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# MEADOWBANK MINE

## 2019 WILDLIFE MONITORING SUMMARY REPORT

### FINAL

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## APPENDIX B

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### 2019 Road Survey Forms – Whale Tail Haul Road



*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed*

**Temperature:**

**Wind Speed:**

**Wind Direction:**

Visibility (check): ☐ 100m ☐ 500m ☒ 1 km Precipitation:

Clear

Wind 20km/h

Field Team: Daubelle & Martin

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*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed*

Time Started: 10:45 Time Ended: 15:30

**Time Ended:** 15:30

Clear

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*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed*

Temperature: -35.4  
Wind Speed: 13.2 kph  
Wind Direction: NW

**Wind Direction:** NW

Wind Speed: 13.2 kph  
☒ 1 km Precipitation:

[illegible]



*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed*

Temperature:   
 Wind Speed: *No Wind*   
 Wind Direction: *---*

Temperature:   
 Wind Speed: *10-15*   
 Wind Direction: *SE*

Visibility (check): ☐ 100m ☐ 500m ☒ 1 km Precipitation:  Clear

Field Team: *MATIN*

Page of





This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed

**Time Ended:** 3:15

**Wind Direction:** *Nor*

Page of



This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed

**Wind Direction:**

Clear

Page of





*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed*

**Field Team:** J. Dabell & M. Martin

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*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed*

Time Ended: 3:46 PM

**Wind Direction:**

Clear

No  
Wildlife assisting



This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed

**Time Ended:** 11:30 am

**Wind Direction:**

Clear

**Wind Direction:** 7

No Wildlife

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*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed*

Temperature: -32  
Wind Speed: 25.3 kph  
Wind Direction: NW

Clear

**Wind Direction:** NW

Field Team: Nicolas S. et Kathleen N.

[illegible]



*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed*

Time Ended: 14:28

Wind Direction: E

Clear

**...continued**

Page of



## Meadowbank Access Road Wildlife Survey Field Sheet

*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed*

**Temperature:**

**Wind Speed:**

**Wind Direction:**

Visibility (check): ☐ 100m ☐ 500m ☒ 1 km Precipitation:

Field Team: V. Stataw, B. Katalin

[illegible]





## Meadowbank Access Road Wildlife Survey Field Sheet

*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed.*

**Temperature:**

**Wind Speed:**

**Wind Direction:**

Visibility (check): ☐ 100m ☐ 500m ☒ 1 km Precipitation:

Field Team: V. V. T. H. S. K. S. K.

[illegible]

Whale Tail Haul Road

# SURVEY FORM - 2019

Date (day/month/year) 02/26/19 Time Started 1:55 <sup>PM</sup> Time Ended 5:40 <sup>PM</sup> Page 1 of 1  
Start Location (UTM) NQ041400 End Location AMARU Observer Names: LEONIE & MARIAN  
Temperature: \_\_\_\_\_ Wind Speed (km/hr): \_\_\_\_\_ Wind Direction: \_\_\_\_\_ Visibility (circle): 100m 500m 1km (>1km) Precipitation: NO

[illegible]

<sup>1</sup> Sex = M (Male) or F (Female); Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)

2 Habitat = WA (Water), SE (Sedge), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Esker/Avens), RO (Rock & Boulder), and DI (Disturbed)

<sup>3</sup> Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Flinch), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)

<sup>4</sup> Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)

Whale Tail Haul Road

# SURVEY FORM - 2019

Date (day/month/year) 02/27/19 Time Started 9:10 <sup>AM</sup> Time Ended \_\_\_\_\_ Page 1 of \_\_\_\_\_  
 Start Location (UTM) Vault Laydown End Location Amaruq Observer Names: Isabelle Martin  
 Temperature: \_\_\_\_\_ Wind Speed (km/hr): \_\_\_\_\_ Wind Direction: \_\_\_\_\_ Visibility (circle): 100m 500m 1km >1km Precipitation: 0.2 <sup>mm</sup> 10 <sup>mm</sup>

[illegible]

<sup>1</sup> Sex = M (Male) or F (Female); Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)

<sup>2</sup> Habitat = WA (Water), SE (Sege), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Eske/Avens), RO (Rock & Boulder), and DI (Disturbed).  
<sup>3</sup> Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Fleeing).

(Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)

<sup>4</sup>Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)



Date (day/month/year) 28/02/2019

Time Started 8:11 Time Ended \_\_\_\_\_

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Start Location (UTM)	Vault Landover
End Location	MS MK
Observer Name(s)	

Wind Location: WS Observer Names: AK  
 Temperature: -35 Wind Speed (km/hr): 30 Wind Direction: NW Visibility (circle): 100m 500m 1km >1km Precipitation: 0

[illegible]

<sup>1</sup> Sex = M (Male) or F (Female); Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult).

<sup>2</sup> Habitat = WA (Water), SE (Sedge), BR (Briar & Ritarian Shrub), HT (Heath Tundra), II (Ice)

3 Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WO (Walking Quickly), TR (Travel), DR (Drinking), Z (Zitroulak - water), SE (Sedge), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Esker/Avens), RO (Rock & Boulder) and DI (Disturbed).

CO (Courtng), FL (Flying), DB (Dive-Bombng), SW (Swimming), NE (Nesting), DI (Digging)  
Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), NW (Northwest), N (North)

<sup>4</sup> Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)



*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed*

**Time Ended:**

**Wind Direction:**

Clear in the morning, very foggy

Clear in the morning, very foggy

Page of



*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed*

**Time Ended:** 1:30

**Wind Direction:** North

Clear

Clear

[illegible]





*This form is for collaborative systematic monitoring of the access; it is important all fields in the table below are completed.*

**Time Ended:** 5:53 pm

**Wind Direction:**

U

5:45 PM	arrived	4	ice	walking	N/E	boat	600	140	14M	0626832	7236245
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## Whale Tail Haul Road

Page 1 of 1

Start Location (UTM) 19U0640044/7420672 End Location 460633072/7231638 Observer Names: W. P. Torres M. Keck

Temperature: -15°C Wind Speed (km/hr): 19 Wind Direction: SE Visibility (circle): 100m 500m 1km >1km Precipitation: blowing snow

[illegible]

<sup>1</sup> Sex = M (Male) or F (Female); Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)

<sup>2</sup>Habitat = WA (Water), SE (Seedge), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Eske/Avens), RO (Rock & Boulder), and DI (Disturbed).

(Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), D (Digging)  
**4 Direction of Travel** = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)



No H.O.C. today  
Visibility poor

Whale Tail Haul Road

Page 1 of 2

Observer Names: MARTIN + KEVIN

Temperature: \_\_\_\_\_ Wind Speed (km/hr): \_\_\_\_\_ Wind Direction: \_\_\_\_\_ Visibility (circle): 100m 500m 1km >1km Precipitation: \_\_\_\_\_

<sup>1</sup> Sex = M (Male) or F (Female); Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)  
<sup>2</sup> Habitat = WA (Water), SE (Seede), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Esker/Avens), RO (Rock & Boulder), and DI (Disturbed)  
<sup>3</sup> Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)  
<sup>4</sup> Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)



**Circle the Relevant Segment: Meadowbank AWMAR**

Vault Haul Road

Whale Tail Haul Road

Date (day/month/year) 2019-04-02

Time Started 1:32 PM

Time Ended 4:55 PM

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Start Location (UTM) 114111 Laydown

End Location Amarillo

Observer Names: Jo A. / Kathleen

Temperature: -20.2 Wind Speed (km/hr): 16.5 Wind Direction: NE Visibility (circle): 100m 500m 1km

Precipitation:                     [illegible]

<sup>1</sup> **Sex** = M (Male) or F (Female); **Age** = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)

<sup>2</sup> Habitat = WA (Water), SE (Sedge), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Esker/Avens), RO (Rock & Boulder), and DI (Disturbed).  
<sup>3</sup> Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Fleeing).

(Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)

<sup>4</sup>Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)

## Whale Tail Haul Road

Page 1 of 1

Observer Names: MARILYN & KEVIN

Temperature: \_\_\_\_\_ Wind Speed (km/hr): \_\_\_\_\_ Wind Direction: \_\_\_\_\_ Visibility (circle): 100m 500m 1km >1km Precipitation: \_\_\_\_\_

[illegible]

4 Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest).

NA = not available

Whale Tail Haul Road

Page 1 of 1

Observer Names: MARINA KELVIN

Temperature: \_\_\_\_\_ Wind Speed (km/hr): \_\_\_\_\_ Wind Direction: \_\_\_\_\_ Visibility (circle): 100m 500m 1km >1km Precipitation: \_\_\_\_\_

[illegible]

<sup>1</sup> Sex = M (Male) or F (Female); Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)

<sup>2</sup> Habitat = WA (Water), SE (Seedge), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Essex/Avers), RO (Rock & Boulder), and DI (Disturbed).

(F)lying, DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)

4 Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest).



## AGNICO EAGLE MINES – ROAD WILDLIFE MONITORING SURVEY FORM - 2019

**Circle the Relevant Segment:** Meadowbank AVMAR

## Vault Haul Road

Whale Tail Haul Road

Date (day/month/year) 05/04/2019

Time Started 8:25

Time Ended 13:20

Page 1 of 1

Start Location (UTM)	Vault 10Ydown
----------------------	---------------

End Location Amarsurg Camp

Observer Names: Martin, K. & Kevin, M.

Temperature: \_\_\_\_\_ Wind Speed (km/hr): \_\_\_\_\_ Wind Direction: \_\_\_\_\_ Visibility (circle): 100m 500m 1km >1km Precipitation: \_\_\_\_\_



<sup>1</sup>Sex = M (Male) or F (Female), Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)  
<sup>2</sup>Habitat = WA (Water), SE (Sedge), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Eske/Avens), RO (Rock & Boulder), and DI (Disturbed)  
<sup>3</sup>Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)  
<sup>4</sup>Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)





## Whale Tail Haul Road

Page 1 of 1

MARTIN KATHLEEN

Precipitation: \_\_\_\_\_

**Sex** = M (Male) or F (Female); **Age** = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)

<sup>2</sup> Habitat = WA (Water), SE (Sedge), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Eskei/Avens), RU (Rock & Boulder), and UN (Unsubdivided).  
Behaviour = BE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Fleeing), and UN (Unsubdivided).

(Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)

<sup>4</sup> Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest).

Includes time  
to and from  
America.

Whale Tail Haul Road

Page \_\_\_\_\_ of \_\_\_\_\_

MARTIN & PR

Precipitation: 41 km

Q

⑪ Group appeared to be approaching road but then veered away despite no traffic on the road. Road flaps were flapping and may have been a factor.

NOTE: Survey is conducted in BOTH directions. (with break at Amarillo)







1



Whale Tail Haul Road

Page 1 of 1

Observer Names: Kathleen

00m 500m 1km >1km Precipitation:

### Precipitation:

1 Sex = M (Male) or F (Female), Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)  
2 Habitat = WA (Water), SE (Sedge), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Esker/Avens), RO (Rock & Boulder), and DI (Disturbed)  
3 Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)  
4 Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)

1 the pick up scared them

Whale Tail Haul Road

Page \_\_\_\_\_ of \_\_\_\_\_

Observer Names: Louis Dubois

>1km Precipitation: 0

9

Cossin Road

Sex = M (Male) or F (Female); Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)

<sup>2</sup> Habitat = WA (Water), SE (Sedge), BR (Birch & Riparian Shrub), HI (Heathland), AI (Alder), EQ (Enriched), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Mimicry), LI (Litter), and SI (Shrub).

<sup>3</sup> Behaviour = RE (Resting), SI (Standing), AL (Alert), O (On guard), SW (Swimming), NE (Nesting), DI (Digging), DB (Dive Bombing), CS (Courtship), EW (Southwest), W (West), and NW (Northwest).

<sup>4</sup> Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), ...



# AGNICO EAGLE MINES – ROAD WILDLIFE MONITORING SURVEY FORM - 2019

Circle the Relevant Segment: Meadowbank AWA

Vault Haul Road

Whale Tail Haul Road

Date (day/month/year) 2019 04-12

Time Started 8:00

Time Ended 9:30

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Start Location (UTM) 4919

End Location 4919 30

Observer Names: Bruce & Doreen

Temperature: -10 Wind Speed (km/hr): 5 km

Wind Direction: SSE

Visibility (circle): 100m

500m

1km

>1km

Precipitation: 0

Time	Species Name	Number	Sex and Age <sup>1</sup>	Habitat Type (ELC) <sup>2</sup>	Behaviour <sup>3</sup>	Direction of Travel <sup>4</sup>	Distance from Road (m)	Direction from Road (N or S)	Location on Access Road (GPS Coordinates)				Comments
									KM	Zone	Easting	Northing	
8:30	Curlew	15	-	HT	WS	SW	500	W	137				
8:38	Curlew	10	-	HT	WS	N	500	W	133				
9:00	Curlew	20	-	W	WS	N	1 km	W	137				
9:05	Curlew	25	-	W	WS	N	2 km	E	133				
9:15	Curlew	40	-	W	WS	N	300 m	W	127				
9:15	Curlew	11	-	W	WS	E	0 T	W-7E	123				Crossing Road
9:15	Curlew	30	-	W	ST	-	700 m	W	123				
9:20	Curlew	100	-	W	WS	E	0 T	W-7E	121				Crossing Road
9:25	Curlew	40	-	W	WS	N	100 m	W	119				

<sup>1</sup> Sex = M (Male) or F (Female); Age = C (Calf), Chick, Cub or Pup, Y (Yearling), and A (Adult)

<sup>2</sup> Habitat = WA (Water), SE (Sedge), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Esker/Avens), RO (Rock & Boulder), and DI (Disturbed)

<sup>3</sup> Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)

<sup>4</sup> Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)



## Whale Tail Haul Road

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Observer Names: Tom

Temperature: \_\_\_\_\_ Wind Speed (km/hr): \_\_\_\_\_ Wind Direction: \_\_\_\_\_ Visibility (circle): 100m 500m 1km >1km Precipitation: N/A

[illegible]

<sup>1</sup> Sex = M (Male) or F (Female); Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)

**2** Sex = M (male), F (female); Age = C (calf), Juven., Sub or Ad (subadult or adult); Loc = L (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Esker/Avens), RO (Rock & Boulder), HB (Heath Birch) & Riparian Shrub), HT (Heath Tundra), LI (Lichen Habitat) = WA (Water), SE (Sedge), BR (Birch) & Riparian Shrub), LT (Lichen Tundra), LU (Lichen Behaviour) = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Fleeing)

Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)





# AGNICO EAGLE MINES – ROAD WILDLIFE MONITORING SURVEY FORM - 2019

Circle the Relevant Segment: Meadowbank AWAAR Vault Haul Road

Whale Tail Haul Road

Date (day/month/year) 2019-04-13 Time Started 19h00 Time Ended 16:30

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Start Location (UTM) AMQ End Location KM 130 Observer Names: J. Davis, D. Davis

Temperature: -5.2 Wind Speed (km/hr): Wind Direction: Visibility (circle): 100m 500m 1km >1km Precipitation:

Rock Ptarmigan

Time	Species Name	Number	Sex and Age <sup>1</sup>	Habitat Type (ELC) <sup>2</sup>	Behaviour <sup>3</sup>	Direction of Travel <sup>4</sup>	Distance from Road (m)	Direction from Road (N or S)	Location on Access Road (GPS Coordinates)				Comments
									KM	Zone	Easting	Northing	
14h00	Carrion	60	-	HT	FO	-	1KM	W	177				
14h15	Mohor	2	-	HT	AL	-	20	W	146				
14h22	Carrion	25	-	HT	WQ	SW	200	W	143				
14h35		3	-	HT	WQ	W	10	W	140				
15h00	Carrion	80	-	HT	AL	-	150	W	136				
15h03	11	40	-	HT	PE	-	300	W	135				
15h05	11	100	-	HT	AL	-	500	W	134				
15:35	11	8	-	HT	ST	-	300	W	164				
16:05	Snowy Owl	1	-	-	FL	W-7E	0	W-7E	169				

<sup>1</sup> Sex = M (Male) or F (Female); Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)  
<sup>2</sup> Habitat = WA (Water), SE (Sedge), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Esker/Avens), RO (Rock & Boulder), and DI (Disturbed)  
<sup>3</sup> Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Counting), FL (Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)  
<sup>4</sup> Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)

## Whale Tail Haul Road

Start Location (UTM) AMQ End Location KM 145 Observer Names: Lucas Quiso

Temperature: -10 Wind Speed (km/hr): 0 Wind Direction:      Visibility (circle): 100m 500m 1km >1km Precipitation:     

[illegible]

<sup>1</sup> Sex = M (Male) or F (Female), Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)  
<sup>2</sup> Habitat = WA (Water), SE (Sedge), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Esker/Avens), RO (Rock & Boulder), and DI (Disturbed)  
<sup>3</sup> Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)  
<sup>4</sup> Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)



## Whale Tail Haul Road

Time Ended 7:30

Observer Names: Kevin Martee

ity (circle): 100m 500m 1km >1km Precipitation: \_\_\_\_\_

<sup>1</sup> Sex = M (Male) or F (Female), Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)  
<sup>2</sup> Habitat = WA (Water), SE (Sedge), BR (Birch & Rorrian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Eske/Avens), RO (Rock & Boulder), and DI (Disturbed)  
<sup>3</sup> Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)  
<sup>4</sup> Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)



## Whale Tail Haul Road

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Steven M. Hec

**Precipitation:** \_\_\_\_\_

[illegible]

4. Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)







$\mu_{\beta L}$

Whale Tail Haul Road

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Observed Normal

Precipitation:  $>1\text{km}$  500m

1km > 1km Precipitation: No

COSKIN  
Nash

<sup>2</sup> Habitat = WA (Water), SE (Sedge), BB (Birch & Riparian Shrub), HT (Heath Tundra), I (fish

Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RI (Running), MI (Milking), FI (Feeding), AV (Aversive), RU (Rock & Bounce), and DI (Disturbed).

<sup>4</sup> Direction of Travel = N (North) NE (Northeast) E (East) SE (Southeast) S (South) SW (Southwest) W (West) NW (Northwest) D (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)

NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest).









Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)



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Precipitation:  $>1\text{km}$

<sup>2</sup> **Habitat** = VA (Water), SE (Sedge), BR (Birch & Riarian Shrub), HT (Heath Tundra), LI (Lichen), LR (Lichen-Rock), RC (Ridge Crest/Esker/Avens), RO (Rock & Boulder), and DI (Disturbed)  
<sup>3</sup> **Behaviour** = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Flying), DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Digging)  
**Direction of Travel** = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)



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Observer Names: SHAWEL TRAP

Temperature: -20 Wind Speed (km/hr): 17 Wind Direction: N Visibility (circle): 100m 500m 1km >1km Precipitation: 0

[illegible]

Sex = M (Male) or F (Female); Age = C (Calf, Chick, Cub or Pup), Y (Yearling), and A (Adult)

(Flying). DB (Dive-Bombing), SW (Swimming), NE (Nesting), DI (Dicoign) (Flying). DB (Dive-Bombing), SW (Swimming), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Lying).

nautal – w/a (water), SE (Seed), BR (Birch & Riparian Shrub), HT (Heath Tundra), LI (lichen), LR (Lichen-Rock), RC (Ridge Crest/Seser/Avens), RO (Rock & Boulder), and DI (Disturbed Behaviour = RE (Resting), ST (Standing), AL (Alert), FO (Foraging), WS (Walking Slowly), WQ (Walking Quickly), TR (Trotting), RU (Running), MI (Milling), LI (Limping), CO (Courting), FL (Flying)).

Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)

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$$\frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} e^{-\frac{1}{2}x^2} dx = 1$$

Precipitation: >1km 

$$d) T = \frac{1}{1 + \cos \theta} R_H$$

Direction of Travel = N (North), NE (Northeast), E (East), SE (Southeast), S (South), SW (Southwest), W (West), and NW (Northwest)