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August 22, 2001

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Mackenzie Valley Environmental Impact Review Board
P.O. Box 938
Yellowknife, NT
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By Facsimile: 920-4761

Attention: Mr. J. Acorn,

Re: Technical Review of the Environmental Assessment report submitted by Paramount Resources for the Cameron Hills Drilling Project.

I have reviewed the above mentioned Environmental Assessment report on behalf of Environment Canada. Our contribution to the assessment of this report is based primarily on Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act* (CEPA), section 36 of the *Fisheries Act*, the *Canadian Wildlife Act*, and the *Migratory Birds Convention Act*.

During the environmental assessment process, Environment Canada was identified to provide technical advice in the areas of: Accidents and Malfunctions, Air Quality and Climate, Water, Migratory Birds, Cumulative Impacts in the Natural Environment, and Abandonment and Restoration.

Comments:

Air Quality and Climate

Environment Canada is satisfied that the air quality modelling and the environmental impact predictions provided by the proponent are realistic based on the answers received through the numerous information requests that were filed with the Mackenzie Valley Environmental Impact Review Board (MVEIRB).

There is one outstanding request:

Environment Canada Information Request #3 - for the provision of model input and output electronic files from Paramount.

Spills and Spill Contingency Plans

Environment Canada has reviewed Paramount's response in regards to addressing our concerns on the Emergency Response Plan/ Spill Contingency Plan manuals. The proposed contingency plans

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are acceptable, however, Environment Canada expects to receive copies of these documents when they are completed.

Water

In regards to water issues, Environment Canada concurs with the proponent that project effects on water quality will be minimal; provided the precautions and mitigation efforts described in the Environmental Screening Report and supporting documents are applied to the access routes and drill sites

Wildlife/ Migratory Birds

Environment Canada restricted its review of this section to assessing the impacts of flaring on migratory birds. The results of the dispersion model presented in the Environmental Screening Report indicate that ground level air quality impacts will not exceed air quality criteria. This finding suggests that air quality effects from the project will not significantly impact migratory birds. Further to this, Paramount indicated that well evaluations will take place during the winter months, therefore, Environment Canada realizes that the timing will be such that disturbance to migratory birds will be minimal.

The proponent indicates that some localized, low magnitude impacts could occur as a result of flaring, in the form of decreased habitat suitability (p.63 of the EIA). The proponent also indicates that some sensory disturbance could occur due to the noise, light and smoke associated with flaring, but that both would be insignificant. Environment Canada concurs with the proponent that the impacts will be minimal.

Cumulative Effects

Environment Canada agrees with the inclusion of the proposed Cameron Hills Gathering System project in the assessment of cumulative effects. It is also understood that this is a very difficult concept for Proponents and Reviewers alike to comment on and reach consensus on. Environment Canada acknowledges the Proponent's commitment to utilize existing seismic cut lines and it appears that Paramount is cognizant of potential cumulative impacts, however their determination of no significance regarding cumulative impacts is open to challenge. Without having a strategy for implementing the proposed Northwest Territories wide Cumulative Effects Assessment and Management Framework (CEAMF), predicting the actual cumulative environmental impacts will remain to be subjective. The proponent indicates (p.68 of the EIA) that they did not consider a larger study area as it would have diminished the relative effects of the project to an insignificant number. Does this mean then that the present number is significant? Also the Proponent indicates on p.73 of the EIA regarding "Disturbance to Vegetation/Wildlife Habitat" that "...magnitude of the resultant impact would be dependent on the species of wildlife considered..." this would lead one to conclude that a determination of significance for cumulative impacts on certain species can not be achieved. Without thresholds and indicator species identified the determination of significance in cumulative effects assessment will continue to be a challenge. Environment Canada encourages all proponents to participate in completing the development of the CEAMF, so that all of those involved will have greater certainty and clarity in conducting good environmental assessments.

Abandonment and Restoration

Paramount provided an Abandonment and Restoration plan to cover their well sites and access roads. Environment Canada considers this plan and any other commitments to abandonment and restoration made during the course of the EA to be binding on the proponent.

Sumps

Environment Canada Information Request #1 - further clarification is required regarding the following statements, as they are contradictory.

"Paramount intends to employ the mix-bury-cover as indicated by item 7 on page 2 of the EIA..."

(Information Request July 27, 2001)

Item 7 on page 2 states, "Use an existing borrow pit as a camp sump. Closure of the drilling fluid and sewage sumps will be completed by the mix, bury and cover method".

(Environmental Impact Assessment, June 2001)

"All potential contaminates and other drilling wastes will be characterized, manifested and transported to an approved waste facility for disposal in accordance with the TDG Regulations."

(Information Request July 27, 2001)

Environment Canada recommends that all sump contents be shown to be non-toxic and that Paramount consider a post-monitoring plan for sumps.

Conclusions

For this specific Environmental Assessment, Environment Canada concentrated its review on the critical issues surrounding flaring and venting of natural gas. Given that predicted air quality impacts were minor, even under stringent modelling conditions, Environment Canada is of the opinion that the project impacts on air and water quality will be minimal; provided that Paramount adopts the mitigation measures put forward in the Environmental Screening Report and other related documents.

Please do not hesitate to contact me at (867) 669-4743 with any comments or questions regarding the foregoing.

Yours truly,



Paula Pacholek

Northern Environmental Assessment Coordinator, EPB

cc: Steve Harbicht (Head, Assessment & Monitoring, EPB)
Dave Fox (Data Analyst, MSC, AHSD)
Paul Latour (Habitat Biologist, ECB)

FAXED
August 22/01