

NEB File 3400-P097-1 & 2520-D-4-4

March 1, 2002

National Energy Board
444 Seventh Avenue SW
Calgary, Alberta
T2P 0X8

National Energy Board
444 Seventh Avenue SW
Calgary, Alberta
T2P 0X8

Attention: Mr. Michel Mantha

Attention: Mr. Terry Baker

Dear Sir;

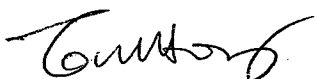
**Re: Paramount Transmission Ltd. (PTL) Cameron Hills Pipeline and Fuel Gas Pipeline,
Order XO-P097-02-2002; Condition 13: Wildlife Monitoring Program
Paramount Resources Ltd. (Paramount) Cameron Hills Oil and Gas Development
Project, Order EPO-01-2002; Condition 10: Wildlife Monitoring Program**

As required by the conditions in the above National Energy Board (NEB) orders, Paramount Resources Ltd. , on behalf of Paramount and PTL, hereby files with the NEB the Post-Construction Wildlife Monitoring Plan, which covers both projects. Enclosed are eight copies of the plan for the NEB's approval.

If there are questions regarding the above matter then please contact the undersigned at (403) 290-3696.

Yours truly,

PARAMOUNT RESOURCES LTD.



Tom Hong, Project Manager

Attachments

DISTRIBUTION LIST

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V6B 2T4

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X0E 1G3

Fax: 867-825-2002

**PARAMOUNT RESOURCES LTD. / PARAMOUNT TRANSMISSION LTD.
CAMERON HILLS GATHERING SYSTEM AND
TRANSBORDER PIPELINE**

**POST CONSTRUCTION
WILDLIFE MONITORING PLAN**

Prepared By:

**Paramount Resources Ltd.
4700 Bankers Hall West
888 Third Street S.W.
Calgary, Alberta
T2P 5C5
and
Golder Associates Ltd.**

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Paramount Resources Ltd. / Paramount Transmission Ltd.
Cameron Hills Gathering System and Transborder Pipeline
Wildlife Monitoring Plan

Table 1: Abbreviations and Acronyms

COGOA	Canada Oil and Gas Operations Act
EA	Environmental Assessment
EC	Environment Canada
GNWT	Government of the Northwest Territories
GPS	Global Positioning System
MVEIRB	Mackenzie Valley Environmental Impact Review Board
MVLWB	Mackenzie Valley Land and Water Board
NEB	National Energy Board
NWT	Northwest Territories
Paramount	Paramount Resources Ltd.
PTL	Paramount Transmission Ltd.
ROW	Right-of-Way

1. INTRODUCTION

The Mackenzie Valley Environmental Impact Review Board (MVEIRB), the National Energy Board (NEB) and the Mackenzie Valley Land and Water Board (MVLWB) granted approvals to Paramount Resources Ltd. (Paramount) for construction of a gathering system in Cameron Hills, NWT, and a transborder pipeline from the Cameron Hills, south into northwestern Alberta. The MVEIRB, NEB and MVLWB attached measures or conditions to their respective approvals as outlined below.

This document describes the methods Paramount plans to undertake to ensure the commitment to wildlife monitoring is addressed.

MVEIRB EA Measures

Measure #9: The MVLWB and/or the NEB ensure that Paramount implements a wildlife monitoring program that is designed in consultation with EC and the GNWT. The wildlife monitoring program data should be periodically summarised in a report that identifies potential impacts and suggests mitigative measures, if determined necessary. This monitoring report should be provided to the local First Nations, EC, GNWT, the MVLWB and the NEB.

NEB Section 5(1)(b) of COGOA Order EPO-01-2002

Condition 10: Paramount shall file with the NEB, at least 14 days prior to the commencement of operation unless otherwise directed by the Chief Conservation Officer, a wildlife monitoring program and confirmation that it will be implemented. The program shall be developed, where appropriate, in consultation with the Government of the Northwest Territories and Environment Canada

NEB Section 58 Order XO-P097-02-2002

Condition 13: PTL shall file with the Board for approval, at least 14 days prior to the commencement of operation, a wildlife monitoring program to be developed in consultation with the Government of the Northwest Territories, Environment Canada and the local aboriginal communities, where appropriate.

MVLWB Land Use Permit MV200P0055

Condition 41: The Permittee shall develop and implement a wildlife monitoring program in consultation with Environment Canada and the Government of the Northwest Territories and will submit the proposed wildlife monitoring program to the Board for approval within 30 days of project commencement.

The following monitoring program was developed after consultation with Environment Canada (EC), the Government of the Northwest Territories (GNWT) and the Mackenzie Valley Land and Water Board (MVLWB) on January 24, 2002 in Yellowknife, N.W.T.

2. OBJECTIVES

Paramount plans to conduct a wildlife monitoring program consisting of wildlife sighting cards and winter track counts. Wildlife sighting cards provide an ongoing source of data that documents the wildlife species observed during construction and operations, their locations and activity on the ROW and adjacent habitat within the project area.

The objective of the winter track count survey will be:

- > To determine if the ROW is affecting wildlife movement;
- > To compare early and late winter use of the ROW and adjacent habitat types by wildlife;
- > To determine the relative use of the habitat types found along the pipeline corridor by wildlife in winter; and,
- > To compare use of the ROW by wildlife, with use of adjacent edge, interior habitat and an undisturbed buffer area.

3. METHODS

3.1 Wildlife Sighting Cards

Wildlife sighting cards (Appendix I) will be distributed to project employees, and the employees will be directed to be diligent when filling out the cards. The information to be collected will include: time and date, observer, signature and phone number of observer, company name, wildlife observed, animal regularly observed, wildlife signs observed, migratory birds spotted, number, behaviour, location and any human-wildlife or vehicle-wildlife interactions observed. Paramount currently utilises wildlife sighting cards on other projects in the NWT.

As part of the wildlife monitoring program; Paramount will document actual travel by operations personnel on the gathering system ROW and the number of ground trips made on the pipeline ROW. This information will be used to assist reviewers to evaluate the contribution made by human traffic to any observed difference of ROW usage by wildlife.

The cards and monthly ROW travel logs will be sent to Paramount's Corporate Compliance department at the end of each month. The information will be documented and the findings will be summarised in an annual report.

3.2 Winter Track Count Survey

A team of up to two biologists and two First Nation's assistants along with a Paramount representative, if available, will conduct the surveys with skidoos and on snowshoes, as warranted by snow depth.

The work will involve sampling of the three major habitat types crossed by the gathering system and the transborder pipeline: bog, mixedwood and riparian. To the extent feasible, wildlife track count locations would be co-ordinated with the vegetation monitoring locations. For each habitat type, three replicate samples consisting of four transects (i.e., ROW centre, undisturbed ROW edge, 150m from the ROW edge and 250m from the ROW edge) will be established that run parallel to the ROW (Figure 1). Each transect will be 100 metres in length, as per standard study protocol. It must be noted that with this configuration of transects, which was requested by RWED, it may not be possible to locate them all in a contiguous habitat type.

To the extent practical, all sample locations will be located where uniform habitat is present on both sides of the ROW, and where all transects for that location can be completed in a uniform habitat type. Initially, candidate sample locations will be positioned using existing data (such as air photos). The final placement will be determined after completion of the ROW, and will be determined by experienced wildlife biologists.

To ensure consistency in sampling in subsequent surveys all transect endpoints, as well as any changes in direction, will be recorded and flagged with surveyors' tape at breast height. To augment GPS data, distances will also be measured by hip chain. Final transects will be marked on appropriate scale maps and airphotos.

Paramount Resources Ltd. / Paramount Transmission Ltd.
Cameron Hills Gathering System and Transborder Pipeline
Wildlife Monitoring Plan

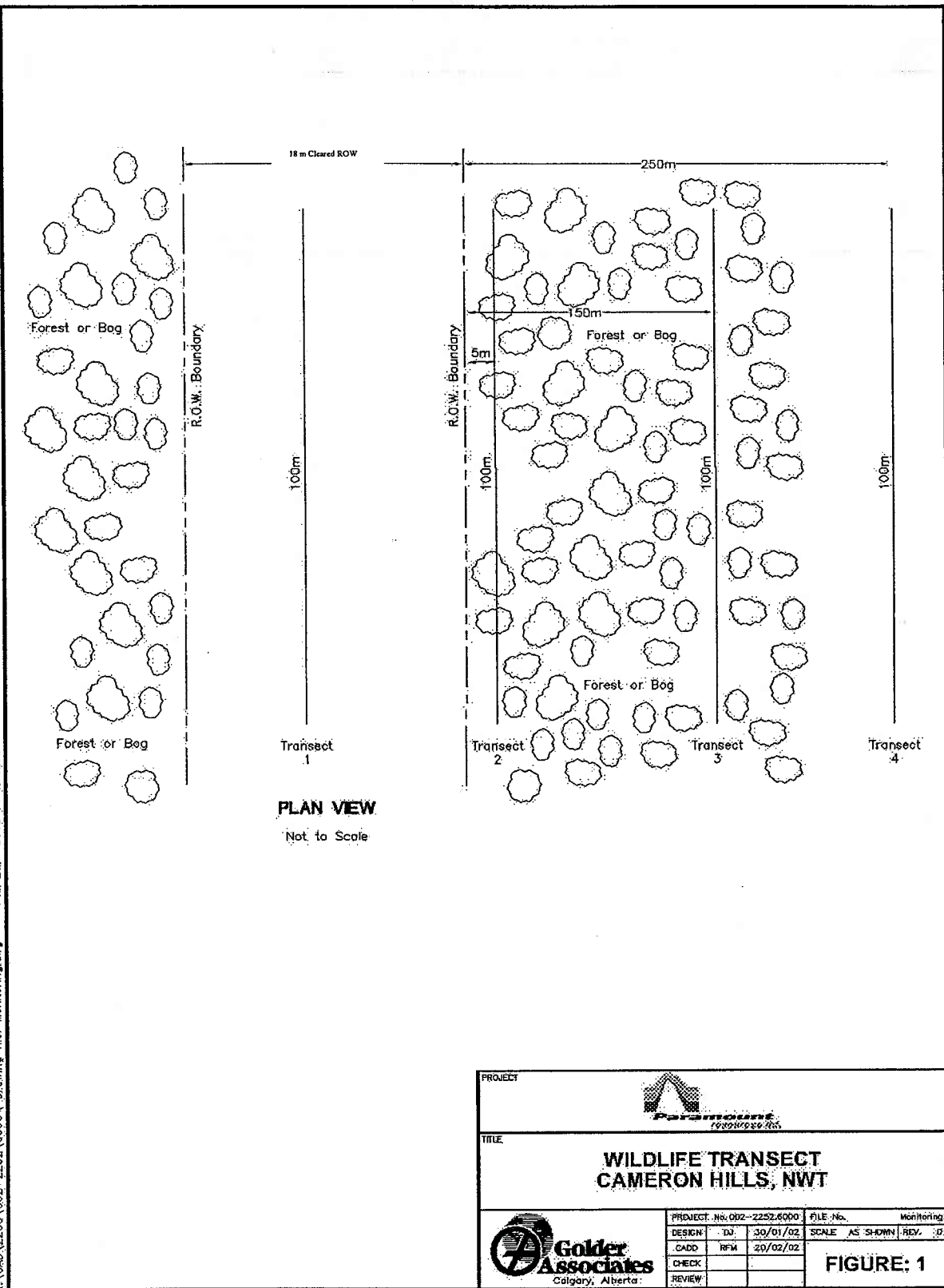
A field sheet will be used to record observations within 2.5 m on either side of the transect centre. Data collected will include: snow thickness & hardness, weather conditions, time since last snowfall, species, number of animals, direction of travel, habitat, terrain, tracks, beds, browse activity, owl plunge holes, and grouse snow roosting sites. In addition, tracks will be assessed for animal behaviour to provide an indication of the various species' willingness to cross and/or utilise the new ROW. Typical behaviours include:

- refused crossing (animal turned back and did not cross);
- direct crossing (animal crossed the right-of-way without altering direction); and,
- delayed crossing (animal wandered along ROW before crossing).

A single transect intercept will be recorded as one crossing. If multiple animals of the same species cross the transect at the same location, then an attempt will be made to determine the number of individuals. If the number of individuals cannot be determined, then the observation will be recorded as a "trail" and counted as three individuals. If animals criss-cross the transect many times over a short distance due to bedding, feeding or other activities, then the tracks will be counted as a "network" and will be recorded as five individuals for every meter of transect the network covers.

While travelling the ROW between transects, tracks will be recorded along with adjacent habitat and GPS location. Detailed notes on habitat, activity & behaviour, and direction of travel will be taken if relevant. Photographs will be taken along each transect and will include photos of unusual tracks, tracks of interest, or other wildlife sightings.

For each transect and species, the total length of tracks per area per day will be calculated. This result will be compared with results taken from transects in similar habitat using appropriate statistical analyses.



4. SCHEDULE

Normally, winter track counts will be completed twice during each winter, in the early winter (December-January) and again in the late winter (March). The winter track survey will be timed to occur after a significant snowfall.

If the operational considerations permit, Paramount, will attempt to complete the first set of track counts late in the first winter season of 2002, as requested by RWED. However, any delays in the completion of the construction of the facilities and pipelines or affects from the weather, or the occurrence of an early spring would compromise ideal conditions required to complete track counts (e.g., melting conditions, lack of adequate new snowfall).

Thereafter, the extent of the monitoring program is scheduled to continue in 2003, and end in 2007. Paramount requests that the program be reviewed after two years of data have been collected and evaluated by regulatory biologists. At that time, if the data do not provide useful correlations or if a trend cannot be established, Paramount would request relief from continuing the wildlife-monitoring program.

5. MIGRATORY BIRDS

Paramount concurs with the recommendations made by the Canadian Wildlife Service (CWS) of Environment Canada, in their letter of Jan 24, 2002 (Appendix II). As stated, the concerns expressed for migratory birds in Cameron Hills are identical to those in the Shiha Liard Pipeline Project in the Liard Valley. However, the Liard Valley has a greater abundance of birds and there is greater value if additional monitoring work is completed in the Liard Valley in lieu of implementing a migratory bird survey in the Cameron Hills.

6. REFERENCES

Canadian Wildlife Service (CWS). January 24, 2002. Paramount's Cameron Hills project MVEIRB conditions for approval: Wildlife Studies recommended by Environment Canada. Letter to Gordon Ferguson of Paramount Resources Ltd.

Golder Associates Ltd. January 17, 2002. Response to Final Approved Measures. Letter to Paramount Resources Ltd. Project 002-2252.

Mackenzie Valley Environmental Impact Review Board (MVEIRB). 2001. Report of Environmental Assessment on the Paramount Resources Ltd. Cameron Hills Gathering System and Pipeline Development - Final Approved Measures.

Mackenzie Valley Land and Water Board (MVLWB). January 17, 2002. Issuance of Type "A" Land Use Permit: Conditions Annexed to and Forming Part of Land Use Permit Number MV2000P005. Letter to Ms. Shirley Maaskant of Paramount Resources Ltd. File: MV200P0055.

National Energy Board (NEB). January 22, 2002. Paramount Transmission Ltd. (PTL) Cameron Hills Pipeline and Fuel Gas Pipeline (Cameron Hills Pipeline) Application Pursuant to Section 58 of the National Energy Board Act (the NEB Act). Letter to Mr. Alan Hollingworth of Gowling Lafleur Henderson. File 3400-P097-1.

National Energy Board (NEB). January 30, 2002. Paramount Resources Ltd. (Paramount) Application to Construct the Cameron Hills Oil and Gas Development Project dated 1 August 2001 pursuant to Paragraph 5(1)(b) of the Canada Oil and Gas Operations Act (COGOA). Letter to Mr. Tom Hong of Paramount Resources Ltd. File 2520-D-4-4.

Paramount Resources Ltd., Golder Associates Ltd., and Alpine Environmental Consulting Ltd. 2001. Environmental Impact Assessment for the Cameron Hills Transborder Pipeline Project. Submitted to the National Energy Board. June 2001. 117 pp + figures.

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Appendix I: Wildlife Sighting Card

Wildlife Sighting Card

(To be completed for all wildlife sightings, including wildlife seen from your vehicle.)

Time & Date: _____ **Observer:** _____
(am/pm - MM/DD/YY) (Print Name)

Signature of Observer: _____ **Phone #:** () _____

Company Name: _____

Wildlife Observed (eg. wolf, moose, caribou, black bear, etc.): _____

OR

Animal Regularly Observed (name of species): _____

Wildlife Signs (eg. pellet groups, tracks, scat, browse, etc.): _____

Migratory Birds Spotted (eg. redstart, warbler, thrush, sparrow, etc.): _____

Total No.: _____ **Behavior** (flying over, running, standing, etc.): _____

General Location (on the road, in the right-of-way, forest edge): _____

Kp (kilometre post) **Location:** _____

Describe Either Human-Wildlife or Vehicle-Wildlife Interaction: _____

Send Cards to: *Corporate Compliance, Paramount Resources Ltd.,*
(End of each month) *4700 Bankers Hall West, 888 3rd Street SW*
Calgary, Alberta T2P 5C5 (403) 290-3600

Appendix II: Letter from the Canadian Wildlife Service (CWS). January 24, 2002. RE: Paramount's Cameron Hills project MVEIRB conditions for approval: Wildlife Studies recommended by Environment Canada. Letter to Gordon Ferguson of Paramount Resources Ltd.

Canadian Wildlife Service
#301, 5204-50th Avenue
Yellowknife NT X1A 1E2

Gordon Ferguson,
Manager, Corporate Compliance
Paramount Resources
4700 Bankers Hall West
888 3rd Street SW
Calgary AB T2P 5C5

sent via email

January 24, 2002

RE: Paramount's Cameron Hills project MVERIB conditions for EA approval: Wildlife Studies recommended by Environment Canada

Dear Gord;

This letter is meant to serve as a confirmation to the discussions held at the above noted meeting on the morning of January 24, 2002. Regarding the necessity of a wildlife monitoring program that would address the impact on migratory birds of the Paramount development in the Cameron Hills, I recommend and clarify the following:

- 1) The concerns expressed regarding migratory birds for this development are identical to those in the Shiha development in the Liard Valley.
- 2) That money spent on wildlife monitoring programs should maximize the information returned, and that Environment Canada's interests are broader than one specific project. I assume this viewpoint is shared by Paramount.
- (3) That maximum value to address the concerns noted in the Cameron Hills project environmental assessment would be best achieved by extending the monitoring program in the Liard Valley project beyond the present 3 year term for bird studies.
- 4) That this means ensuring resources are in place to replicate the work in the Liard Valley in 2004 as the third assessment in five years of the impact of that pipeline project on migratory birds and their habitat. This is in addition to the work already scheduled for June 2002 as per the original agreements in place for the Shiha project.
- 5) That this clearly indicates that duplicating the migratory bird studies being conducted in the Shiha Energy project in the Liard Valley is therefore not necessary for the Cameron Hills project if the above commitments are met.

Regarding the continuation of work in the Liard Valley, I would like to express the following:

- 1) Having the work performed by the same contractor who did the original work would be very beneficial to ensure the scientific continuity of the project.

- 2) That the fieldwork and report from June 2000 should be the benchmark quality to maintain going forward. Surveys should start no earlier than June 5th and end no later than June 30th for migratory birds.
- 3) My sole recommendation to improve the study is to add point count stations (bird monitoring stops) 150m away from the right-of-way in adjacent habitat to currently established plots.

If other wildlife/vegetation monitoring work does occur during the month of June on the Cameron Hills project, some valuable information could be collected simultaneously for no additional cost. The Canadian Wildlife Service has a number of species of birds that are of high conservation priority. Any sightings of Blackpoll Warbler, Short-eared Owl and Rusty Blackbird should be noted. Date, place (GPS location) and number observed would be helpful. These species may be sighted in the open, wet habitats along the right-of-way.

At the completion of the third assessment of bird use of the Shiha right-of-way I offer my scientific expertise and time to coauthor a scientific publication summarizing the results of this important work. Submitting the work to peer review will provide strong support for management recommendations coming from the work. Preserving the raw field data from all three years of the project will be critical to ensuring this can be accomplished.

Please do not hesitate to contact me for any concerns related to your projects and migratory birds.

Sincerely,
Craig Machtans, MSc.
Forest Bird Biologist
email: craig.machtans@ec.gc.ca
voice: 867.669.4771

cc: Paula Pacholek, Environment Canada
Karl Lauten, MVLWB
Laura van Ham, NEB