

DATE March 11, 2011**PROJECT No.** 09-1422-5007

TO David Harpley, P.Geo., Vice President - Environment and Permitting Affairs
Canadian Zinc Corporation
Alan Taylor, Canadian Zinc Corporation
CC Doug Tate, Parks Canada Agency
Mike Sutor, Parks Canada Agency
Nic Larter, ENR/NWT

FROM Daniel Guertin and Chris Schmidt**EMAIL** dguertin@golder.com**CANADIAN ZINC CORPORATION – PRAIRIE CREEK MINE AND ACCESS ROAD
FEBRUARY 2011 WILDLIFE SURVEY**

1.0 INTRODUCTION

This technical memorandum briefly summarizes the results of the second of three aerial wildlife surveys to be conducted on behalf of Canadian Zinc Corporation (CZN) in the vicinity of the Prairie Creek Mine site and access road during the time period from December 2010 to March 2011. This survey was conducted under Parks Canada Agency (PCA) research and collection permits NAH-2010-7252 and under Government of Northwest Territories Department of Environment and Natural Resources (GNWT ENR) wildlife research permit WL005033 (addressed to David Harpley of CZN).

2.0 METHODS

Methods for the February 2011 wildlife survey were analogous to those described in the technical memorandum produced by Golder Associates Ltd. (Golder) following the December 2010 wildlife survey. Survey flights following predetermined flight lines (Figure 1) were completed on February 8, 9, 19, and 24, 2011 (Figure 2).

Approximately 7 cm of fresh snowfall on February 4 provided ideal survey conditions beginning on February 8 (4 days following fresh snowfall). Flying conditions on February 8 were ideal for making observations throughout the study area, except for an area of low cloud cover in the western portion of the survey area. A low pressure weather system moved into the region on February 9, bringing overcast skies and strong W/SW winds over higher terrain. Flying conditions were adequate over low terrain on February 9; however the survey was suspended mid-day due to strong winds and heavy mechanical turbulence at higher elevations. Strong winds continued in the study area on February 10, grounding the airplane.



Approximately 25 cm of snow fell in the study area between February 11 and February 16. Flying conditions were good for making observations on February 19 (3 days following fresh snowfall) except strong winds continued in the Mackenzie Mountains, precluding any survey of that area. Strong winds and intermittent snowfall continued in the study area until February 23, again grounding the airplane. Flying conditions were generally good on February 24 although several tracks in the mountains were obscured due to high winds from previous days.

The survey crew consisted of a pilot (Dan Slattery or Garry Murtzell) and navigator/observer/recorder (Daniel Guertin [Golder] or Mike Sutor [PCA]) in the front seats, and two observers in the rear seats (Wilbert Antoine [CZN], Mike Sutor [PCA], or Jon Tsetso [PCA]).

3.0 RESULTS

- Approximately 2,200 km of survey lines were flown over four days in February 2011 (Figure 2).
- A total of 89 caribou (*Rangifer tarandus*), 31 moose (*Alces alces*), and 3 bison (*Bos bison athabasca*) were observed during flights (Figures 3 to 5).
- Tracks of caribou ($n=73$), moose ($n=222$), grey wolf (*Canis lupis*; [$n=21$]), bison ($n=6$), Canada lynx (*Lynx canadensis*; [$n=3$]), and wolverine (*Gulo gulo*; [$n=1$]) were observed during survey flights (Figures 3 to 5).
- Caribou and caribou sign were detected in 20 of the hexagon survey units (Figure 3).
- Wildlife tracks observed on or immediately adjacent to the access road alignment during the reconnaissance level fly-over consisted of caribou, moose, and wolf (Figure 3 to 5).
- Snowmobile tracks ($n=4$) were observed in the south-eastern portion of the study area (Figure 5).

4.0 SUMMARY AND CONCLUSIONS

Inconsistent weather, heavy snowfall, and strong winds limited the number of days with adequate survey conditions for flying and observing wildlife sign in February 2011. The survey of the study area began on February 8 and flight lines were not completed until February 24. Nonetheless, survey results obtained in February 2011 are similar to the results obtained in December 2010. Most caribou and caribou sign observed during the February 2011 survey was located in the western portion of the study area, in particular the upper Prairie Creek drainage and the Vera Creek drainage. Several caribou tracks were also observed in the boreal lowlands north of Cat Camp. The majority of moose and moose sign observed during survey flights occurred in lower elevations east of the Mackenzie Mountains.

The results from this survey, in conjunction with the December 2010 survey results and one additional survey to be completed by March 31, 2011, will be used to estimate the probability of occurrence of caribou in the study area. A complete description of survey methods and results will be provided in a report following completion of all three aerial surveys in the study area.

5.0 CLOSURE

We trust that the preliminary findings presented in this technical memorandum are sufficient for your requirements. If you have any questions, please do not hesitate to contact the undersigned at 604-296-4200.

GOLDER ASSOCIATES LTD.

ORIGINAL SIGNED

Daniel Guertin, M.Sc.
Wildlife Biologist

DAG/CHS/rja

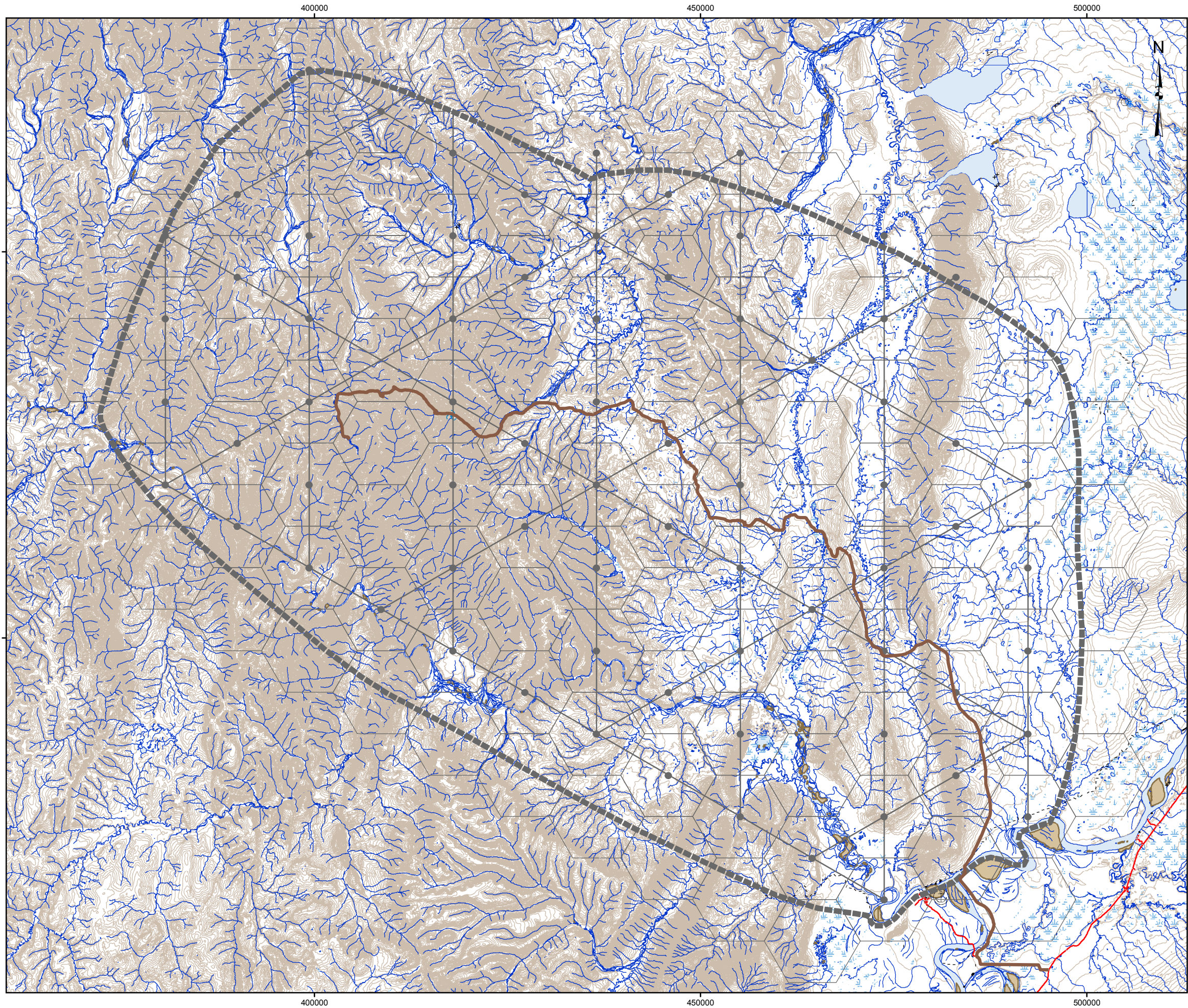
Attachment: Figures 1 - 5

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ORIGINAL SIGNED

Chris Schmidt, B.Sc., R.P.Bio.
Associate, Senior Wildlife Biologist

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LEGEND

- Hexagon Centroid
- Planned Flight Lines
- Access Road Alignment
- Hexagon (100 km²)
- ▣ Study Area

REFERENCE

Project features obtained from Canadian Zinc Corporation. Base features obtained from Geogratia.

Projection: UTM Zone 10 Datum: NAD 83

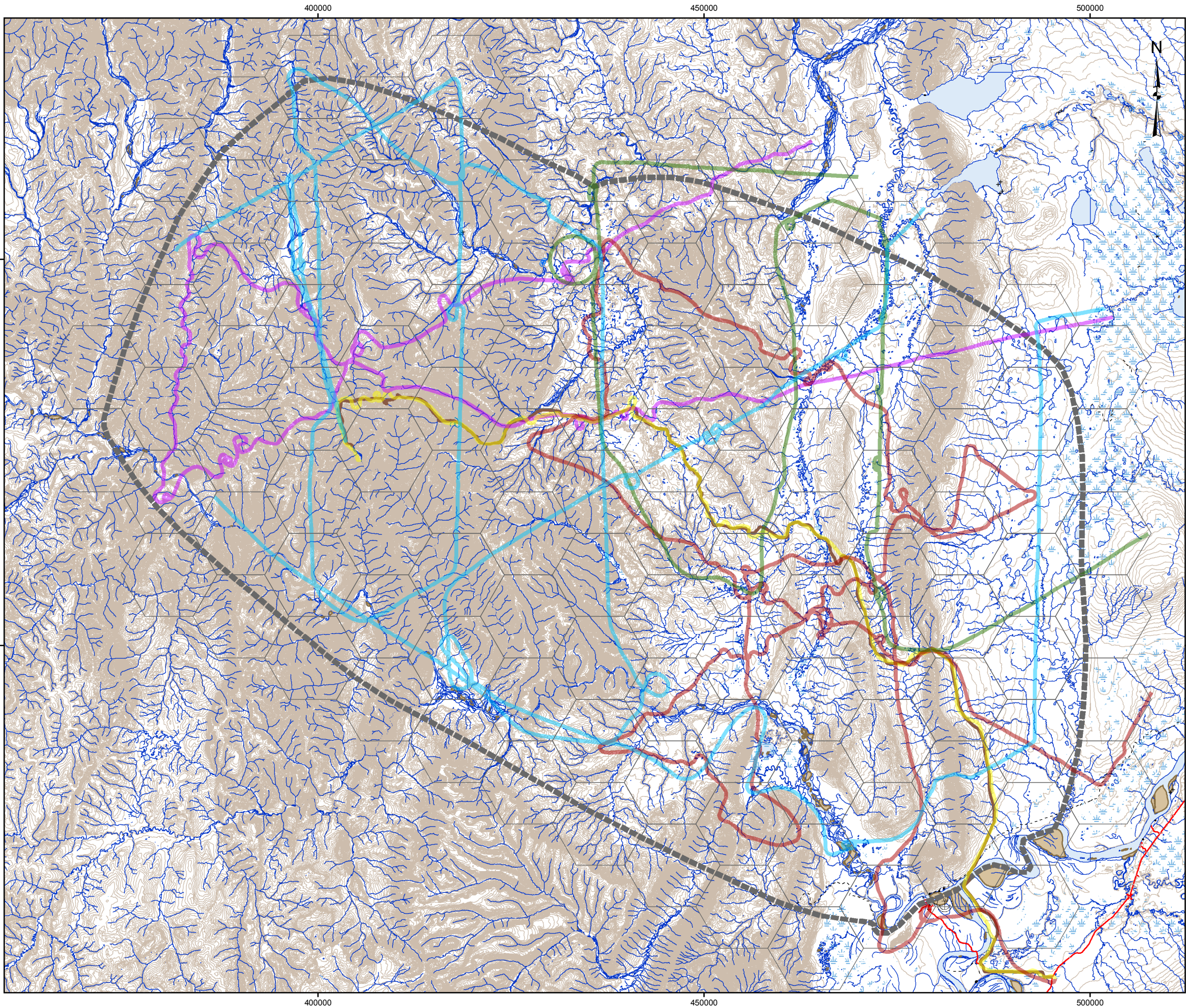
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SCALE 1:500,000 KILOMETRES

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TITLE	2010-11 WINTER WILDLIFE SURVEY FLIGHT LINES				
 Greater Vancouver Office, B.C.	PROJECT NO. 09-1422-5007		PHASE No. 1000/1040		
	DESIGN	DG	21 Dec. 2010	SCALE AS SHOWN	REV. 0
	GIS	JW	11 Jan. 2011		
	CHECK	CHS	11 Jan. 2011		
	REVIEW	CHS	10 Mar. 2011		

FIGURE 1

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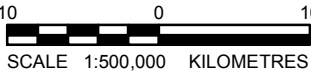
LEGEND

- Flight Route - Day 1 (Feb. 08, 2011)
- Flight Route - Day 2 (Feb. 09, 2011)
- Flight Route - Day 3 (Feb. 18, 2011)
- Flight Route - Day 4 (Feb. 24, 2011)
- Flight Route Road - Day 3 & 4(Feb. 18 & 24, 2011)
- Access Road Alignment
- Hexagon (100 km²)
- Study Area

REFERENCE

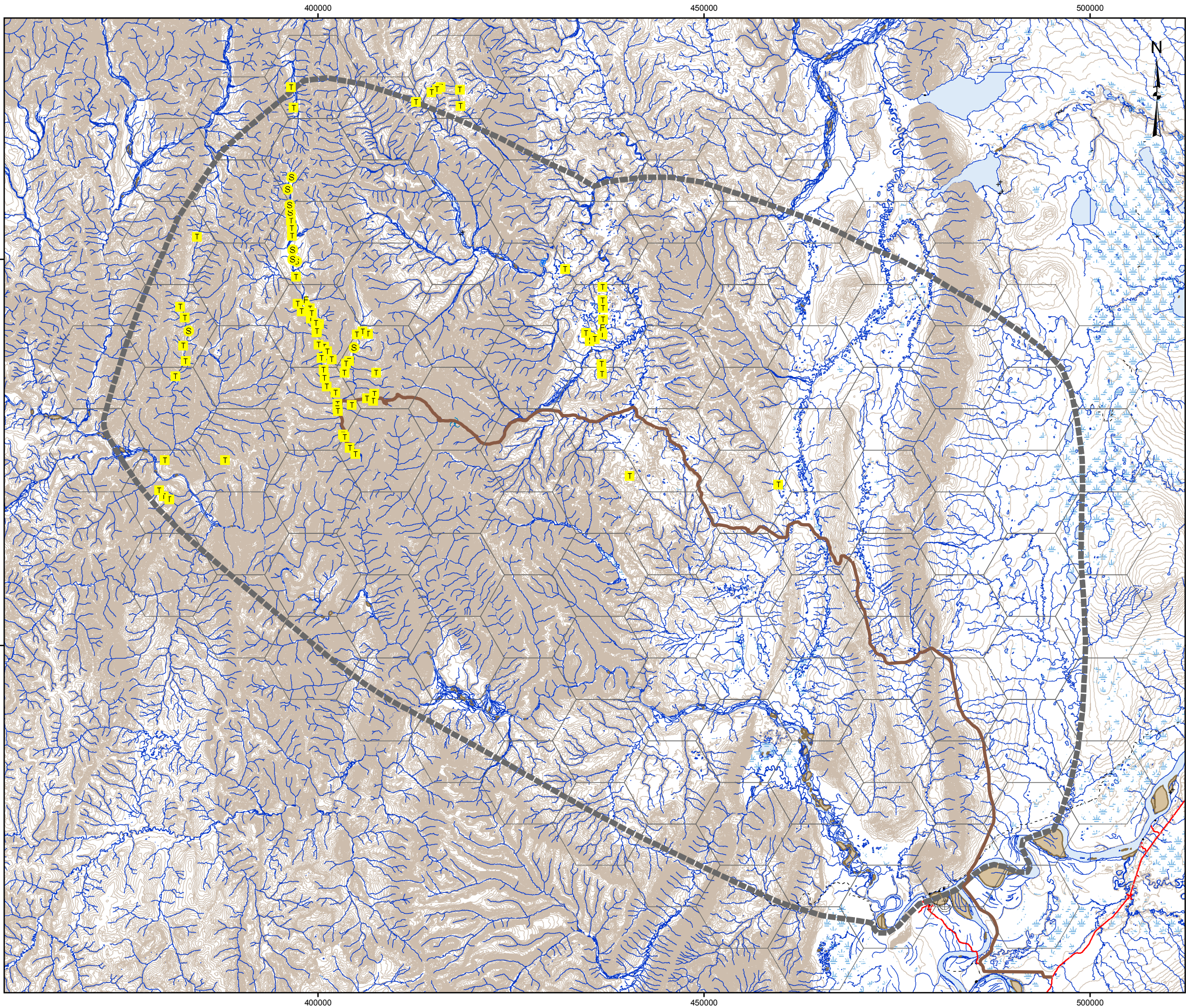
Project features obtained from Canadian Zinc Corporation. Base features obtained from Geogratia.

Projection: UTM Zone 10 Datum: NAD 83



PROJECT	CANADIAN ZINC CORPORATION PRAIRIE CREEK MINE NORTHWEST TERRITORIES				
	TITLE FEBRUARY 2011 WILDLIFE SURVEY FLIGHT ROUTES				
 Greater Vancouver Office, B.C.	PROJECT NO. 09-1422-5007		PHASE No. 1000/1040		
	DESIGN	DG	21 Dec. 2010	SCALE AS SHOWN	REV. 0
	GIS	JW	25 Feb. 2011		
	CHECK	CHS	10 Mar. 2011		
REVIEW	CHS	10 Mar. 2011			
FIGURE 2					

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LEGEND

- Caribou - Feeding Location
- Caribou - Sighting
- Caribou - Track
- Access Road Alignment
- Hexagon (100 km²)
- Study Area

REFERENCE

Project features obtained from Canadian Zinc Corporation. Base features obtained from Geogratia.

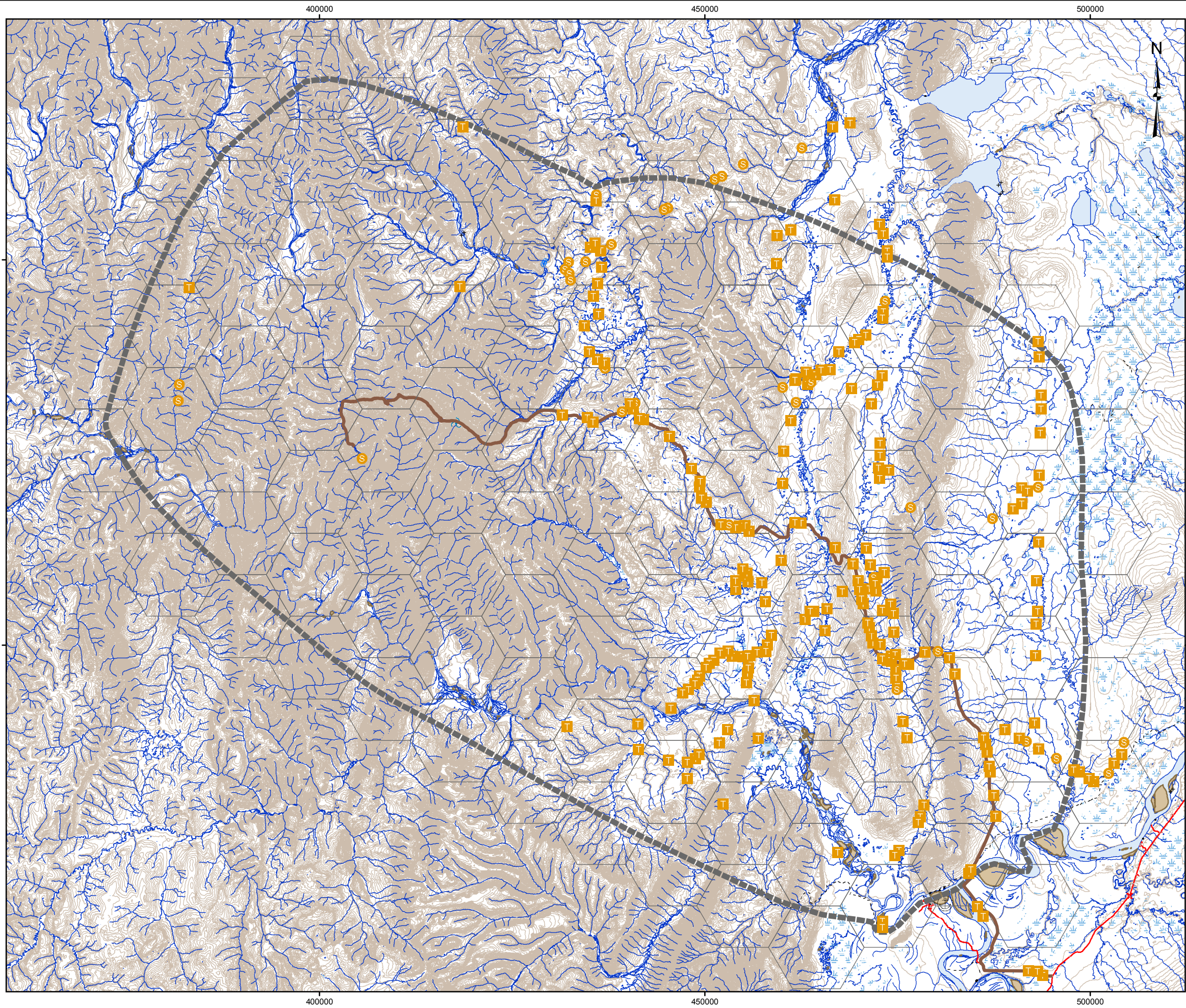
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PROJECT	CANADIAN ZINC CORPORATION PRAIRIE CREEK MINE NORTHWEST TERRITORIES			
	TITLE THE OBSERVED DISTRIBUTION OF CARIBOU AND CARIBOU SIGN IN THE STUDY AREA DURING THE FEBRUARY 2011 SURVEY			
 Greater Vancouver Office, B.C.	PROJECT NO. 09-1422-5007		PHASE No. 1000/1040	
	DESIGN	DG	21 Dec. 2010	SCALE AS SHOWN
	GIS	JW	25 Feb. 2011	REV. 0
	CHECK	CHS	10 Mar. 2011	
	REVIEW	CHS	10 Mar. 2011	

FIGURE 3

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LEGEND

- Moose - Sighting
- Moose - Track
- Access Road Alignment
- Hexagon (100 km²)
- Study Area

REFERENCE

Project features obtained from Canadian Zinc Corporation. Base features obtained from Geogratis.

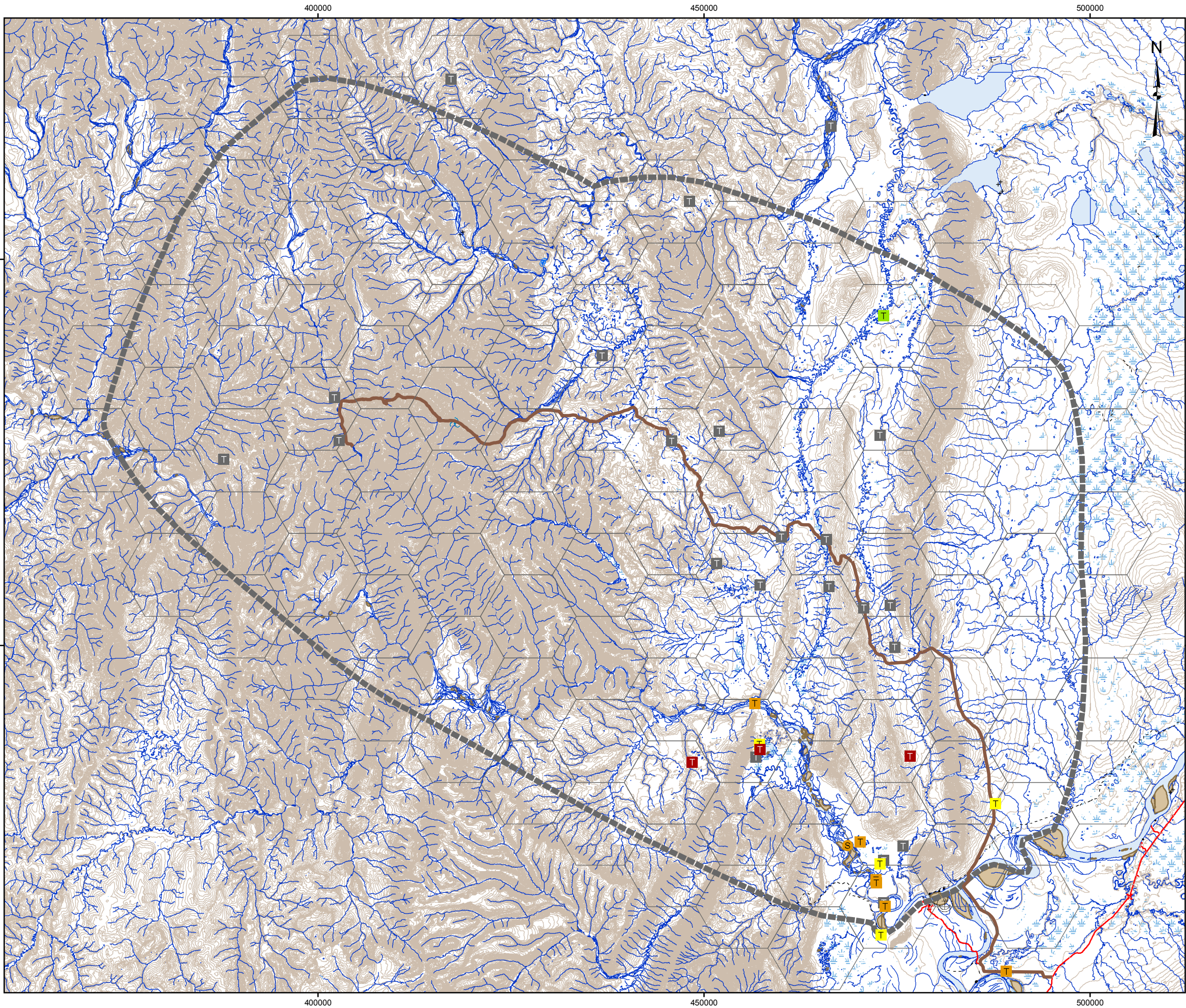
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PROJECT	CANADIAN ZINC CORPORATION PRAIRIE CREEK MINE NORTHWEST TERRITORIES			
	TITLE THE OBSERVED DISTRIBUTION OF MOOSE AND MOOSE SIGN IN THE STUDY AREA DURING THE FEBRUARY 2011 SURVEY			
 Greater Vancouver Office, B.C.	PROJECT NO. 09-1422-5007		PHASE No. 1000/1040	
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	GIS	JW	25 Feb. 2011	REV. 0
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	REVIEW	CHS	10 Mar. 2011	

FIGURE 4

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LEGEND

- Bison - Sighting
- Bison - Track
- Human - Track
- Lynx - Track
- Wolf - Track
- Wolverine - Track
- Access Road Alignment
- Hexagon (100 km²)
- Study Area

REFERENCE

Project features obtained from Canadian Zinc Corporation. Base features obtained from Geogratia.

Projection: UTM Zone 10 Datum: NAD 83

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PROJECT	CANADIAN ZINC CORPORATION PRAIRIE CREEK MINE NORTHWEST TERRITORIES				
	TITLE OTHER WILDLIFE AND WILDLIFE SIGN OBSERVED IN THE STUDY AREA DURING THE FEBRUARY 2011 SURVEY				
 Greater Vancouver Office, B.C.	PROJECT NO. 09-1422-5007		PHASE No. 1000/1040		
	DESIGN	DG	21 Dec. 2010	SCALE AS SHOWN	REV. 0
	GIS	JW	25 Feb. 2011		
	CHECK	CHS	10 Mar. 2011		
	REVIEW	CHS	10 Mar. 2011		

FIGURE 5