ebc environmental staff	*May 29, 2014*	*May 30, 2014*	*June 2, 2014*

Issue Tracking		Environmental Issue		Mitigation Measures			
ID No.	Status	Location	Issue Description	Action Taken/Recommended	Date of Identification	Targeted/Comp-letion Date	Date Completed
ULR#12	**Open**	Lillooet River FSR	Inadequate dust suppression between 0-37.5km of the Lillooet River FSR	1. The IEM recommends that the application of water by water truck or an alternative approved dust control product be applied in this area to ensure adherence to the Air Quality and Dust Control Plan, the Road–Use Permit, and to protect the health and safety of those traveling to and from site.	*May 31, 2014*	*June 14, 2014*	-
ULR#13	**Closed**	Boulder Intake Access Road	Clearing beyond AMBMS limits (see appended ***EIR007)***	1. CRT-ebc to prepare an EIR detailing the cause, description and actions items related to the incident. 2. IEM to review and approved the EIR. 3. Flagging standard confirmation and re-orientation of fallers and operators. 4. CRT-ebc presence during sub-contractor clearing operations when active nests are identified. 5. Field report communication protocols and sign-off.	*June 5, 2014*	*June 7, 2014*	*June 7, 2014*
ULR#14	**Open**	Near 43 KM – Lillooet River FSR	The province is maintaining and baiting a non-reward hair bait station located within the core construction zone to collect Grizzly Bear hair sample as part of the long-term monitoring.	1. Innergex contacted the province to request exact location of the bait station and to address concerns regarding potential human-bear conflict. 2. Innergex requesting to immediately stop baiting the station located near 43 km Lillooet River FSR.	*June 3, 2014*	*June 13, 2014*	-
							next ITM – ULR#15

8.2 Transmission Line

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 Completion Date	Date Completed
No outstanding environmental issues (next ITM – Tx#1)							

Environmental Incident Reporting Form

General Information

Project Name: Upper Lillooet Hydro Project	**Project Component**: Lillooet River FSR
Time/Date of Incident Start: May 27th, 2014 at 9:30AM	**Time/Date Incident Stopped**: May 27th, 2014 11:30AM
Date of Report: Draft Submitted: 2014-05-29 Final Submitted: 2014-06-03	**Project Incident Report Number**: 2014-06-03 CE-EIR-003 **Incident Description**: Rock truck rollover 39.9km Lillooet FSR
Report Prepared By: Ian McKeachie	
Contractor`s Environmental Manager: Jordan Gagné/Ian McKeachie	
Independent Environmental Monitor (Sartori Environmental Services): Stephen Sims/Tom Hicks	
Initial IEM Contact: Tom Hicks arrived on-site at 11:00AM.	
Licensee's Environmental Manager: Julia Mancinelli	

Contact Information for Company Involved in Incident

Company: CRT-ebc	**Address**: 11-7339 Old Mill Road, PO Box 585, Pemberton, BC, V0N 2L0
Phone #: 604-894-5002	**Email**:jgagne@crtconstruction.ca/imckeachie@crtconstruction.ca
Contact Person: Jordan Gagné/Ian McKeachie	**Position**: Environmental Manager

Incident Type *(check all that apply)*

Encroachment of an Environmentally Sensitive Area (*e.g.* Riparian/Wildlife Buffer) **Please provide details in "Description" section below.**	☐	**Adverse Impacts to Fish/Wildlife** **(*e.g.* Mortality/Injury)** **Please provide details in "Description" section below.**	☐
Water Quality/Quantity **Please provide details in "Description" section below.**	☐	**Hazardous Material Spills (to ground or water)** **Please provide details in description section in regards to the:** • perceived extent of damage, • type, quantity and area of the spill, • containment procedures, and • environmental features in close proximity to the spill.	☑
Disturbance of known or unknown archeological /heritage site **Please provide details in "Description" section below.**	☐	**Air Quality** **Please provide details in "Description" section below.**	☐

Spill reported to external agencies **If yes, describe the receiving environment and substance/quantity spilled.**	☐	**Other** **Please provide details in "Description" section below.**	☐

Incident Profile

Weather at time of incident	Clear	Partly Cloudy/ Variable	Cloudy	Showers/ Periods of Rain	Rain	Heavy Rain *(>25mm in 24hr)*	Storm *(Heavy rain and high winds)*	Snow
	☑	☐	☐	☐	☐	☐	☐	☐

Specific Location: At km39.9 on the Lillooet River FSR

Description and Cause of Incident:

Description:

- On the morning of May 27th, CRT-ebc Rock Truck was operator (Mitch Thorpe) was driving down the Lillooet FSR from 40.5km when he encountered a CRT-ebc pickup on the road at 39.9km. The pickup was stopped and the rock truck driver followed other rock truck tire tracks on the outside of the road to go around the pickup.
- The road edge was very soft and the road gave way under the rock truck causing it to slide down the bank 4-5 feet and then roll over 1 and ¾ rotations.
- The rock truck operator (Mitch Thorpe) informed his foreman (Nick Paquet) and superintendent (Roger Pelletier) who was in charge of managing the incident with Field Engineer (David Gagnon).
- The site superintendent (Roger Pelletier) made the decision to send an excavator from CRT-ebc in through an old access traverse below the FSR and bank to right the rock truck and remove it from the area in order to minimize the risk of fluid leaking from it. Minimal damage to vegetation occurred, and no surface water crossings.
- The IEM (Tom Hicks) arrived at the site of the incident shortly after it occurred while these emergency response activities were underway. He was able to supervise the latter half of the response effort and discuss procedures with the site superintendent (Roger Pelletier).
- The excavator was also used to remove soil containing spilled oil and hydraulic fluid from the damaged rock truck. Only a very small amount was spilled and it was cleaned up and removed immediately. The spill did not exceed the 100L threshold for external reporting.
- Spill kits were available on site in case of spills, as every piece of CRT-ebc's equipment has one inside their cabs.

Cause:

- The side of the Lillooet FSR above the bank was unstable and soft and could not support the weight of the loaded rock truck.

Incident Witness: Mitch Thorpe (operator – CRT-ebc), Roger Pelletier (Superintendent – CRT-ebc), David Gagnon (Field Engineer – CRT-ebc), Tom Hicks (IEM – Sartori Environmental Services)

Were there any Potential Environmental impacts as a result of the incident? (e.g., surface contamination, storm sewers, or fish/wildlife mortalities)	**Yes**	**None Observed**
	☐	☑

If Yes, please describe:

Has Wildlife Salvage Protocol been followed?	**Yes** ☐	**No** ☐	**N/A** ☑
If No, please explain:			
Water Quality Samples Collected?	**Yes** ☐	**No** ☐	**N/A** ☑
If yes, attach results of water quality analysis to report in table format. Include Laboratory analysis if completed. If No please explain:			
Have applicable photos and/or drawings been attached to the incident report?	**Yes** ☑	**No** ☐	**N/A** ☐

Incident Response Measures

- Immediate response measures were to ensure the safety of CRT-ebc's personnel.
- Following initial response, the IEM was consulted to ensure mitigation measures were taken to prevent the spill from being larger, and to minimize the impact on the vegetation during machine removal.
- The footprint was limited as much as possible, and there was only small damage to brush and vegetation (i.e. non-merchantable timber).

Actions to Prevent Incident Recurrence

Before the incident, mitigation measures were:

- There are spill kits in every CRT-ebc vehicle and machinery.
- Spill kits are installed in close proximity from construction activities as well, for quick spill response.
- The machinery is inspected by the operator before starting his shift, to assure it is in proper working order.
- All CRT-ebc employees attend the CRT-ebc Health, Safety & Environmental orientation, which covers the steps to follow in response to a spill.
- CRT-ebc prepared a Spill Prevention and Emergency Response Plan, and a Hazardous Material Management Plan for the Upper Lillooet Hydro Project.

After the incident, additional mitigation measures are or will be:

- Road stability on the Lillooet River FSR, as well as on temporary access roads will be assessed to make sure they can sustain the weight of CRT-ebc machinery working on the ULHP Project.
- Boulders were placed along the edge of the road to ensure no vehicles drive on the soft outside edge.
- CRT-ebc drivers will be reminded that when passing other vehicles, loaded vehicles and heavy machinery should pass vehicles on the inside.
- CRT-ebc employees will be reminded of spill response procedures and how to use the spill kits in a potential future event.
- Development and implementation of communication protocols for environmental incident response.

Notification Record

Agency Reported to	Contact Information	Agency Contacted		Date and Time Reported	Reported By	Method of Reporting
		Yes	No			
External Notifications						
MFLNRO	Malcolm Schulz	☐	☑			
		☐	☐			
PEP	1-800-663-3456	☐	☑			
MOE Staff		☐	☐			
DFO		☐	☐			
DFO		☐	☐			
Environment Canada	604-666-6100	☐	☑			
Canadian Coast Guard	604-666-6011	☐	☑			
Local Fire Rescue	911	☐	☑			
Reported to	**Contact Information**	**Contacted**		**Date and Time Reported**	**Reported By**	**Method of Reporting**
		Yes	No			
Internal Notifications						
IEM Sartori Environmental	Tom Hicks	☑	☐	11:00	n/a	Arrived on site
IEM Sartori Environmental	Stephen Sims 604.987-5588	☑	☐	2014-05-27 @ 11:45	Ian McKeachie	Phone call
Owner Innergex	Julia Mancinelli jmancinelli@innergex.com	☑	☐	2014-05-27 @14:54	Ian McKeachie	email
Owner Innergex	Stephen Sims steve@sartorienv.com	☑	☐	2014-05-27 @14:54	Ian McKeachie	email
		☐	☐			

Contractor's Environmental Manager:

Print Name	Position and Company	Signature	Date
Ian McKeachie	Environmental Coordinator, CRT-ebc		June 3rd, 2014

Independent Environmental Monitor:

Print Name	Position and Company	Signature	Date
J. Stephen Sims	Independent Environmental Monitor, Sartori Environmental Services		June 3rd, 2014

Photo documentation:

Photo 1: Site where rock truck slid and rolled down slope at km39.9.

Photo 2: Boulders placed on soft shoulder to stop vehicles from driving there.

Photo 3: Access track where CRT-ebc excavator walked in to the site to remove rock truck.

Environmental Incident Reporting Form

General Information

Project Name: Upper Lillooet Hydro Project	**Project Component**: Lillooet River FSR
Time/Date of Incident Start: May 28th, 2014 at 11:10AM	**Time/Date Incident Stopped**: May 28th, 2014 at 12:30PM
Date of Report: Draft Submitted: 2014-05-30 Final Submitted: 2014-06-03	**Project Incident Report Number**: 2014-06-03 CE-EIR-004 **Incident Description**: Failed Culvert on the Lillooet River FSR at 39.7km
Report Prepared By: Ian McKeachie	
Contractor's Environmental Manager: -Jordan Gagné/Ian McKeachie	
Independent Environmental Monitor (Sartori Environmental Services): -Stephen Sims/Tom Hicks	
Initial IEM Contact: Tom Hicks arrived on-site at 12:35PM.	
Licensee's Environmental Manager: Julia Mancinelli	

Contact Information for Company Involved in Incident

Company: CRT-ebc	**Address**: 11-7339 Old Mill Road, PO Box 585, Pemberton, BC, V0N 2L0
Phone #: 604-894-5002	**Email**:jgagne@crtconstruction.ca/imckeachie@crtconstruction.ca
Contact Person: Jordan Gagné/Ian McKeachie	**Position**: Environmental Manager

Incident Type *(check all that apply)*

Encroachment of an Environmentally Sensitive Area (*e.g.* Riparian/Wildlife Buffer) **Please provide details in "Description" section below.**	☑	**Adverse Impacts to Fish/Wildlife** **(*e.g.* Mortality/Injury)** **Please provide details in "Description" section below.**	☐
Water Quality/Quantity **Please provide details in "Description" section below.**	☑	**Hazardous Material Spills (to ground or water)** **Please provide details in description section in regards to the:** • perceived extent of damage, • type, quantity and area of the spill, • containment procedures, and • environmental features in close proximity to the spill.	☐
Disturbance of known or unknown archeological /heritage site **Please provide details in "Description" section below.**	☐	**Air Quality** **Please provide details in "Description" section below.**	☐

Spill reported to external agencies **If yes, describe the receiving environment and substance/quantity spilled.**	☐	**Other** **Please provide details in "Description" section below.**	☐

Incident Profile

Weather at time of incident	Clear	Partly Cloudy/ Variable	Cloudy	Showers/ Periods of Rain	Rain	Heavy Rain *(>25mm in 24hr)*	Storm *(Heavy rain and high winds)*	Snow
	☐	☑	☐	☐	☐	☐	☐	☐

Specific Location: At km39.7 on the Lillooet River FSR

Description and Cause of Incident:

Description:

- On the morning of May 28th, CRT-ebc Rock Truck was hauling a load of sand and gravel from the Upper Lillooet Powerhouse down the Lillooet River FSR at km 39.7 of Lillooet River FSR.
- At 11:10 AM, when travelling across the box culvert installed at km39.7 on the Lillooet River FSR, the rear dump portion of the truck flipped over when the culvert collapsed on one side. The compromised culvert collapsed under the weight of the truck as it crossed near one side to allow another vehicle to pass. No one was injured as the cab of the rock truck stayed upright and completely intact.
- No fuel, fluid oil or hydraulic oil spilled from the truck, however the decision was made by Roger Pelletier (Superintendent) to attach a grader to the rock truck with a heavy cable to pull the rock truck out of the stream. This decision was made in order to ensure that it did not create a risk of spilling any fluid in its compromised position across the watercourse.
- The rock truck's operator (Mario Chartrand) informed the superintendent (Roger Pelletier) who was in charge of managing the incident with Simon Munneke (Field Engineer) and David Gagnon (Field Engineer).
- The sand and gravel load spilled partially in the stream and a small amount of dirt from the collapsed culvert also entered the stream. During the incident, a plume of turbid water was observed from the dirt in the collapsed culvert. The turbidity dissipated very rapidly and was minimal. Ian McKeachie (Environmental Coordinator) was on site 15 minutes after the incident occurred and took pictures showing the stream running clear. No fish mortalities were observed.
- The IEM (Tom Hicks) was not at the incident's location at the time of the incident as he was at km46 of the FSR and could not safely arrive in time. The IEM was present at the site of the incident after the rock truck had been removed, and recommended that no activity occur in the stream to remove the gravel, until such time that more precautions could be taken to divert the flow of the stream in order to make repairs to the culvert.
- Spill kits were available on site in case of spills, as every piece of CRT-ebc's equipment has one inside their cabs.
- The culvert was reinforced with steel plates to ensure safety the same day in the afternoon by CRT-ebc crew.

Cause:

- The edge of the compromised box culvert collapsed under the weight of CRT-ebc rock truck.

Incident Witness: Mario Chartrand (operator – CRT-ebc), Roger Pelletier (Superintendent – CRT-ebc), Simon Munneke (Field Engineer – CRT-ebc), David Gagnon (Field Engineer – CRT-ebc)

Were there any Potential Environmental impacts as a result of the incident? (e.g., surface contamination, storm sewers, or fish/wildlife mortalities)	**Yes** ☑	**None Observed** ☐
If Yes, please describe: During the incident, turbid water was observed from the collapsed culvert. No fish mortalities were observed and no fuel, fluid or hydraulic oil spills occurred in the watercourse.		

Has Wildlife Salvage Protocol been followed?	**Yes** ☐	**No** ☐	**N/A** ☑
If No, please explain:			
Water Quality Samples Collected?	**Yes** ☐	**No** ☑	**N/A** ☐
If yes, attach results of water quality analysis to report in table format. Include Laboratory analysis if completed. If No please explain:			
Have applicable photos and/or drawings been attached to the incident report?	**Yes** ☑	**No** ☐	**N/A** ☐

Incident Response Measures

- Immediate response measures were to insure the safety of CRT-ebc's personnel.
- Then mitigation measures were taken in order to prevent any spills from occurring, and to minimize the impact on the watercourse.
- All activities were performed in consultation with CRT-ebc environmental coordinator and safety officers.
- In the very near future, remediation of the watercourse and the box culvert will be performed by CRT-ebc in consultation with Qualified Wildlife Specialist, IEM/IE, and Innergex.

Actions to Prevent Incident Recurrence

Before the incident, mitigation measures were:

- There are spill kits in every CRT-ebc vehicle and machinery.
- Spill kits are installed in close proximity to construction activities for quick spill response.
- The machinery is inspected by the operator before starting their shift, to assure it is in proper working order.
- All CRT-ebc employees attend the CRT-ebc Health, Safety & Environmental orientation, which covers the steps to follow in response to a spill.
- CRT-ebc prepared a Spill Prevention and Emergency Response Plan, and a Hazardous Material Management Plan for the Upper Lillooet Hydro Project.

After the incident, additional mitigation measures are or will be:

- The culvert installations on the Lillooet River FSR, as well as on temporary access roads will be assessed to make sure they can sustain the weight of CRT-ebc machinery working on the ULHP Project.
- Steel plates and signs to mark the narrower culvert crossing have been installed to ensure safe use temporarily

until further corrective steps and repairs can be made.

- CRT-ebc employees will be reminded of spill response procedures and how to use the spill kits in a potential future event.

Notification Record

Agency Reported to	Contact Information	Agency Contacted		Date and Time Reported	Reported By	Method of Reporting
		Yes	No			
External Notifications						
MFLNRO	Malcolm Schulz	☐	☑			
		☐	☐			
PEP	1-800-663-3456	☐	☑			
MOE Staff		☐	☐			
DFO		☐	☐			
DFO		☐	☐			
Environment Canada	604-666-6100	☐	☑			
Canadian Coast Guard	604-666-6011	☐	☑			
Local Fire Rescue	911	☐	☑			
Reported to	**Contact Information**	**Contacted**		**Date and Time Reported**	**Reported By**	**Method of Reporting**
		Yes	**No**			
Internal Notifications						
IEM Sartori Environmental	Tom Hicks	☑	☐	12:35	n/a	Arrived on site
IEM Sartori Environmental	Stephen Sims 604.987-5588	☑	☐	2014-05-28 @ 13:00	Ian McKeachie	Phone call
Owner Innergex	Julia Mancinelli jmancinelli@innergex.com	☑	☐	2014-05-30 @14:51	Ian McKeachie	email
Owner Innergex	Stephen Sims steve@sartorienv.com	☑	☐	2014-05-30 @14:51	Ian McKeachie	email
		☐	☐			

Contractor's Environmental Manager:

Ian McKeachie	Environmental Coordinator, CRT-ebc		June 3rd, 2014
Print Name	Position and Company	Signature	Date

Independent Environmental Monitor:

J. Stephen Sims	Independent Environmental Monitor, Sartori Environmental Services		June 3rd, 2014
Print Name	Position and Company	Signature	Date

Photo documentation:

Photo 1: Rock Truck and soil from culvert that entered the watercourse during the incident and clear running water in the stream (photo taken 15 mins after incident).

Photo 2: Material that entered the watercourse during the incident and clear running water in the stream after rock truck removal.

Photo 3: Sandy and gravelly material from load deposited in and next to stream.

Environmental Incident Reporting Form

General Information

Project Name: Upper Lillooet Hydro Project	**Project Component**: Lillooet River FSR
Time/Date of Incident Start: May 27th, 2014 at 4:00PM	**Time/Date Incident Stopped**: May 27th, 2014 at 4:30PM
Date of Report: Draft Submitted: 2014-05-27 Final Submitted: 2014-06-03	**Project Incident Report Number**: 2014-06-03 CE-EIR-005 **Incident Description**: Failed Culvert on the Lillooet River FSR at 34.9km (Silva Creek)
Report Prepared By: Ian McKeachie	
Contractor's Environmental Manager: Jordan Gagné/Ian McKeachie	
Independent Environmental Monitor (Sartori Environmental Services): Stephen Sims/Tom Hicks	
Initial IEM Contact: Email sent to Stephen Sims on 2014-05-28 at 10:39AM.	
Licensee's Environmental Manager: Julia Mancinelli	

Contact Information for Company Involved in Incident

Company: CRT-ebc	**Address**: 11-7339 Old Mill Road, PO Box 585, Pemberton, BC, V0N 2L0
Phone #: 604-894-5002	**Email**:jgagne@crtconstruction.ca/imckeachie@crtconstruction.ca
Contact Person: Jordan Gagné/Ian McKeachie	**Position**: Environmental Manager

Incident Type *(check all that apply)*

Encroachment of an Environmentally Sensitive Area (*e.g.* Riparian/Wildlife Buffer) **Please provide details in "Description" section below.**	☑	**Potential Adverse Impacts to Fish/Wildlife (*e.g.* Mortality/Injury)** **Please provide details in "Description" section below.**	☐
Water Quality/Quantity **Please provide details in "Description" section below.**	☐	**Hazardous Material Spills (to ground or water)** **Please provide details in description section in regards to the:** • perceived extent of damage, • type, quantity and area of the spill, • containment procedures, and • environmental features in close proximity to the spill.	☐
Disturbance of known or unknown archeological /heritage site **Please provide details in "Description" section below.**	☐	**Air Quality** **Please provide details in "Description" section below.**	☐

Spill reported to external agencies **If yes, describe the receiving environment and substance/quantity spilled.**	☐	**Other** **Please provide details in "Description" section below.**	☐

Incident Profile

Weather at time of incident	☑ Clear	☐ Partly Cloudy/ Variable	☐ Cloudy	☐ Showers/ Periods of Rain	☐ Rain	☐ Heavy Rain *(>25mm in 24hr)*	☐ Storm *(Heavy rain and high winds)*	☐ Snow

Specific Location: At km34.9 on the Lillooet River FSR (Silva Creek)

Description and Cause of Incident:

Description:

- On the afternoon of May 27th, CRT-ebc Megaton Truck operated by Francois Pelletier was hauling a load of sand up the Lillooet River FSR at km 34.9. The truck and load weighed approximately 65T.
- At 4:00 PM, when travelling across the log box culvert installed at km34.9 travelling at approximately 30km/h, the wheels on the trailer went through a hole on one side of the box culvert.
- No fuel, fluid oil or hydraulic oil spilled from the truck, and it was able to drive forward slowly out of the sink hole.
- The truck's operator (Francois Pelletier) informed the superintendent (Roger Pelletier) of the incident by radio.
- The dirt from the collapsed box culvert entered the dry Silva Creek stream bed under the failed box culvert. Although this has historically been a potentially fish bearing stream, it has not had water in it this Spring.
- The IEM (Tom Hicks) was not at the incident's location at the time of the incident, although he discovered it on his way down the FSR at approximately 6:00 PM.

Cause:

- The log box culvert was only rated for 54T and collapsed under the weight of CRT-ebc megaton truck, since the load exceeded the rating of the culvert by approximately 10T.

Incident Witness: Francois Pelletier (operator – CRT-ebc)

Were there any Potential Environmental impacts as a result of the incident? (e.g., surface contamination, storm sewers, or fish/wildlife mortalities)	**Yes** ☐	**None Observed** ☑

If Yes, please describe:

Has Wildlife Salvage Protocol been followed?	**Yes** ☐	**No** ☐	**N/A** ☑

If No, please explain:

Water Quality Samples Collected?	**Yes** ☐	**No** ☐	**N/A** ☑

If yes, attach results of water quality analysis to report in table format. Include Laboratory analysis if completed. If No please explain:			
Have applicable photos and/or drawings been attached to the incident report?	**Yes** ☑	**No** ☐	**N/A** ☐

Incident Response Measures

- Immediate response measures were to insure the safety of CRT-ebc's personnel.
- No environmental mitigation measures were taken, as there was no impact to the dry watercourse.
- All activities were evaluated by CRT-ebc environmental coordinator and safety officers.
- In the very near future, repair of box culvert will be performed by the party responsible for this section of the FSR in consultation with Qualified Professional, IEM/IE, Innergex, and MFLNRO.

Actions to Prevent Incident Recurrence

Before the incident, mitigation measures were:

- There are spill kits in every CRT-ebc vehicle and machinery.
- The machinery is inspected by the operator before starting their shift, to assure it is in proper working order.
- All CRT-ebc employees attend the CRT-ebc Health, Safety & Environmental orientation, which covers the steps to follow in response to an incident.
- CRT-ebc prepared a Spill Prevention and Emergency Response Plan, and a Hazardous Material Management Plan for the Upper Lillooet Hydro Project.

After the incident, additional mitigation measures are or will be:

- The culvert installations on the Lillooet River FSR, as well as on temporary access roads will be assessed to make sure they can sustain the weight of CRT-ebc machinery working on the ULHP Project.
- Signs and flagging to mark the narrower culvert crossing, and reduced speed limit for crossing, have been installed to ensure safe use temporarily until further corrective steps and repairs can be made.
- CRT-ebc employees will be reminded of spill response procedures and how to use the spill kits in a potential future event.
- Communication protocols for incident response have been strengthened and CRT-ebc employees will be reminded of them to ensure that the IEM and Innergex are informed in a timely manner.
- No vehicles or equipment in excess of the posted Load Limit will cross log box culverts, bridges, or structures.

Notification Record

Agency Reported to	Contact Information	Agency Contacted		Date and Time Reported	Reported By	Method of Reporting
		Yes	No			
External Notifications						
MFLNRO	Malcolm Schulz	☐	☑			
		☐	☐			
PEP	1-800-663-3456	☐	☑			
MOE Staff		☐	☐			
DFO		☐	☐			
DFO		☐	☐			
Environment Canada	604-666-6100	☐	☑			
Canadian Coast Guard	604-666-6011	☐	☑			
Local Fire Rescue	911	☐	☑			
Reported to	**Contact Information**	**Contacted**		**Date and Time Reported**	**Reported By**	**Method of Reporting**
		Yes	**No**			
Internal Notifications						
IEM Sartori Environmental	Tom Hicks	☐	☐			
IEM Sartori Environmental	Stephen Sims 604.987-5588	☐	☐			
Owner Innergex	Julia Mancinelli jmancinelli@innergex.com	☑	☐	2014-05-28 @10:39	Jonathan Drapeau	email
IEM Sartori Environmental	Stephen Sims steve@sartorienv.com	☑	☐	2014-05-28 @10:39	Jonathan Drapeau	email
		☐	☐			

Contractor's Environmental Manager:

Print Name	Position and Company	Signature	Date
Ian McKeachie	Environmental Coordinator, CRT-ebc		June 3rd, 2014

Reviewed by:

Print Name	Position and Company	Signature	Date
J. Stephen Sims	Independent Environmental Monitor, Sartori Environmental Services		June 3rd, 2014

Photo documentation:

Photo 1: Photo showing failed box culvert with painted blue rocks and trees marking it.

Photo 2: Failed box culvert over the dry Silva Creek bed.

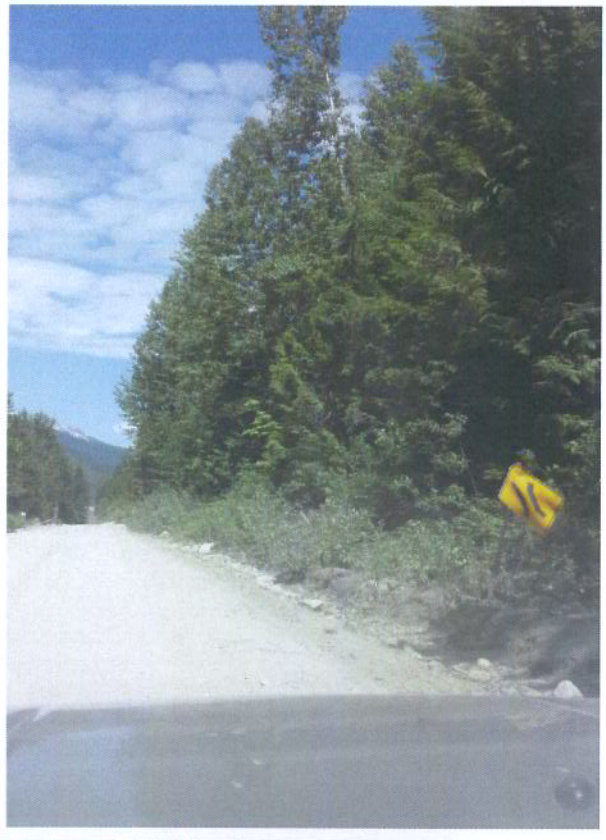


Photo 2, 3 & 4: New signage & flagging marking the area for safety.

Environmental Incident Reporting Form

General Information

Project Name: Upper Lillooet Hydro Project	**Project Component**: Truckwash Bridge Installation
Time/Date of Incident Start: May 28th, 2014 at 2:00PM	**Time/Date Incident Stopped**: May 28th, 2014 at 2:05PM
Date of Report: Draft Submitted: 2014-06-02 Final Submitted: 2014-06-06	**Project Incident Report Number:** 2014-06-06 CE-EIR-006 **Incident Description:** Rocks falling near Truckwash Creek
Report Prepared By: Ian McKeachie	
Contractor's Environmental Manager: Jordan Gagné/Ian McKeachie	
Independent Environmental Monitor (Sartori Environmental Services): Stephen Sims/Tom Hicks	
Initial IEM Contact: 2014-05-28 IEM arrived on site at 3:40PM and observed incident.	
Licensee's Environmental Manager: Julia Mancinelli	

Contact Information for Company Involved in Incident

Company: CRT-ebc	**Address**: 11-7339 Old Mill Road, PO Box 585, Pemberton, BC, V0N 2L0
Phone #: 604-894-5002	**Email**:jgagne@crtconstruction.ca/imckeachie@crtconstruction.ca
Contact Person: Jordan Gagné/Ian McKeachie	**Position**: Environmental Manager

Incident Type *(check all that apply)*

Encroachment of an Environmentally Sensitive Area (*e.g.* Riparian/Wildlife Buffer) **Please provide details in "Description" section below.**	☑	**Potential Adverse Impacts to Fish/Wildlife (*e.g.* Mortality/Injury)** **Please provide details in "Description" section below.**	☐
Water Quality/Quantity **Please provide details in "Description" section below.**	☐	**Hazardous Material Spills (to ground or water)** **Please provide details in description section in regards to the:** • perceived extent of damage, • type, quantity and area of the spill, • containment procedures, and • environmental features in close proximity to the spill.	☐
Disturbance of known or unknown archeological /heritage site **Please provide details in "Description" section below.**	☐	**Air Quality** **Please provide details in "Description" section below.**	☐

Spill reported to external agencies **If yes, describe the receiving environment and substance/quantity spilled.**	☐	**Other** **Please provide details in "Description" section below.**	☐

Incident Profile

Weather at time of incident	 ☑ Clear	 ☐ Partly Cloudy/ Variable	 ☐ Cloudy	 ☐ Showers/ Periods of Rain	 ☐ Rain	 ☐ Heavy Rain *(>25mm in 24hr)*	 ☐ Storm *(Heavy rain and high winds)*	 ☐ Snow

Specific Location: Near km44.5 on the Lillooet River FSR, at the West side of Truckwash Bridge

Description and Cause of Incident:

Description:

- On the afternoon of May 28th, CRT-ebc Eric Levesque was operating a CAT 345D #50-0532 (bio-oil) at the top of a slope near Truckwash Creek to create a pad for bridge foundations.
- At approximately 2:00 PM, while pulling material from the edge of the slope, rocks from the excavation fell down the side of the slope next to Truckwash Creek.
- The pile of small boulders and rocks that fell down the slope terminated near the edge of Truckwash Creek.
- The IEM (Tom Hicks) was not at the incident's location at the time of the incident, as CRT-ebc neglected to inform the IEM that they would be working within 30m of a watercourse, but discovered it afterward and informed CRT-ebc field engineer (Danny Dugas) of the need to assess the incident.

Cause:

- The slope around the area of excavation was unstable, and as a result the material slid down the bank when the machine was performing scaling as part of bridge foundation excavation work.

Incident Witness: Eric Levesque (operator – CRT-ebc)

Were there any Potential Environmental impacts as a result of the incident? (e.g., surface contamination, storm sewers, or fish/wildlife mortalities)	**Yes** ☐	**None Observed** ☑

If Yes, please describe:

Has Wildlife Salvage Protocol been followed?	**Yes** ☐	**No** ☐	**N/A** ☑

If No, please explain:

Water Quality Samples Collected?	**Yes** ☐	**No** ☐	**N/A** ☑

If yes, attach results of water quality analysis to report in table format. Include Laboratory analysis if completed.
If No please explain:

Have applicable photos and/or drawings been attached to the incident report?	Yes	No	N/A
	☑	☐	☐

Incident Response Measures

- No environmental mitigation measures were taken, as none of the debris entered the watercourse.
- All activities were evaluated by the CRT-ebc environmental coordinator and field engineer.

Actions to Prevent Incident Recurrence

Before the incident, mitigation measures were:

- All machinery working near riparian areas will be equipped with synthetic biodegradable or vegetable based hydraulic fluid.
- The machinery is inspected by the operator before starting their shift, to assure it is in proper working order.
- All CRT-ebc employees attend the CRT-ebc Health, Safety & Environmental orientation, which covers the steps to follow in response to an incident.
- CRT-ebc prepared a Spill Prevention and Emergency Response Plan, and a Hazardous Material Management Plan for the Upper Lillooet Hydro Project.

After the incident, additional mitigation measures are or will be:

- Field Engineers and machine operators will have the IEM present prior to and during work near riparian areas.
- The IEM and CRT-ebc environmental team will advise operators of the need for extreme care while working near riparian areas, and make reference to site specific potential hazards.
- CRT-ebc employees will be reminded of spill response procedures and how to use the spill kits in a potential future event.
- Communication protocols for incident response have been strengthened and CRT-ebc employees will be reminded of them to ensure that the IEM and Innergex are informed in a timely manner.
- CRT-ebc will inform the IEM a minimum of 48 hours prior to working within 30 m of a watercourse.

Notification Record

Agency Reported to	Contact Information	Agency Contacted		Date and Time Reported	Reported By	Method of Reporting
		Yes	No			
External Notifications						
MFLNRO	Malcolm Schulz	☐	☑			
		☐	☐			
PEP	1-800-663-3456	☐	☑			
MOE Staff		☐	☐			
DFO		☐	☐			
DFO		☐	☐			
Environment Canada	604-666-6100	☐	☑			
Canadian Coast Guard	604-666-6011	☐	☑			
Local Fire Rescue	911	☐	☑			
Reported to	**Contact Information**	**Contacted**		**Date and Time Reported**	**Reported By**	**Method of Reporting**
		Yes	**No**			
Internal Notifications						
IEM Sartori Environmental	Tom Hicks	☑	☐	2014-05-28 3:40PM	n/a	Arrived on site
IEM Sartori Environmental	Stephen Sims 604.987-5588	☐	☐			
Owner Innergex	Julia Mancinelli jmancinelli@innergex.com	☑	☐	2014-06-03 @ 9:20am	Ian McKeachie	email
IEM Sartori Environmental	Stephen Sims steve@sartorienv.com	☑	☐	2014-06-03 @ 9:20am	Ian McKeachie	email
		☐	☐			

Contractor's Environmental Manager:

Print Name	Position and Company	Signature	Date
Ian McKeachie	Environmental Coordinator, CRT-ebc		June 3rd, 2014

Reviewed by:

Print Name	Position and Company	Signature	Date
J. Stephen Sims	Independent Environmental Monitor, Sartori Environmental Services		June 6th, 2014

Photo documentation:

Photo 1: Rock material that slid down unstable bank from excavation works at the top.

Photo 2: Rock pile shown from top of slope.

Environmental Incident Reporting Form

General Information

Project Name: Upper Lillooet Hydro Project	**Project Component**: BDR HEF – Intake access road
Time/Date of Incident Start: May 24th to 25th – 2014	**Time/Date Incident Stopped**: May 25th - 2014
Date of Report: Draft Submitted: 2014-06-05 Final Submitted: 2014-06-07	**Project Incident Report Number**: 2014-06-07 CE-EIR-007 **Incident Description:** BDR HEF – Intake Access Road clearing
Report Prepared By: Jordan Gagné	
Contractors Environmental Manager: Jordan Gagné / Ian McKeachie	
Independent Environmental Monitor (Sartori Environmental Services): Stephen Sims/ Tom Hicks	
Initial IEM Contact: 2014-06-05, IEM received notice by email from Innergex Renewable Energy Inc. (Julia Mancinelli) @ 10:34 AM; CRT-EBC environmental Team (Ian McKeachie) @1:23 PM	
Licensee's Environmental Manager: Julia Mancinelli	

Contact Information for Company Involved in Incident

Company: CRT-ebc	**Address**: 11-7339 Old Mill Road, PO Box 585, Pemberton, BC, V0N 2L0
Phone #: 604-894-5002	**Email**:jgagne@crtconstruction.ca/imckeachie@crtconstruction.ca
Contact Person: Jordan Gagné/Ian McKeachie	**Position**: Environmental Manager

Incident Type *(check all that apply)*

Encroachment of an Environmentally Sensitive Area (*e.g.* Riparian/Wildlife Buffer) **Please provide details in "Description" section below.**	☑	**Potential Adverse Impacts to Fish/Wildlife (*e.g.* Mortality/Injury)** **Please provide details in "Description" section below.**	☑
Water Quality/Quantity **Please provide details in "Description" section below.**	☐	**Hazardous Material Spills (to ground or water)** **Please provide details in description section in regards to:** • Perceives extent of damage • Type, quantity and area of the spill • Containment Procedures • Environmental features in close proximity to the spill	☐
Disturbance of known or unknown archeological /heritage site **Please provide details in "Description" section below.**	☐	**Air Quality** **Please provide details in "Description" section below.**	☐

Spill reported to external agencies **If yes, describe the receiving environment and substance/quantity spilled.**	☐	**Other** **Please provide details in "Description" section below.**	☐

Incident Profile

Weather at time of incident	 ☐ **Clear**	 ☑ **Partly Cloudy/ Variable**	 ☐ **Cloudy**	 ☐ **Showers/ Periods of Rain**	 ☐ **Rain**	 ☐ **Heavy Rain** *(>25mm in 24hr)*	 ☐ **Storm** *(Heavy rain and high winds)*	 ☐ **Snow**

Specific Location:
BDR HEF – Intake Access Road

Description and Cause of Incident:

Description:

- From May 21-23 2014, three AMBNS surveys were conducted at the BDR HEF – Intake access road (aka Athel Main Line Road). The plan was to survey the existing road up to the location where the new road was going to be built. Clearing plan maps with waypoints were given to the QP, Ecofish.
- After the final survey on May 23rd at 10:30 AM, an AMBNS Clearance Approval was handed to CRT-ebc field engineer (David Gagnon), as well as to the excavator's operator (Martin Potvin). On the approval, there was a map showing where the surveys were conducted (i.e. start and end points) and the timeframe in which clearing had to occur. (See clearing approval attached to the EIR)
- From May 23-25 2014, the existing road was machine cleared by a CRT-ebc excavator. By the end of the day May 24th, the excavator had reached the survey end point but kept going further. He then reached the actual clearing end point on the morning of May 25th.
- On June 4th, CRT-ebc was told by Ecofish that clearing had gone past the end point of the AMBNS surveys.
- On the same day, CRT-ebc project manager Claude Denault informed Innergex of the potential incident.
- On June 5th, CRT-ebc environmental manager (Jordan Gagné) met with Ecofish crew members on site to confirm if clearing had occurred past the end point of the surveys.
- After confirmation that CRT-ebc cleared 195m past the end point of AMBNS surveys, more details on the incident were provided to Innergex as well as to Sartori Environmental Services before a first draft of the IER could be submitted.

Cause:

- The operator received the clearing approval form showing the start and end points of the AMBNS (See attached with the EIR), but did not receive the clearing plan maps with GPS coordinates, and the end point of the survey was not identified (flagged) in the field. As a result, the operator kept clearing on the existing road without being fully aware of where the limit was. The information was not well communicated to the operator, even though he received a map showing the location of the end point of the survey. The IEM was not invited to the tailboard meeting.

Incident Witness: CRT-ebc environmental team and Ecofish

Were there any Potential Environmental impacts as a result of the incident? (e.g., surface contamination, storm sewers, or fish/wildlife mortalities)	**Yes** ☑	**None Observed** ☐

If Yes, please describe:

- About 0.6 ha of shrubs were machine removed before and AMBNS was conducted in the area. Following the incident, Ecofish went and assessed the cleared area on June 6th and they did not see any signs of destroyed nests.

Has Wildlife Salvage Protocol been followed?	**Yes** ☐	**No** ☐	**N/A** ☑

If No, please explain:

Water Quality Samples Collected?	**Yes** ☐	**No** ☐	**N/A** ☑

If yes, attach results of water quality analysis to report in table format. Include Laboratory analysis if completed.
If No please explain:

Have applicable photos and/or drawings been attached to the incident report?	**Yes** ☑	**No** ☐	**N/A** ☐

Incident Response Measures

When CRT-ebc was made aware of the potential incident by Ecofish (June 4th at 5:20 PM):

- CRT-ebc's project manager Claude Denault informed Innergex of the possible incident at 7:36 PM on June 4th, 2014 by email.
- On the morning of June 5th, CRT-ebc environmental manager (Jordan Gagné) went on site to meet with Ecofish crew members at the potential incident location.
- CRT-ebc confirmed with Ecofish that they surveyed up to the waypoints that were given to them, and that CRT-ebc crew cleared 195m past the end point of the survey. (See map attached to the EIR)
- CRT-ebc sent Ecofish to conduct a post AMBNS survey of the cleared area to determine if any nests were destroyed.

Actions to Prevent Incident Recurrence

Before the incident the mitigation measures in place were:

- All parties (i.e. CRT-ebc, IEM, Ecofish & fallers) attended the CRT-ebc Health – Safety & Environmental orientation. The orientation includes all relevant information regarding the mitigation measures that CRT-ebc has to comply with before clearing activities. (i.e. AMBNS, Clearing Plan, Flagging Protocol, etc.).
- A clearing Plan was prepared for this component of the Project.
- Flagging Standards: The clearing boundary is flagged with orange tape, and trees that are marked with a flag are not to be felled. When a nest is found, the tree is marked with yellow wildlife tape. If the nest is deemed to be active, the species' associated buffer is put in place to avoid disturbance around the nest.
- The AMBNS were performed before clearing activities could start in the area. 3 surveys were done from May 21-23, 2014. Approval to start clearing the area was given at 10:30 AM on the 23rd. CRT-ebc crew had 24h to start and 48h to finish clearing, following the time they were given approval to clear.
- A map showing where the surveys were conducted (i.e. start and end points), was handed out to both the CRT-ebc excavator's operator and the field engineer on site by Ecofish.

After the incident, additional mitigation measures were put in place:

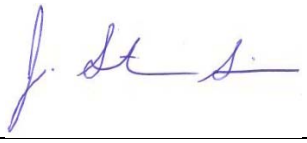
- The surveyors (Ecofish) are to use a continuous ribbon of flagging to show the extent of a survey area so that there is no chance that clearing continues beyond a surveyed area.
- All parties present at the transfer of field reports sign the conditional approval notice that is provided to the fallers. It is important to note that this incident occurred from May 23-25, right at the time when CRT-ebc was preparing new mitigation measures following the first environmental incident (See EIR 001). Since EIR 001 was submitted, all new mitigation measures were applied. In addition to this, at least one CRT-ebc environmental team member is present during the transfer of information. If no CRT-ebc environmental team member is present, clearing is not to commence until such time that they give explicit approval on site.
- The fallers/operator and Ecofish are provided with the Clearing Plan maps with GPS coordinates.
- The IEM and the Owner's Environmental Manager will receive immediate report from CRT-ebc environmental team when an environmental incident occurs. Even if it is a potential incident, CRT-ebc's environmental team will make sure that they are aware that investigation is underway.

Notification Record						
Agency Reported to	**Contact Information**	**Agency Contacted**		**Date and Time Reported**	**Reported By**	**Method of Reporting**
		Yes	**No**			
External Notifications						
MFLNRO	Malcolm Schulz	☐	☑			
		☐	☐			
PEP	1-800-663-3456	☐	☑			
MOE Staff		☐	☐			
DFO		☐	☐			
DFO		☐	☐			
Environment Canada	604-666-6100	☐	☑			
Canadian Coast Guard	604-666-6011	☐	☑			
Local Fire Rescue	911	☐	☑			
Reported to	**Contact Information**	**Contacted**		**Date and Time Reported**	**Reported By**	**Method of Reporting**
		Yes	**No**			
Internal Notifications						
Owner Innergex	Krys Muniak KMuniak@innergex.com	☑	☐	2014-06-04 7:36PM	Claude Denault	Email
Owner Innergex	Julia Mancinelli jmancinelli@innergex.com	☑	☐	2014-06-05 8:46AM	Oliver Robson	Email
IEM Sartori Environmental	Stephen Sims steve@sartorienv.com	☑	☐	2014-06-05 10:22AM	Julia Mancinelli	Email
Owner Innergex	Julia Mancinelli jmancinelli@innergex.com	☑	☐	2014-06-05 1:34PM	Ian McKeachie	Email
IEM Sartori Environmental	Stephen Sims steve@sartorienv.com	☑	☐	2014-06-05 1:34PM	Ian McKeachie	Email

Contractor's Environmental Manager:

Print Name	Position and Company	Signature	Date
Jordan Gagné	Environmental Manager CRT-ebc		2014-06-07

Reviewed by:

Print Name	Position and Company	Signature	Date
J. Stephen Sims	Independent Environmental Monitor, Sartori Environmental Services		2014-06-07

List of attachments:

- Clearing approval form (sheet 1 & 2)
- Clearing extent map
- Ecofish Post-clearing pictures

Ecofish Research Ltd.
Suite 906 – 595 Howe Street
Vancouver, B.C. V6C2T5

Phone: 604-608-6180
Fax: 604-559-6180
info@ecofishresearch.com
www.ecofishresearch.com

MIGRATORY BIRD NEST SURVEYS- CLEARING APPROVAL

Facility: Boulder

Site Name: Boulder Intake Access Rd

Dates Surveyed:
1. May 21, 2014
2. May 22, 2014
3. May 23, 2014

Date and Time of Final Survey (dd/mm/ 00:00): 23/MAY 10:30

Clearing must start by (dd/mm 00:00): 24/MAY 10:30

Clearing must be complete by (dd/mm 00:00): 25/MAY 10:30

Number of active nests: 0

Number of inactive nests: 1

10U 472463 5610795 ⟶

The active nest was depredated

Crew Leader:

Date: May 23, 2014


N
PBD.R.POD.RD.NE01
Survey End
Survey Start
Image © 2014 DigitalGlobe
Google earth
2010
Imagery Date: 10/15/2010 10 U 472205.58 m E 5610784.33 m N elev 999 m eye alt 1.58 km

BDR HEF
Intake Access Road

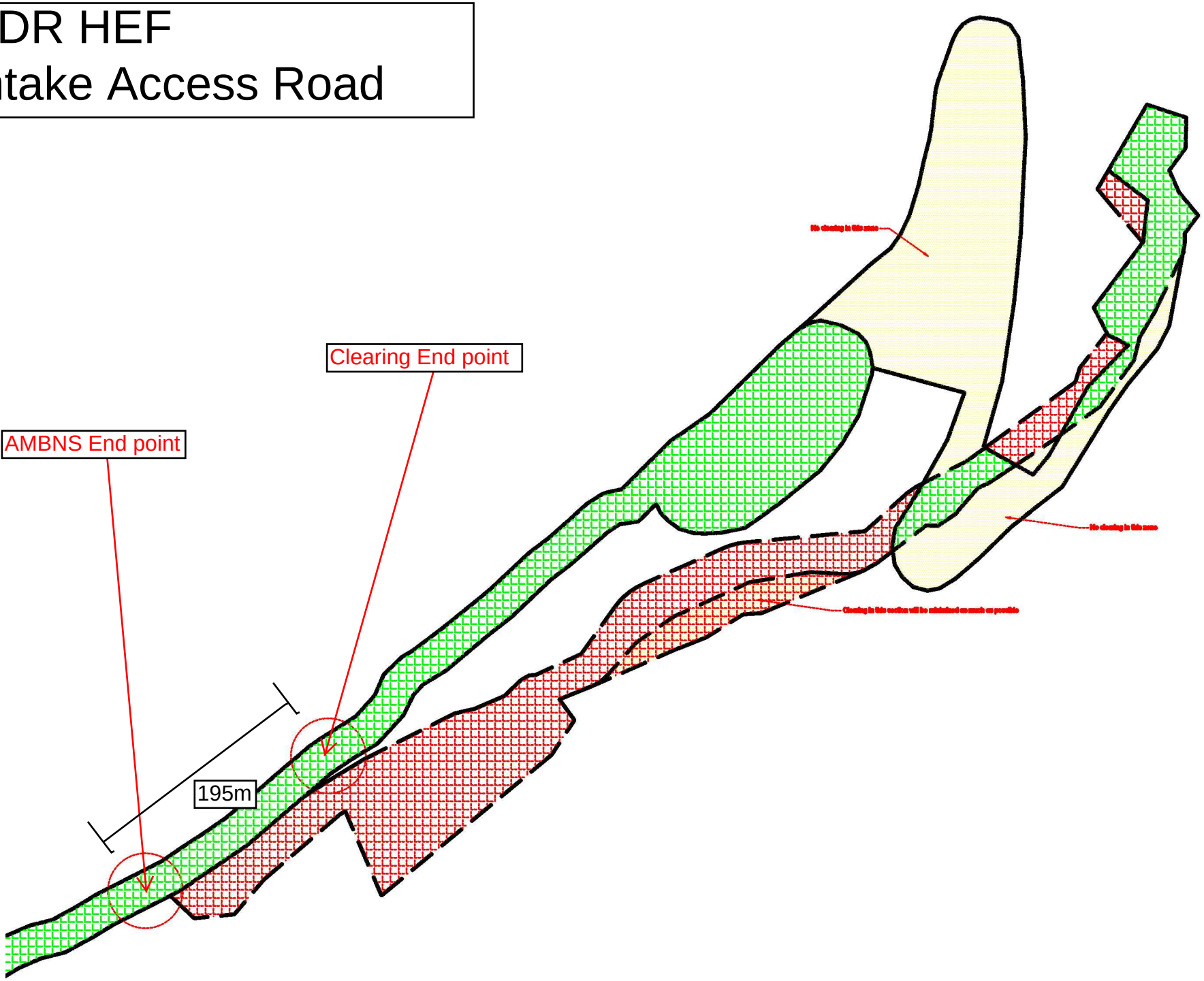


Figure 1: Area Cleared without AMBNS conducted before.

Figure 2: BDR HEF existing road just beyond clearing

FIELD ADVICE MEMO (FAM)

Project:	Upper Lillooet Hydro Project	**FAM Number:** *(yyyy-mm-dd_FAM##)*	2014-05-30_FAM01
FAM Author:	Stephen Sims, RPBio Sartori Environmental Services	**Date of FAM Issuance:**	May 30, 2014
Distribution List: *(Name - Company)*	To: Jordan Gagne & Ian McKeachie - CRT-ebc CC: Julia Mancinelli - Innergex, Tom Hicks - Sartori Environmental Services		
Environmental Incident Reports (EIR): *(If applicable)*	2014-05-26_CE-EIR-001 (Tree felled with potential active bird nest), 2014-05-27_CE -EIR-002 (Box culvert failure non-status FSR at 47km), 2014-05-27_CE-EIR-003 (Rock truck rollover at 39.9km) 2014-05-28_CE-EIR-004 (Failed culvert of Lillooet River FSR at 39.7km)		

Identified Environmental Issue(s):

ENVIRONMENTAL INCIDENT RESPONSE PROTOCOLS (COMMUNICATIONS):

Over the past seven days (May 23 - May 29), several reportable environmental incidents have occurred as result of communication errors (2014-05-26_CE-EIR-001), compromised watercourse crossings (2014-05-27_CE-EIR-002 & 004), and traffic management (2014-05-27_CE-EIR-003). Two additional incidents, which are yet to have formal reporting completed occurred at the Silva Creek crossing (box culvert failure at 35km on the Lillooet FSR), and an occurrence of work being completed within the riparian area of Truckwash Creek without prior notification to the IEM and which resulted in material entering the channel below high water mark.

It is the opinion of the IEM that CRT-ebc's environmental response protocols have been inadequate as the communications immediately following incidents have lacked consistency and timeliness. It is imperative to the Project that the IEM be contacted immediately to assess the potential environmental impacts, assist in the development of response measures, and ensure appropriate internal and external reporting protocols are satisfied.

Requested Outcome(s)

(1) Prepare environmental incident response protocols specific to communications. Protocols should include immediate notification procedures to CRT-ebc safety/environment representatives and the IEM, dispatch of appropriate personnel and equipment to the site, notification to the Project Licensees, key reporting details and the requirement for submission of EIR to the IEM within 48hrs. Protocols should be specific to key personnel (primary and backup) involved in environmental incident response and reporting (contractor, licensees, IEM), and include contact mechanisms (e.g. radio channels, mobile/office phone numbers, e-mail addresses, etc.) to ensure that regardless of who is on-site protocols can be followed.

(2) Complete and document training of environmental incident communication protocols for on-site personnel by CRT-ebc environmental staff.

It is requested that CRT-ebc provide a response to this FAM by end of day Monday June 2nd, 2014 confirming the intended compliance with the above requested outcomes and indicating the expected date for completion of the action items. Information contained within this FAM and CRT-ebc's response will be included in the environmental Issue Tracking Matrix (ITM) included in the Project's Weekly Environmental Monitoring Report. Once completed, ITM will be marked as complete and removed from the matrix.

Upper Lillooet Hydro Project - Wildlife Observation Form

Required Data						Optional Data			
Date	Time	Observer (Compan	Species or Description	Location	Comments	Sex	Number	Activity*	Photos
2/5/2014	5:30:00 PI	Ian McKeachie	Mule Deer	km 32.5 Lill. FSF	On side of road	Female	1		No
3/5/2014		Ian McKeachie	Mule Deer	km 28.5 Lill. FSF	Crossing road	Female	1		No
3/5/2014		Ian McKeachie	Mule Deer	km 29.5 Lill. FSF	Crossing road	Female	1		No
3/5/2014	1:00:00 PI	Cindi McPherson	Bald Eagle	km 22 Lill. FSR	On riverside		2	Flew ahead of v	No
3/5/2014	3:20:00 PI	Cindi McPherson	Mule Deer	km 32 Lill. FSR	Mountain side	Female	1	On road	No
7/5/2014	10:45:00 A	Ian McKeachie	Black Bear	km 4 Lill. FSR	In trees off road		1		No
7/5/2014	11:00:00 A	Ian McKeachie	Mule Deer	km 29.5 Lill. FSF	On road	Female & 2 you	3	Running in road	No
7/5/2014	11:03:00 A	Ian McKeachie	Mule Deer	km 31 Lill. FSR	On road	1 Male, 1 Femal	4	Running in road	No
7/5/2014	11:10:00 A	Ian McKeachie	Mule Deer	km 31 Lill. FSR	On road	1 Female	1	Running in road	No
7/5/2014	2:30:00 PI	Tom Hicks (Sarto	Mule Deer	FSR realignmen	On road	3 female	3	Travelling	yes
8/5/2014	10:30:00 A	Tom Hicks (Sarto	Mule Deer	km33 Lillooet FS	On road	2 female	2	Running in road	No
7/5/2014	12:30:00 A	Kevin Solmundso	Moose	km39 Lill. FSR	On road	Male	1	Running across	No
8/5/2014	11:30:00 A	Dave Henderson	Bobcat	@ structure 4	Running within		1		Yes (tracks)
8/5/2014	1:00:00 PI	Shea Irving (WEL	Mule Deer	@ structure 24	within ROW		2		No
8/5/2014	3:00:00 PI	Shea Irving (WEL	Mule Deer	km 32 Lill. FSR			2		No
8/5/2014	3:00:00 PI	Shea Irving (WEL	Mule Deer	km 35 Lill. FSR			2		No
9/5/2014		Cindi McPherson	Moose	km 9 Lill. FSR		Female & young	2	Feeding	Yes
9/5/2014		Tommy Lafond	Grizzly Bear	km 41 Lill.FSR	On side of river		1	Fleeing	No
12/5/2014	1:00:00 PI	Pontus Lindgren (	Mule deer	km 29 Lill. FSR	Crossing road		2		No
12/5/2014	12:00:00 I	Dave Henderson	Black Bear	km 35 Lill. FSR	Crossing road		1		no
13/5/2014	6:00:00 A	Ian McKeachie	Black Bear	km 3 Lill. FSR	Crossing road		1	Running	no
13/5/2014	11:00:00 A	Ian McKeachie	Black Bear	BDR Intake Acc	Crossing road		1		no
16/5/2014	11:00:00 A	Ian McKeachie	Black Bear	km 2.5 Lill. FSR	Crossing road		1		no
18/5/2014	2:30:00 PI	Jordan Gagné	Black Bear	km 9 Lill. FSR	Crossing road		1		no
13/5/2014	10:00:00 A	Raphael Gobeil	Black Bear	km 9 Lill. FSR	Crossing road		1		no
13/5/2014	10:00:00 A	Raphael Gobeil	Black Bear	km 3 Lill. FSR	Crossing road		1		no
13/5/2014		Julia Mancinelli	Moose	km 13 Lill. FSR		Female & Young	2	Crossing road	no
13/5/2014		Julia Mancinelli	Black Tailed Deer	km 31 Lill. FSR			2	Walking along ri	no
15/5/2014	12:30:00 I	Mike Hedberg	Wolf	km 18 UL FSR	Crossing road		1		no
22/5/2014	11:00:00 A	Jordan Gagné	Black Bear	km 2.5 Lill. FSR	Feeding	Female & young	2		yes
26/5/2014	11:45:00 A	Daniel Beaupré	Black Bear	km 40 Lill. Fsr	Crossing road		1		no
26/5/2014	5:30:00 PI	Daniel Beaupré	Black Bear	km 13 Lill. FSR	Crossing road		1		no
26/5/2014	11:30:00 A	Anne Sutherland	Rubber Boa	north of Silva Cr	sunning, fleeing	unknown	1	sunning, fleeing	yes
28/5/2014	10:00:00 A	Ian McKeachie	Moose	km24.5 Lill. FSR	Crossing road	Female	1		yes
30/05/2014		Greg Davis	Baby Wood Pecker	km 11 Lill. FSR	On Side of Road	Young	1		yes
30/05/2014		Anne Sutherland	Rubber Boa	north of Silva Cr	sunning, fleeing	unknown	1	sunning, fleeing	yes
31/05/2014		Anne Sutherland	Rubber Boa	north of Silva Cr	sunning, fleeing	unknown	1	sunning, fleeing	yes

* Activity :

BU: building nest
DI: disturbed
FD: Feeding
EX: excreting
FL: fleeing
GR: grooming
IN: incubating
LI: unspecified
RR: rearing
ST: security/therr
TE: territorial (sin
TF: traveling,flyin

Species Observed	Notification Period	Agencies to be Notified
Northern Rubber	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

ECOFISH RESEARCH

Appendix B. Bear sighting log.

BEAR OBSERVATION CARD

BC 9587 (BC Parks)

Return to: Local BC Parks Office (British Columbia)

Upper Lillooet River (SLRD)

140603	10 15	31	
YY/MM/DD	Time (24 hrs)	District	Name of Protected Area

Observer Name, Address and Phone Number: Cindi McPherson, 1245 Kimberly Cr. 250-571-7467

Location in protected area (i.e., name of campground, campsite, dayuse area, trail name, lake, stream, nearest geographic feature, etc.) Rock pile on Truck Wash Cr #1

			200m	
U.T.M. Zone	Easting or Longitude	Northing or Latitude	Elevation (metres or feet)	Observer Distance (metres or feet)

Weather: Rain, Overcast, Cloudy, (Clear) Map Datum: NAD27 ☐ NAD83 ☐ GPS ☐

Bear Species: (Grizzly bear) Black bear Unknown ID Confidence: High Medium Low

Colour code: Reddish-brown, Black, Grey, Dark brown, (Light brown), Blond, Other: _____

Distinguishing features (tag, collar, scars): _____

Abundance: Common, Frequent, Occasional, Rare

Observation Type: sighting, track, scat, digging, hair, foraging sign, rub tree, bed, den

Number Observed:

Adult male	Adult fem.	Young of yr.	Sub-Adult	Unclassified
☐	☐	☐	☐	☒

Was the bear aware of your presence? (Yes) No N/A

Food association: (none) odour unattended garbage vehicle cache

Bear(s) activity: a) feeding b) hunting c) fishing d) scavenging e) drinking f) travelling g) bedded h) courtship/mating i) playing j) call k) fighting Other: _____

Reaction: a) indifferent b) flee c) curious d) food seeking e) illegally fed f) threatening g) charge h) rut i) fight j) play k) travel Other: _____

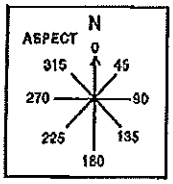
Estimated level of habituation: a) sighting or sign (b) normal behaviour - avoids people c) reacts defensively after surprise or provocation d) tolerates but ignores people e) shows repeated interest in people f) habituated to people and their food g) displays aggressive behaviour, threat to humans h) unknown

Repeat offender: Yes No

If yes, provide background information (i.e., complaint/occurrence report) _____

Photographs: Yes (No)

Aspect Diagram



Slope ___%

Notes: The bear was observed at the rock piles on Truckwash Creek road near 42.5km off the Lillooet FSR. Work crews were informed and so was the IEM.

N.B. Ensure complaint / occurrence report and BC problem wildlife form (if required) are completed, if there was property damage or if further action required in dealing with bear sighting, i.e., destroy, relocation or aversive conditioning.

FM 602

ECOFISH RESEARCH

Appendix B. Bear sighting log.

BEAR OBSERVATION CARD

Return to: Local BC Parks Office

BC 9587

14 06 03 (YY/MM/DD) | 17 20 (Time (24 hrs)) | District | ULHP (Name of Protected Area)

Observer Name, Address and Phone Number: GREG DAVIS

Location in protected area (i.e., name of campground, campsite, dayuse area, trail name, lake, stream, nearest geographic feature, etc.) LILLOOET RIVER FSR 41 Km

Elevation (metres or feet) | 100 m Observer Distance (metres or feet)

U.T.M. Zone | Easting or Longitude | Northing or Latitude

Weather: Rain, Overcast, Cloudy, (Clear) 21°C **Map Datum:** NAD27 ☐ NAD83 ☐ GPS ☐

Bear Species: (Grizzly bear) Black bear Unknown **ID Confidence:** (High) Medium Low

Colour code: Reddish-brown, Black, Grey, (Dark brown), Light brown, Blond, Other:

Distinguishing features (tag, collar, scars): None seen

Abundance: Common, Frequent, Occasional, Rare

Observation Type: (sighting) track, scat, digging, hair, foraging sign, rub tree, bed, den

Number Observed:

Adult male ☐ Adult fem. ☐ Young of yr. ☐ Sub-Adult ☐ Unclassified ☐ Adult but not large

Was the bear aware of your presence? (Yes) No N/A

Food association: (none) odour unattended garbage vehicle cache

Bear(s) activity: a) feeding b) hunting c) fishing d) scavenging e) drinking (f) travelling) g) bedded h) courtship/mating i) playing j) call k) fighting Other:

Reaction: a) indifferent (b) flee) c) curious d) food seeking e) illegally fed f) threatening g) charge h) rut i) fight j) play (k) travel)

Other:

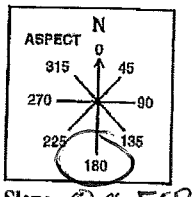
Estimated level of habituation: a) sighting or sign (b) normal behaviour - avoids people) c) reacts defensively after surprise or provocation d) tolerates but ignores people e) shows repeated interest in people f) habituated to people and their food g) displays aggressive behaviour, threat to humans h) unknown

Repeat offender: Yes No

If yes, provide background information (i.e., complaint/occurrence report)

Photographs: (Yes) No

Aspect Diagram



Slope 0% FSR

Notes: Saw at 41.0 Km walking down FSR
Noticed me in pickup and jogged down.
Lost sight of bear at 40.5 Km where terrain widens out again.

N.B. Ensure complaint / occurrence report and BC problem wildlife form (if required) are completed, if there was property damage or if further action required in dealing with bear sighting, i.e., destroy, relocation or aversive conditioning.

FM 602

Appendix B. Bear Sighting Log.

BEAR OBSERVATION CARD

BC 9587 (BC Parks)

Return to: Local BC Parks Office

(Province of British Columbia)

14 06 04 — YY/MM/DD

05 45 — Time (24 hrs)

3 1 — District

Name of Protected Area

Observer Name, Address and Phone Number: John Humphries, 1560 15th St Courtenay, BC, 250-702-2224

Location in protected area (i.e., name of campground, campsite, dayuse area, trail name, lake, stream, nearest geographic feature, etc.) Kilometer 40.5 on Lillooet FSR

404m — Elevation (metres or feet)

30m — Observer Distance (metres or feet)

1 0 — U.T.M. Zone

4 6 9 1 7 8 — Easting or Longitude

5 6 1 0 6 9 0 — Northing or Latitude

Weather: Rain, Overcast, Cloudy, (Clear)

Map Datum: NAD27 ☐ NAD83 ☐ GPS ☒

Bear Species: (Grizzly bear) Black bear Unknown

ID Confidence: (High) Medium Low

Colour code: Reddish-brown, Black, Grey, Dark brown, (Light brown), Blond, Other:

Distinguishing features (tag, collar, scars): None

Abundance: Common, Frequent, Occasional, (Rare)

Observation Type: (sighting), track, scat, digging, hair, foraging sign, rub tree, bed, den

Number Observed:

Adult male	Adult fem.	Young of yr.	Sub-Adult	Unclassified
☐	☐	☐	☐	1

Was the bear aware of your presence? (Yes) No N/A

Food association: (none) odour unattended garbage vehicle cache

Bear(s) activity: a) feeding b) hunting c) fishing d) scavenging e) drinking (f) travelling) g) bedded h) courtship/mating i) playing j) call k) fighting Other:

Reaction: a) indifferent (b) flee) c) curious d) food seeking e) illegally fed f) threatening g) charge h) rut i) fight j) play k) travel Other:

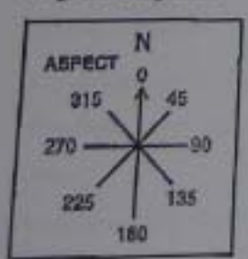
Estimated level of habituation: a) sighting or sign (b) normal behaviour - avoids people) c) reacts defensively after surprise or provocation d) tolerates but ignores people e) shows repeated interest in people f) habituated to people and their food g) displays aggressive behaviour, threat to humans h) unknown

Repeat offender: Yes (No)

If yes, provide background information (i.e., complaint/occurrence report)

Photographs: Yes (No)

Aspect Diagram



Notes: Medium/large Grizzly; very healthy appearance; Encountered while driving up Lillooet FSR in truck at Kilometer 40.5. Bear immediately ran from truck, up road to km 41 and then moved off road towards Lillooet River and out of sight

Slope ___%

N.B. Ensure complaint / occurrence report and BC problem wildlife form (if required) are completed, if there was property damage or if further action required in dealing with bear sighting, i.e., destroy, relocation or aversive conditioning.

FM 602

ECOFIS RESEARCH

ECOFISH RESEARCH

Appendix B. Bear sighting log.

BC 9587

BEAR OBSERVATION CARD

Return to: Local BC Parks Office

BC Parks

BRITISH COLUMBIA

14/05/06 — YY/MM/DD

0745 — Time (24 hrs)

District

ULHP — Name of Protected Area

Observer Name, Address and Phone Number: JORDAN GAGNÉ

Location in protected area (i.e., name of campground, campsite, dayuse area, trail name, lake, stream, nearest geographic feature, etc.) Lillooet River FSR 40.5 km

Elevation (metres or feet)

75m — Observer Distance (metres or feet)

U.T.M. Zone | Easting or Longitude | Northing or Latitude

Weather: Rain, Overcast, Cloudy, (Clear)

Map Datum: NAD27 ☐ NAD83 ☐ GPS ☐

Bear Species: (Grizzly bear) Black bear Unknown

ID Confidence: High Medium Low

Colour code: Reddish-brown, Black, Grey, (Dark brown), Light brown, Blond, Other:

Distinguishing features (tag, collar, scars): NA

Abundance: Common, Frequent, Occasional, Rare

Observation Type: (sighting), track, scat, digging, hair, foraging sign, rub tree, bed, den

Number Observed:

Adult male ☐ Adult fem. ☐ Young of yr. ☐ Sub-Adult ☐ Unclas-sified ☐

Was the bear aware of your presence? (Yes) No N/A

Food association: none odour unattended garbage vehicle cache

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Bear(s) activity: a) feeding b) hunting c) fishing d) scavenging e) drinking (f) travelling g) bedded h) courtship/mating i) playing j) call k) fighting Other :

Reaction: a) indifferent b) flee c) curious d) food seeking e) illegally fed f) threatening g) charge h) rut i) fight j) play k) travel

Other:

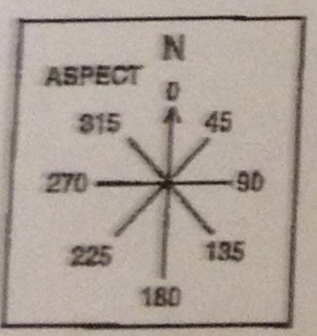
Estimated level of habituation: a) sighting or sign b) (normal behaviour - avoids people) c) reacts defensively after surprise or provocation d) tolerates but ignores people e) shows repeated interest in people f) habituated to people and their food g) displays aggressive behaviour, threat to humans h) unknown

Repeat offender: Yes (No)

If yes, provide background information (i.e., complaint/occurrence report)

Photographs: Yes (No)

Aspect Diagram



Notes: Driving down FSR @ km 40.5 noticed the pickup, turned around & went back to the forest.

Slope ____%

N.B. Ensure complaint / occurrence report and BC problem wildlife form (if required) are completed, if there was property damage or if further action required in dealing with bear sighting, i.e., destroy, relocation or aversive conditioning.

FM 602

Mountain Goat Daily Observation Form

UPPER LILLOOET HYDRO PROJECT

Goat Monitor's Name(s): Danita Abraham

Date (YYYY-MM-DD): 2014-06-01

Weather (*cloud cover*, precipitation *and temperature*): Clear Sky

106-185 forester street, north vancouver, bc v7h 2m9
office tel 987.5588 fax 987.7740

Please submit **Mountain Goat Daily Observation Form** in person to a representative of Sartori Environmental Services (**Tom Hicks** or **Stephen Sims**) or by email to **steve@sartorienv.com** following each day of monitoring.

Mountain Goat Observation Site	UWR/Migration Corridor - Location	UTM Coordinates *(approximate center of observation area)*	Daily Start Time *(24hr clock)*	Daily End Time *(24hr clock)*
MG - OBS01	Migration Corridor - East side of Truckwash Creek	10U 467898 5612845	11:30	12:00
MG - OBS02	UWR u-2-002 UL 11 - Keyhole Falls	10U 466760 5613967	07:10	09:10
MG - OBS03	UWR u-2-002 UL 19 - Garibaldi Pumice	10U 469155 5614960	09:15	11:15

Daily form #	1	of	1

If more space is needed in the below table, please fill out additional daily forms and indicate total number of forms above.

Observation Site *(indicate if location other than OBS site)*	Time *(use 24hr clock)*	UTM Coordinates or Waypoint *(10U)*	Species Observed *(indicate Mountain Goat or other species)*	Observations *(be specific - visual sign, track, other sign)*	# of Animals	Age *(if known - refer to attached info sheet)*	Sex *(if known - refer to attached info sheet)*	Description of Activities *(feeding, moving, etc.)*	Comments *(habitat, snow conditions, etc.)*	Photo #s
MG-OBS02	07:40	10U 466760 7613967	Mountain Goat	Visual	1	Yearling	Unknown	Laying down, sleeping	In usual resting area under tree above slide area	714-718
MG-OBS03	10:49	10U 466760 7613967	Mountain Goat	Visual	2	Adult, sub-adult	Unknown	Foraging , laying down	In snow line, rocky with lots of shrubbery	720-721
MG-OBS01	11:45	10U 467898 5612845	Grizzly Bear	Scat	1	Unknown	Unknown	Passing through trail	Very recent bear scat, took a quick look at truck wash slide, no sighting.	722

Mountain Goat Daily Observation Form

UPPER LILLOOET HYDRO PROJECT

Goat Monitor's Name(s): Danita Abraham

Date (YYYY-MM-DD): 2014-06-02

Weather (*cloud cover*, precipitation *and temperature*): 15% Cloud, sunshine

106-185 forester street, north vancouver, bc v7h 2m9
office tel 987.5588 fax 987.7740

Please submit **Mountain Goat Daily Observation Form** in person to a representative of Sartori Environmental Services (**Tom Hicks** or **Stephen Sims**) or by email to **steve@sartorienv.com** following each day of monitoring.

Mountain Goat Observation Site	UWR/Migration Corridor - Location	UTM Coordinates *(approximate center of observation area)*	Daily Start Time *(24hr clock)*	Daily End Time *(24hr clock)*
MG - OBS01	Migration Corridor - East side of Truckwash Creek	10U 467898 5612845	11:40	1:40
MG - OBS02	UWR u-2-002 UL 11 - Keyhole Falls	10U 466760 5613967	09:40	11:30
MG - OBS03	UWR u-2-002 UL 19 - Garibaldi Pumice	10U 469155 5614960	07:30	09:30

Daily form #	1	of	1

If more space is needed in the below table, please fill out additional daily forms and indicate total number of forms above.

Observation Site *(indicate if location other than OBS site)*	Time *(use 24hr clock)*	UTM Coordinates or Waypoint *(10U)*	Species Observed *(indicate Mountain Goat or other species)*	Observations *(be specific - visual sign, track, other sign)*	# of Animals	Age *(if known - refer to attached info sheet)*	Sex *(if known - refer to attached info sheet)*	Description of Activities *(feeding, moving, etc.)*	Comments *(habitat, snow conditions, etc.)*	Photo #s
MG-OBS03	08:10	10U 469155 5614960	Mountain Goat	Visual	2	Adult sub-adult	Unknown	Laying down	Rocky with some shrub. In Snow line	074-0726
	9:35		Deer	Visual	3	Unknow	Female	Standing on road	N/A	0727-(
MG-OBS02	09:50	10U 466760 5613967	None	N/A	0	N/A	N/A	N/A	N/A	0
MG-OBS01	11:45	10U 469155 5614960	None	N/A	0	N/A	N/A	N/A	N/A Anthony Andrews joined for safety	730

Mountain Goat Daily Observation Form

UPPER LILLOOET HYDRO PROJECT

Goat Monitor's Name(s): Tammie Jenkins

Date (YYYY-MM-DD): 2014-06-03

Weather (*cloud cover*, precipitation *and temperature*): Clear n sunny

106-185 forester street, north vancouver, bc v7h 2m9
office tel 987.5588 fax 987.7740

Please submit **Mountain Goat Daily Observation Form** in person to a representative of Sartori Environmental Services (**Tom Hicks** or **Stephen Sims**) or by email to **steve@sartorienv.com** following each day of monitoring.

Mountain Goat Observation Site	UWR/Migration Corridor - Location	UTM Coordinates *(approximate center of observation area)*	Daily Start Time *(24hr clock)*	Daily End Time *(24hr clock)*
MG - OBS01	Migration Corridor - East side of Truckwash Creek	10U 467898 5612845	11:55	13:55
MG - OBS02	UWR u-2-002 UL 11 - Keyhole Falls	10U 466760 5613967	7:30	9:30
MG - OBS03	UWR u-2-002 UL 19 - Garibaldi Pumice	10U 469155 5614960	9:45	11:45

Daily form #	1	of	1

If more space is needed in the below table, please fill out additional daily forms and indicate total number of forms above.

Observation Site *(indicate if location other than OBS site)*	Time *(use 24hr clock)*	UTM Coordinates or Waypoint *(10U)*	Species Observed *(indicate Mountain Goat or other species)*	Observations *(be specific - visual sign, track, other sign)*	# of Animals	Age *(if known - refer to attached info sheet)*	Sex *(if known - refer to attached info sheet)*	Description of Activities *(feeding, moving, etc.)*	Comments *(habitat, snow conditions, etc.)*	Photo #s
MG -obs02	8:00	466760 5613967	Blk bear	Visual	1	Unk	Unk	Feeding	Bear on cliff where MG bed and marked territory with scat No goats spotted…	687-689
MG-obs03	10:15	469155 5614960	MG	Visual	1	Adult	Unk	Climbing on rocks	In snow line	691-695
	11:28		MG	Visual	2	Adult	Unk	Grazing in meadows	Climbing into snow lin	0
MG-obs01	0	467898 5612845	0	0	0	0	0	0	0	0

Mountain Goat Daily Observation Form

UPPER LILLOOET HYDRO PROJECT

Goat Monitor's Name(s): Tammie Jenkins

Date (YYYY-MM-DD): 2014-06-04

Weather (*cloud cover*, precipitation *and temperature*): Partly Cloudy

106-185 forester street, north vancouver, bc v7h 2m9
office tel 987.5588 fax 987.7740

Please submit **Mountain Goat Daily Observation Form** in person to a representative of Sartori Environmental Services (**Tom Hicks** or **Stephen Sims**) or by email to **steve@sartorienv.com** following each day of monitoring.

Mountain Goat Observation Site	UWR/Migration Corridor - Location	UTM Coordinates *(approximate center of observation area)*	Daily Start Time *(24hr clock)*	Daily End Time *(24hr clock)*
MG - OBS01	Migration Corridor - East side of Truckwash Creek	10U 467898 5612845	7:05	9:10
MG - OBS02	UWR u-2-002 UL 11 - Keyhole Falls	10U 466760 5613967	9:30	11:50
MG - OBS03	UWR u-2-002 UL 19 - Garibaldi Pumice	10U 469155 5614960	12:00	1:15

Daily form #	1	of	2

If more space is needed in the below table, please fill out additional daily forms and indicate total number of forms above.

Observation Site *(indicate if location other than OBS site)*	Time *(use 24hr clock)*	UTM Coordinates or Waypoint *(10U)*	Species Observed *(indicate Mountain Goat or other species)*	Observations *(be specific - visual sign, track, other sign)*	# of Animals	Age *(if known - refer to attached info sheet)*	Sex *(if known - refer to attached info sheet)*	Description of Activities *(feeding, moving, etc.)*	Comments *(habitat, snow conditions, etc.)*	Photo #s
MG -obs01	7:30	467898 5612845	Mg	Visual	4	Unk	2billy 1nanny 1new b	Billy's feeding nanny birthing	Just below snow line for big billy who came down half hour. Later to help nan with baby	696-739
MG-obs01	7:05 9:00	467898 5612845	Grizz Deer	Second tree marked close to first	1…	Unk Adult	Unk Doe	Unk Curious n let me tak	I thought I heard griz yesterday. Truck wash was last site, this morn I find tree m	742-749
MG-obs02	10:30	466760 5613967	MG	Visual	5	1billy 1baby 3yearling	1male the rest unsure	Bedded down 11:00 on move to feed	Below usual spot came out of crevasse in the middle of slide	756-781

Mountain Goat Daily Observation Form

UPPER LILLOOET HYDRO PROJECT

Goat Monitor's Name(s): Tammie Jenkins

Date (YYYY-MM-DD): 2014-06-04

Weather (*cloud cover*, precipitation *and temperature*): Cloudy/sunny

106-185 forester street, north vancouver, bc v7h 2m9
office tel 987.5588 fax 987.7740

Please submit **Mountain Goat Daily Observation Form** in person to a representative of Sartori Environmental Services (**Tom Hicks** or **Stephen Sims**) or by email to **steve@sartorienv.com** following each day of monitoring.

Mountain Goat Observation Site	UWR/Migration Corridor - Location	UTM Coordinates *(approximate center of observation area)*	Daily Start Time *(24hr clock)*	Daily End Time *(24hr clock)*
MG - OBS01	Migration Corridor - East side of Truckwash Creek	10U 467898 5612845		
MG - OBS02	UWR u-2-002 UL 11 - Keyhole Falls	10U 466760 5613967		
MG - OBS03	UWR u-2-002 UL 19 - Garibaldi Pumice	10U 469155 5614960	12:00	1:15

Daily form #	2	of	2

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Observation Site *(indicate if location other than OBS site)*	Time *(use 24hr clock)*	UTM Coordinates or Waypoint *(10U)*	Species Observed *(indicate Mountain Goat or other species)*	Observations *(be specific - visual sign, track, other sign)*	# of Animals	Age *(if known - refer to attached info sheet)*	Sex *(if known - refer to attached info sheet)*	Description of Activities *(feeding, moving, etc.)*	Comments *(habitat, snow conditions, etc.)*	Photo #s
MG-obs03	13:00	469155 5614960	MG	Visual	3	Unk	Unk	Feeding	At snow line and crest of mountain peek on left face	0

Mountain Goat Daily Observation Form

UPPER LILLOOET HYDRO PROJECT

Goat Monitor's Name(s): Tammie Jenkins

Date (YYYY-MM-DD): 2014-06-05

Weather (*cloud cover*, precipitation *and temperature*): Sunny

106-185 forester street, north vancouver, bc v7h 2m9
office tel 987.5588 fax 987.7740

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Mountain Goat Observation Site	UWR/Migration Corridor - Location	UTM Coordinates *(approximate center of observation area)*	Daily Start Time *(24hr clock)*	Daily End Time *(24hr clock)*
MG - OBS01	Migration Corridor - East side of Truckwash Creek	10U 467898 5612845	9:10	11:10
MG - OBS02	UWR u-2-002 UL 11 - Keyhole Falls	10U 466760 5613967	11:30	1:20
MG - OBS03	UWR u-2-002 UL 19 - Garibaldi Pumice	10U 469155 5614960	7:00	9:00

Daily form #	1	of	1

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Observation Site *(indicate if location other than OBS site)*	Time *(use 24hr clock)*	UTM Coordinates or Waypoint *(10U)*	Species Observed *(indicate Mountain Goat or other species)*	Observations *(be specific - visual sign, track, other sign)*	# of Animals	Age *(if known - refer to attached info sheet)*	Sex *(if known - refer to attached info sheet)*	Description of Activities *(feeding, moving, etc.)*	Comments *(habitat, snow conditions, etc.)*	Photo #s
MG-obs03	7:00	469155 5614960	Porcupine	Visual	1	Unk	Unk	Lookin over valley	Making some kind of call	786-794
	7:30		MG	Visual	3	Unk	Unk	Feeding	Crest of mountain in s	0
MG-obs01	9:30	467898 5612845	MG	Visual	3	Adult 2kids	Unk	Eating/playing	Nanny had twins yesterday, so small. Bird of pray flying around birth place	795-803
MG-obs02	0	466760 5613967	MG	0	0	0	0	0	Didn't see any goats but dust kept coming from where they hide behind crevasse	807

Mountain Goat Daily Observation Form

UPPER LILLOOET HYDRO PROJECT

sartori environmental services

106-185 forester street, north vancouver, bc v7h 2m9
office 604.987.5588 fax 604.987.7740

Goat Monitor's Name(s): Anthony andrews

Date (YYYY-MM-DD): 2014-06-06

Weather (*cloud cover*, precipitation *and temperature*): Sunny

Submit completed **Mountain Goat Daily Observation Form** to by email to **goats@sartorienv.com** following each day of monitoring. Please ensure forms are complete and saved in the appropriate format (YYYY-MM-DD_Goat Monitoring Daily Observation Form (Observers Initials)

Mountain Goat Observation Site	UWR/Migration Corridor - Location	UTM Coordinates *(approx. center of area)*	Daily Start Time *(24hr clock)*	Daily End Time *(24hr clock)*
MG - OBS01	Migration Corridor - East side of Truckwash Creek	10U 467898 5612845	11:30	13:30
MG - OBS02	UWR u-2-002 UL 11 - Keyhole Falls	10U 466760 5613967	07:15	09:15
MG - OBS03	UWR u-2-002 UL 19 - Garibaldi Pumice	10U 469155 5614960	09:30	11:30

Daily form #	1	of	1

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MG-OBS02	07:25	10U466760 5613967	Mountain goat	Visual	5	2adults	Nanny male	Eating fir needles leaves the male layi	No snow sunny nice and green I forgot the	
MG-OBS03	10:00	10U469155 5614960	Mountain goat	Visual	1	Adult	Male	Licking off the rock face moving real slow south side goin	No snow green and sunny	
MG-OBS01	11:30	0	MG	0	0	0	0	0	0	

Mountain Goat Daily Observation Form

UPPER LILLOOET HYDRO PROJECT

Goat Monitor's Name(s): Anthony Andrews

Date (YYYY-MM-DD): 2014-06-07

106-185 forester street, north vancouver, bc v7h 2m9
office tel 987.5588 fax 987.7740

Weather (*cloud cover*, precipitation *and temperature*): Cloudy 70 percent cloud cover

Please submit **Mountain Goat Daily Observation Form** in person to a representative of Sartori Environmental Services (**Tom Hicks** or **Stephen Sims**) or by email to **steve@sartorienv.com** following each day of monitoring.

Mountain Goat Observation Site	UWR/Migration Corridor - Location	UTM Coordinates *(approximate center of observation area)*	Daily Start Time *(24hr clock)*	Daily End Time *(24hr clock)*
MG - OBS01	Migration Corridor - East side of Truckwash Creek	10U 467898 5612845	11:00	13:00
MG - OBS02	UWR u-2-002 UL 11 - Keyhole Falls	10U 466760 5613967	09:00	11:00
MG - OBS03	UWR u-2-002 UL 19 - Garibaldi Pumice	10U 469155 5614960	07:00	09:00

Daily form #	01	of	02

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Observation Site *(indicate if location other than OBS site)*	Time *(use 24hr clock)*	UTM Coordinates or Waypoint *(10U)*	Species Observed *(indicate Mountain Goat or other species)*	Observations *(be specific - visual sign, track, other sign)*	# of Animals	Age *(if known - refer to attached info sheet)*	Sex *(if known - refer to attached info sheet)*	Description of Activities *(feeding, moving, etc.)*	Comments *(habitat, snow conditions, etc.)*	Photo #s
MG-obs03	07:10	10U469155 5614960	Mg	Visual	1	Adult	Male	Feeding moving slow 150m below the top of mountain it's walking with a lin	Cool and cloudy no snow	0
MG-obs02	09:05	10U466760 5613967	Mg	Visual	1	Adult	Male	Laying down. Just at the edge of the tree line half way up the mountain	Sunny with a little wind	0
MG-obs02	09:30	10U466760 5613967	Mg	Visual	2	Nanny kid	Female	Laying at the tree line (nanny) kid playing with tree branches bucking ar	Sunny windy couldn't focus camera	0

Mountain Goat Daily Observation Form

UPPER LILLOOET HYDRO PROJECT

Goat Monitor's Name(s): Anthony Andrews

Date (YYYY-MM-DD): 2014-06-07

Weather (*cloud cover*, precipitation *and temperature*): Sunny windy

106-185 forester street, north vancouver, bc v7h 2m9
office tel 987.5588 fax 987.7740

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MG - OBS01	Migration Corridor - East side of Truckwash Creek	10U 467898 5612845		
MG - OBS02	UWR u-2-002 UL 11 - Keyhole Falls	10U 466760 5613967	11:00	13:00
MG - OBS03	UWR u-2-002 UL 19 - Garibaldi Pumice	10U 469155 5614960		

Daily form #	02	of	02

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MG-obs01	12:00	10U467898 5612845	Mg	0	0	0	0	0	Sunny windy a lot of fine dust blowing around rocks rolling down constantly	