



**AREVA Resources Canada Inc.**

**KIGGAVIK PROJECT, NUNAVUT**

Monthly Wildlife Report

August 1 – September 9, 2013

# 1 INTRODUCTION

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Throughout the 2013 field season, wildlife monitoring was carried out in accordance with the Wildlife Mitigation and Monitoring Plan (WMMP) developed for the Kiggavik Project. One of the requirements of the plan is monthly reporting. This is the third and final monthly report for the 2013 field season, which covers the month of August and first part of September. The drilling was completed the first week of September, with most personnel off site by September 5. The remaining personnel were on site until September 9 to finish aquatic work, and close the camp.

# 2 LOCAL WILDLIFE MONITORS

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Throughout August and September, AREVA employed Wildlife Monitors from Baker Lake; Timothy Evviuk, John Etegooyok and Stacey Kenacosak. Should caribou herds approach the area, the Wildlife Monitors are responsible for notifying the Project Geologist and/or Safety, Health, Environment, and Quality (SHEQ) Supervisor of approaching caribou herds and determining their distance from activities. The monitors also determine when the herds are a sufficient distance for activity to resume. Consistent monitoring occurred throughout August and September. Monitoring consists of five height-of-land (HOL) stations around camp and periodic visits to the drill sites. The Wildlife Monitor reports wildlife observations to the SHEQ Supervisor. The HOL locations around camp are shown in Figure 1 below. While on site, the Wildlife Monitors liaise with the SHEQ Supervisor to determine if monitoring is needed at specific locations besides the HOL locations around camp.

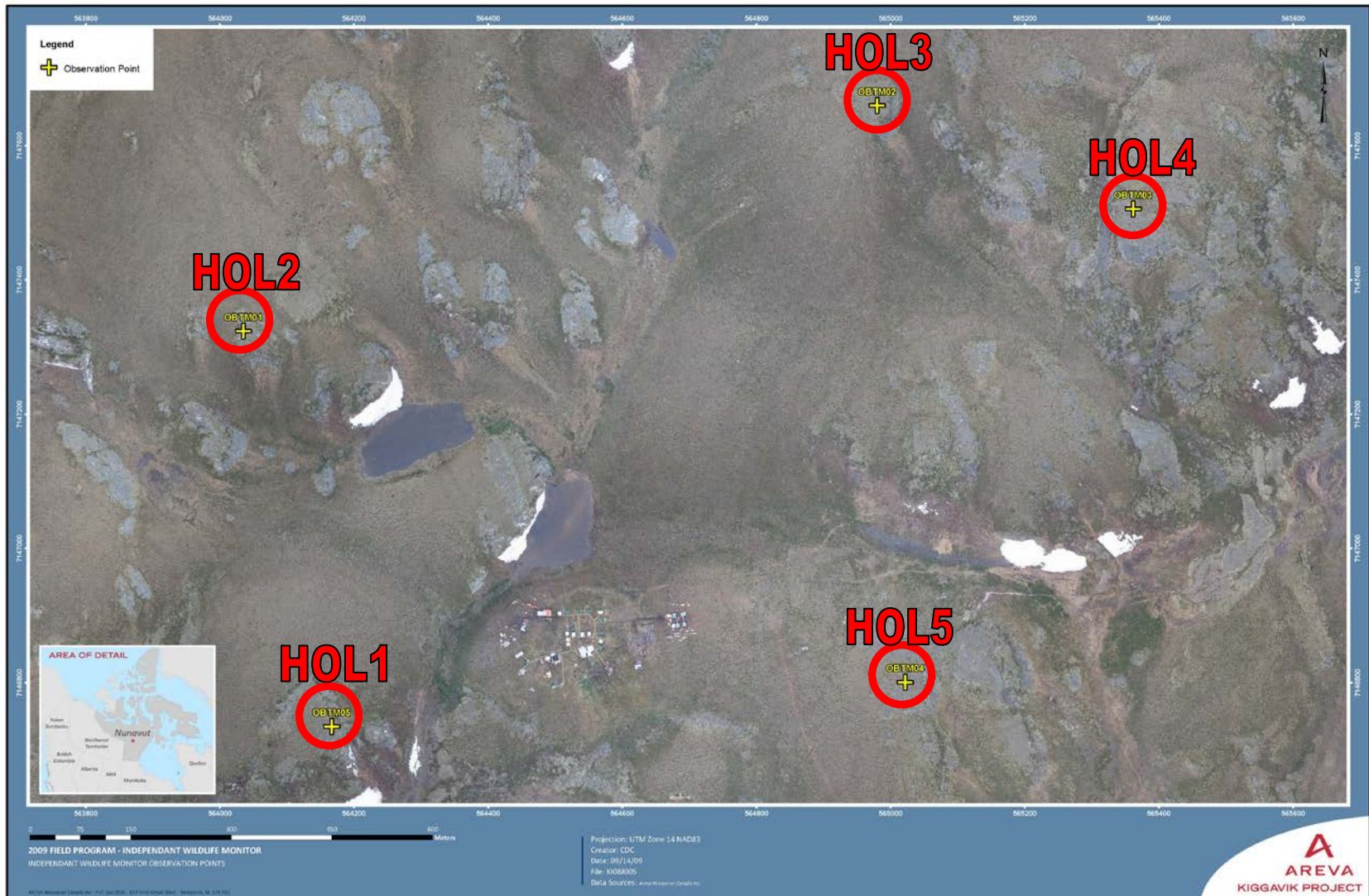


Figure 1 Wildlife Monitor Height of Land (HOL) Locations

### 3 WILDLIFE SIGHTINGS

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Sightings vary between incidental camp observations, contractor observations, Wildlife Monitor observations, and aerial observations from the helicopter. Sightings are recorded at various locations and transcribed into an environmental data spreadsheet as shown in the appended Table. Sighting details vary with the observer and are sometimes minimal. No Raptor nest sites near camp or drilling areas have been identified to date, but one falcon was observed north west of Sleek Lake. There were a total of 88 sightings which included a grizzly bear, caribou, muskox, arctic fox, arctic hare, wolves, various birds, sandhill cranes, and loons. Through the end of August and beginning of September, large flocks of geese were observed. A summary of all wildlife sightings for August and September is provided in Table 1 below.

**Table 1 August - September Kiggavik Wildlife Summary**

<b>Species</b>	<b>Wildlife Sightings</b>	<b>Total Number Observed</b>
Arctic Fox	4	6
Arctic Hare	3	3
Bald Eagle	2	2
Canadian Geese	3	37
Caribou	23	369
Cranes	5	20
Grizzly Bear	1	1
Loon	1	1
Muskox	32	442
Peregrine Falcon	1	1
Savannah Sparrow	1	1
Siksik	1	1
Snow Geese	9	200
Wolf	2	2
<b>Total</b>	<b>88</b>	<b>1086</b>

### **3.1 OBSERVATION METHODS**

Apart from the regular observations from local Wildlife Monitors, personnel record wildlife sightings as well. The appended table outlines the sightings in more detail, including the method of observation. Wildlife logs are placed in the camp kitchen and camp office for ease of recording wildlife sightings. During site orientation, Kiggavik personnel are informed of the wildlife log locations and are encouraged to report all wildlife sightings.

The Kiggavik camp uses two helicopters throughout the season for transport of personnel and to provide drill support. Long range flights are occasionally made between Baker Lake and Kiggavik, while short range flights are commonly made between the Kiggavik camp and drilling rigs. These flights are monitored for altitude restrictions, and pilots will be informed if caribou are approaching the area. Pilots and personnel record aerial wildlife observations from the helicopter during these regular flights.

The Government of Northwest Territories (GNWT) and Government of Nunavut (GN) provide collaring data showing collar movements. The issuance of collar data enables proper implementation of the WMMP as a source of caribou movements.

## **3.2 MITIGATION ACTION TAKEN**

As required by the Nunavut Impact Review Board (NIRB) 2007 screening decision and the WMMP, activity will be suspended when concentrations of caribou are within 2 km of drill rigs during the months of June and July, and aircraft will not take off or land within 1 km of a herd. On August 3, the Wildlife Monitor observed approximately 300 caribou within 1 km of the Kiggavik camp, thus causing the helicopters to remain grounded for 45 minutes. Drilling was also temporarily suspended until the Wildlife Monitor determined that the herd had moved beyond 2 km towards Aberdeen Lake.

On September 5, a grizzly bear wandered into the camp from the south east. While the bear scratched himself on the core racks, the five people in camp gathered in the camp office for safety. The helicopter returned from the field to escort the bear to the north west of camp.

## **4 FLIGHT ALTITUDES**

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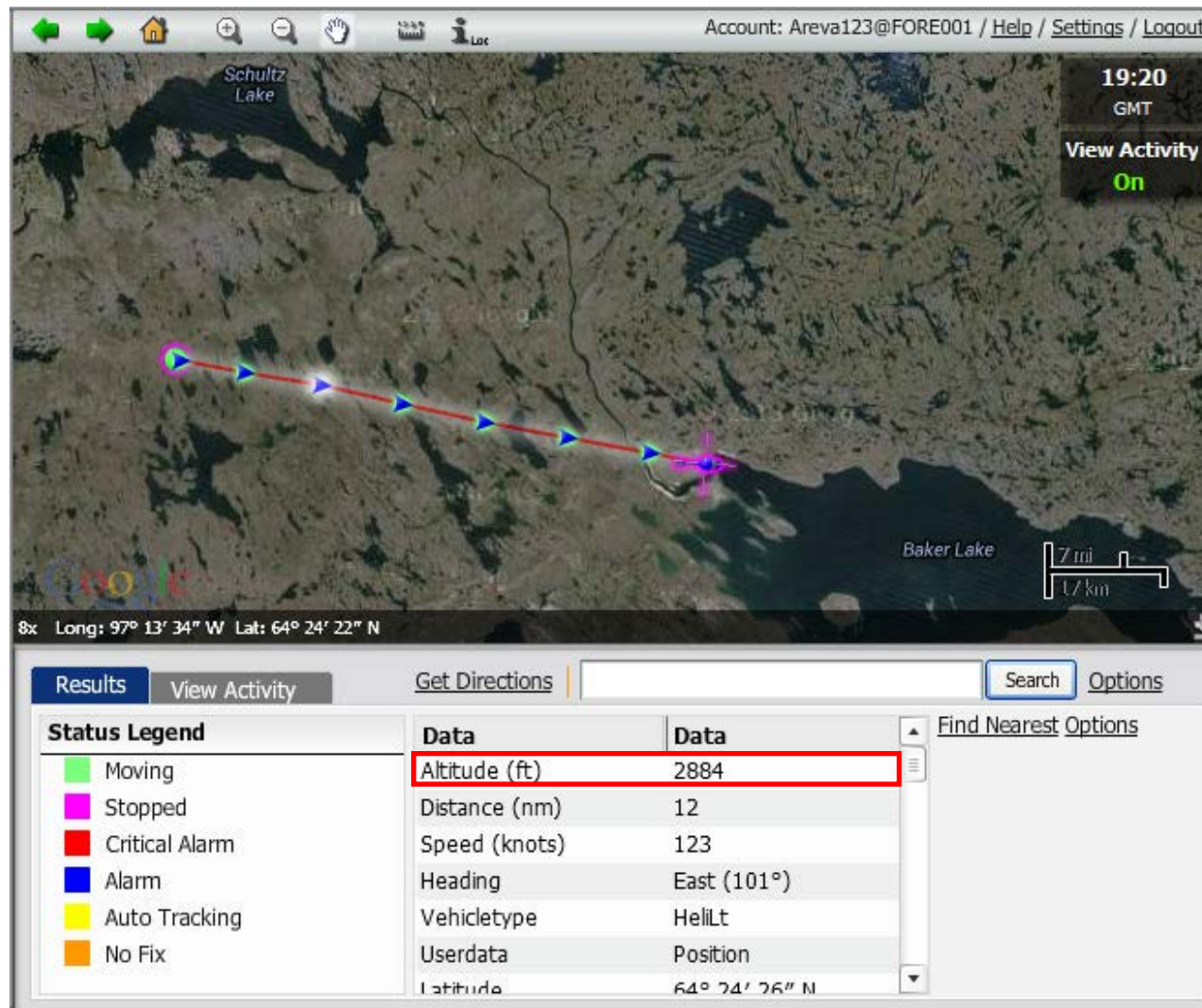
The Kiggavik WMMP requires that long range flights be flown a minimum of 610 m (2000 ft) above ground, and short range flights be flown 300 m (1000 ft) above ground with exceptions for low-level ceiling conditions, slinging activity, or risks to flight safety. The pilots have been compliant with altitudes required for both long range and short range flights.

Through the internet based SkyConnect program, helicopter altitudes are tracked and periodically checked by the SHEQ Supervisor. The SkyConnect program allows the SHEQ Supervisor to cross reference with daily flight reports to ensure pilots have recorded reasons for occasional low level flights such as slinging or low level ceiling/bad weather. The pilots have been diligent in flying at or above the desired altitudes whenever possible.

Baker Lake residents wishing to view the helicopter altitudes are welcome to stop by the AREVA office any time. Logs of the flights are kept throughout the season.

## APPENDIX A – Flight Altitude Check

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Date	Time	Observation method	Species	Number	Behaviour	Disturbance	Cause of Disturbance	Behaviour Before Disturbance	Behaviour After Disturbance	Actions Taken to Avoid Disturbance	Physical Location	Comments
8/1/2013		Aerial	Fox	1		No	-	-	-	-	6 miles north of camp	
8/1/2013		Aerial	Muskox	25		No	-	-	-	-	20 miles east of camp	
8/2/2013		Incidental	Caribou	1	Eating, Walking	No	-	-	-	-	Endgrid North	Observed by Geologist while probing
8/2/2013		Incidental	Muskox	1	Eating, Walking	No	-	-	-	-	Endgrid North	Observed by Geologist while probing
8/3/2013		Aerial	Bald Eagle	1		No	-	-	-	-	Pond west of camp	
8/3/2013	09:00	Wildlife Monitor	Caribou	300	Migrating	No	-	-	-	-	2 km south of Camp, migrating towards Aberdeen Lake.	The herd migrated up to within 1 km of camp, thus causing the helicopters to remain grounded from 10:00 AM to 10:45 AM. The Wildlife Monitor advised to let the Drill 2 know that the caribou were migrating towards the drill. By 10:45 AM the monitor notified everyone that the herd had moved far enough away towards Aberdeen Lake.
8/3/2013	09:30	Wildlife Monitor	Caribou	30	Walking	No	-	-	-	-	South of Pointer Lake	
8/3/2013	09:30	Wildlife Monitor	Caribou	3	Walking	No	-	-	-	-	Main Zone	
8/3/2013		Incidental	Caribou	1	Walking	No	-	-	-	-	Jane-Drew	Observed by Geologist while probing
8/3/2013		Aerial	Muskox	1		No	-	-	-	-	10 miles north east of camp	
8/3/2013		Aerial	Muskox	10		No	-	-	-	-	Sleek Lake	
8/3/2013		Aerial	Wolf	1		No	-	-	-	-	7 miles south west of camp	
8/3/2013	17:00	Incidental	Wolf	1	Watching geophysics contractor	No	-	-	-	-	East End grid	
8/3/2013	10:00	Incidental	Caribou	1	Deceased	No	-	-	-	-	East End grid	Geophysics contractor came upon a dead caribou. It didn't appear to have been taken down by a wolf. He was unsure how it died, but it was pretty rancid.
8/4/2013	13:00	Incidental	Muskox	1	Eating	No	-	-	-	-	Approximately 1/2 km north of camp	
8/5/2013		Aerial	Caribou	1		No	-	-	-	-	5 miles west of Sleek Lake	
8/5/2013		Aerial	Muskox	100		No	-	-	-	-	20 km north east of camp	
8/5/2013		Aerial	Muskox	10		No	-	-	-	-	8 km south east of camp	
8/5/2013	13:00	Wildlife Monitor	Caribou	3	Walking	No	-	-	-	-	Camp	
8/6/2013		Aerial	Muskox	10		No	-	-	-	-	2 miles south east of Sleek	



Date	Time	Observation method	Species	Number	Behaviour	Disturbance	Cause of Disturbance	Behaviour Before Disturbance	Behaviour After Disturbance	Actions Taken to Avoid Disturbance	Physical Location	Comments
8/7/2013	06:00	Wildlife Monitor	Caribou	5	Walking	No	-	-	-	-	2 km south of camp walking west around camp	
8/7/2013	06:00	Wildlife Monitor	Caribou	3	Walking	No	-	-	-	-	2 km north of camp	
8/8/2013	11:00	Incidental	Fox	1		No	-	-	-	-	Boart Longyear Shop	
8/8/2013		Aerial	Muskox	1		No	-	-	-	-	Drill 1 (END-13-03); One lonely bull	
8/8/2013		Aerial	Caribou	1		No	-	-	-	-	2 miles north of Sleek Lake	
8/8/2013		Aerial	Muskox	13		No	-	-	-	-	1 mile south of Sleek Lake	
8/9/2013		Aerial	Caribou	1		No	-	-	-	-	Fuel Cache	
8/9/2013		Aerial	Caribou	2		No	-	-	-	-	Andrew Lake	
8/10/2013		Aerial	Muskox	1		No	-	-	-	-	Endgrid	
8/11/2013	09:00	Incidental	Arctic Hare	1	Running around boardwalks	No	-	-	-	-	Camp	
8/11/2013		Aerial	Caribou	2		No	-	-	-	-	Drill 3	
8/11/2013		Aerial	Muskox	13		No	-	-	-	-	Sleek Lake South East	
8/11/2013		Aerial	Muskox	2		No	-	-	-	-	Drill 1 - 2 miles east	
8/11/2013		Aerial	Muskox	25		No	-	-	-	-	South end of Sleek Lake	
8/11/2013		Aerial	Caribou	2		No	-	-	-	-	Drill 2 by Fuel Cache	
8/12/2013		Aerial	Caribou	2		No	-	-	-	-	Drill 3	
8/12/2013		Aerial	Muskox	13		No	-	-	-	-	SE of Sleek Lake	
8/12/2013		Aerial	Muskox	2		No	-	-	-	-	2 miles East of Drill 1	
8/13/2013		Aerial	Muskox	2		No	-	-	-	-	Drill 1	
8/13/2013		Aerial	Caribou	1		No	-	-	-	-	Drill 1	
8/13/2013		Aerial	Muskox	10		No	-	-	-	-	NW of Judge Sissons Lake	
8/13/2013		Aerial	Muskox	17		No	-	-	-	-	Outlet of Judge Sissons Lake	
8/13/2013	02:00	Aerial	Loon	1		No	-	-	-	-	Judge Sissons Lake	
8/14/2013		Aerial	Bald Eagle	1		No	-	-	-	-	2 Miles West of Sleek Lake	
8/15/2013		Aerial	Muskox	10		No	-	-	-	-	Sleek Lake	

Date	Time	Observation method	Species	Number	Behaviour	Disturbance	Cause of Disturbance	Behaviour Before Disturbance	Behaviour After Disturbance	Actions Taken to Avoid Disturbance	Physical Location	Comments
8/15/2013	07:30	Aerial	Cranes	2	Flying	No	-	-	-	-	NW of Sleek Lake	
8/15/2013	08:00	Aerial	Caribou	1	Resting	No	-	-	-	-	NW of Sleek Lake	
8/15/2013	08:30	Aerial	Peregrin Falcon	1	Perched on Rock	Yes	Geophysics Surveyor walked close to its perch	Perched on Rock	Flew Away	None	NW of Sleek Lake	
8/15/2013	09:00	Aerial	Caribou	1	Deceased	No	-	-	-	-	SE of Mushroom Lake	Geophysics surveyor noticed the carcass while walking his lines. It didn't appear to have been taken down by a wolf. The carcass smelt quite bad.
8/15/2013		Aerial	Arctic Fox	2	Playing	No	-	-	-	-	By core shacks	
8/15/2013		Aerial	Arctic Rabbit	1	Sitting/Resting	No	-	-	-	-	Underneath Cabin in Camp	
8/16/2013	19:30	Aerial	Snow Geese	Flock	Flying	No	-	-	-	-	S of Schultz Lake	
8/16/2013	19:35	Aerial	Canadian Geese	Flock	Flying	No	-	-	-	-	S of Schultz Lake	
8/16/2013	21:30	Aerial	Canadian Geese	30	Flying	No	-	-	-	-	By the incinerator	
8/17/2013		Aerial	Muskox	50		No	-	-	-	-	2 Miles S of Sleek Lake	
8/19/2013		Camp Observation	Caribou	1		No	-	-	-	-	South of Camp	
8/20/2013	1:00	Camp Observation	Muskox	1		No	-	-	-	-	North of Camp	
8/20/2013	08:00	Camp Observation	Arctic Rabbit	1		No	-	-	-	-	Underneath Cabin in Camp	
8/21/2013	07:00	Camp Observation	Cranes	4	Walking	No	-	-	-	-	South of Camp	
8/22/2013	19:30	Camp Observation	Snow Geese	Flock	Flying	No	-	-	-	-	South of Schultz Lake	
8/23/2013		Aerial	Muskox	8	Eating	No	-	-	-	-	1 Mile East of Camp	
8/23/2013		Aerial	Caribou	1		No	-	-	-	-	Bong Grid	
8/23/2013	11:30	Aerial	Muskox			No	-	-	-	-		
8/23/2013		Camp Observation	Muskox	30		No	-	-	-	-	Mushroom Lake	
8/23/2013		Camp Observation	Muskox	35		No	-	-	-	-	Southwest of camp	
8/23/2013		Camp Observation	Muskox	20		No	-	-	-	-	Sleek Lake	
8/23/2013		Camp Observation	Muskox	14		No	-	-	-	-	Northeast of camp	
8/23/2013	10:30	Camp Observation	Caribou	4		No	-	-	-	-	Pizza Grid	

Date	Time	Observation method	Species	Number	Behaviour	Disturbance	Cause of Disturbance	Behaviour Before Disturbance	Behaviour After Disturbance	Actions Taken to Avoid Disturbance	Physical Location	Comments
8/23/2013	13:00	Camp Observation	Cranes	2		No	-	-	-	-	Kiggavik East	
8/25/2013	09:00	Camp Observation	Muskox	10		No	-	-	-	-	4 km South of Camp	
8/25/2013	11:00	Camp Observation	Caribou	2		No	-	-	-	-	3 km South of Camp	
8/25/2013	12:00	Camp Observation	Cranes	6		No	-	-	-	-	South of Camp	
8/25/2013	15:00	Camp Observation	Cranes	6		No	-	-	-	-	North of Camp	
8/25/2013	15:30	Camp Observation	Muskox	1		No	-	-	-	-	South of Camp	
8/25/2013	09:00	Camp Observation	Savannah Sparrow	1		No	-	-	-	-		
8/26/2013	14:30	Camp Observation	Siksik	1		No	-	-	-	-	West of Camp	
8/26/2013		Camp Observation	Fox	2		No	-	-	-	-		
8/27/2013	09:20	Camp Observation	Snow Geese	Flock		No	-	-	-	-	East of Camp	
8/27/2013	15:00	Camp Observation	Snow Geese	50 Flocks	Flying South	No	-	-	-	-	North of Camp	
8/27/2013		Aerial	Snow Geese	100		No	-	-	-	-	Drill 3	
8/28/2013		Camp Observation	Snow Geese	100's		No	-	-	-	-	Camp	
8/29/2013		Aerial	Snow Geese	1000s		No	-	-	-	-	Everywhere	
8/29/2013	13:00	Camp Observation	Muskox	1	Grazing	No	-	-	-	-	1 km North of Camp	
8/30/2013		Aerial	Snow Geese	1000s		No	-	-	-	-	Everywhere	
8/31/2013		Aerial	Canadian Geese	7		No	-	-	-	-	Fuel Cache	
9/1/2013		Aerial	Snow Geese	100		No	-	-	-	-	Camp	
9/2/2013	09:30	Camp Observation	Muskox	4	Walking	No	-	-	-	-	South East of Camp	
9/2/2013	17:30	Camp Observation	Muskox	1	Walking	No	-	-	-	-	North of Camp	
9/5/2013	16:15	Camp Observation	Grizzly Bear	1	Walking	No	-	-	-	-	Camp Core Racks	The bear walked towards camp from the south east, and scratched himself on the core racks in camp. Only five people were in camp at the time, and all were gathered into the main camp office. The helicopter escorted the bear away from the core racks to the northwest of camp.