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File: 79705

July 28, 2000

National Energy Board  
444 - 7th Avenue S.W.  
Calgary, Alberta  
T2P 0X8

ATTENTION: Mr. Michel L. Mantha, Secretary

Dear Mr. Mantha:

Re: Paramount Resources Ltd. - Cameron Hills Project

We act for Paramount Resources Ltd. ("Paramount") which, on July 20, 2000, met with certain members of the Board staff to discuss a proposal which could require a multiphase oil and gas line from the Cameron Hills area in the Northwest Territories to the existing Bistcho Gas Plant in Alberta together with a return fuel line in the same trench.

Paramount is in the process of preparing applications to the National Energy Board both for the pipelines referred to above and the requisite gathering facilities and battery. The latter application will be made pursuant to the *Canada Oil and Gas Operations Act* while the pipelines will be the subject of a *National Energy Board Act* application.

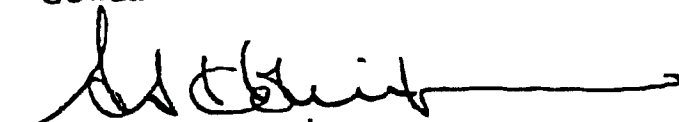
It is Paramount's intention to file an environmental scoping document to support the application for the pipelines and the application for the gathering system located within the Northwest Territories.

Paramount is also in the process of delineating further sites to enable it to firm up the necessary reserves. It confirms that the associated seismic programs, drilling, well completions and flow tests will not form part of the scoping document since the ultimate decision to proceed with the pipelines will be dependant upon the results of these activities. While Paramount is quite confident that its delineation and drilling activities will be sufficiently successful to justify construction of the

pipelines next winter, the two sets of activities will be separate since they will not proceed together and it is possible the pipelines may not proceed as planned in the winter of 2000/2001.

Yours very truly,

GOWLING LAFLEUR HENDERSON LLP



Alan S. Hollingworth

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ASH\_P/628716.2/DH4C011.WPD

**Pre-Application Scoping Document  
Regarding the Comprehensive Environmental and  
Soci-economic Impact Assessment for the  
Cameron Hills Pipeline and Facilities Project**

Gowling Lafleur Henderson LLP | Barristers &amp; Solicitors | Patent &amp; Trade Mark Agents |

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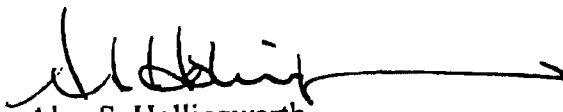
Dear Mr. Mantha:

**Re: Paramount Resources Ltd. ("Paramount") - Cameron Hills Project**

On behalf of Paramount, attached are twenty five copies of a draft environmental scoping document filed in support of the application for the pipelines and the application for the gathering system located within the Northwest Territories, referred to in our letter of today's date.

We look forward to receipt of your comments.

Yours very truly,

**GOWLING LAFLEUR HENDERSON LLP**  
Alan S. Hollingworth

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Encl.  
**DELIVERED**  
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**Pre-Application Scoping Document  
Regarding the  
Comprehensive Environmental and Socio-economic Impact Assessment  
For the  
Cameron Hills Pipeline and Facilities Project**

**Submitted To:  
National Energy Board**

**Prepared For:  
Paramount Resources Ltd.**

**Prepared By:  
Western Oilfield Environmental Services Ltd.  
and  
Golder Associates Ltd.**

**July 2000  
TS-MM-5775**

## 1.0 INTRODUCTION

The National Energy Board (NEB) has requested that Paramount Resources Ltd. (Paramount) provide a pre-application scoping document to the NEB for the proposed Cameron Hills Pipeline and Facilities Project ("Cameron Hills Project").

Paramount's Cameron Hills Project encompasses gas and oil production and transportation facilities in the southern Northwest Territories and northwest Alberta. In order to produce and further develop natural gas and oil reserves which were discovered in the late 1980's and early 1990's in Grid Area 60° 10', 117° 15'; 60° 10', 117° 30' and 60° 20', 117° 30' (see Attachment 1 - Project Map). Paramount is targeting production start-up for April, 2001. In order to establish threshold oil reserves to support a central battery, Paramount plans to drill up to eight oil delineation wells pursuant to a Land Use Permit and to paragraph 5(1)(b) of the Canada Oil and Gas Operations Act (COGOA). In order to establish threshold reserves for the gas development, flow test and pressure surveys are planned for the existing wells A-73 (Grid Area 60° 20', 117° 30'), and N-28, A-05, C-50 and B-08 (all in Grid Area 60° 10', 117° 30') as soon as winter access can be established and upon receipt of regulatory approvals. Construction of the gas gathering system, wellsite facilities, central gas battery, and transborder pipeline will only proceed if threshold gas reserves are established. The oil gathering system, wellsite facilities and central oil battery will proceed along with the gas development project, if threshold oil reserves are confirmed by new delineation drilling. Paramount also proposes to undertake seismic activities to further delineate reserve potential by providing a technical basis for future drilling after 2001.

Subsequent to finalization of this scoping document, Paramount will submit a Comprehensive Study pursuant to the Comprehensive Study List Regulation Schedule (Section 3) Part IV(14a) of the Canadian Environmental Assessment Act (CEAA) to construct a gathering system within the Northwest Territories to tie-in existing and new wells to a proposed Central Battery at H-03 Grid Area 60° 10', 117° 30'; construction of living quarters to house on-site operating personnel; a warehouse/workshop complex at the central battery; and a multiphase raw oil and natural gas pipeline from the proposed central battery at H-03 to Paramount's existing Bistcho Lake Processing Facility (Bistcho Plant) located at LSD 06-32-122-02-W6M and a sweet gas fuel pipeline extending from the existing Bistcho Plant to the Cameron Hills Central Battery.

Pending the success of the drilling and testing of wells during the 2000/2001 winter season, an oil pipeline is also planned from the Bistcho Plant to Zama, Alberta and will be developed wholly within Alberta under the jurisdiction of Alberta Environment and Alberta Energy and Utilities Board (EUB).

This document outlines the approach Paramount proposes to undertake for the preparation of a comprehensive environmental and socio-economic impact assessment for the proposed Cameron Hills Project which includes the gathering facilities, the central battery, the pipeline from Cameron Hills to the Bistcho Plant, and the fuel gas pipeline. Paramount intends to prepare an environmental and socio-economic impact assessment which fulfills the requirements for a Comprehensive Study and the requirements detailed in the "Guidelines for Filing Requirements" (February 22, 1995) Part VII issued by the NEB.

Paramount will submit an application to request approval to construct the gathering system and central battery pursuant to the COGOA.

In addition, an application will be submitted to the NEB pursuant to Section 52 of the NEB Act for approval to construct the pipeline from the Cameron Hills Central Battery to the Bistcho Plant, as well as the fuel gas pipeline from the Bistcho Plant to the Cameron Hills Central Battery.

## **1.1 Physical Components Included in the Comprehensive Study**

### **1.1.1 Project Area**

Attachment 1 is a Project Map which shows the location of the proposed Cameron Hills Project.

### **1.1.2 NEB Section 52 Transborder Pipeline Corridor**

Construction and operation of:

1. Approximately 67 km of 323.8 mm (NPS 12) outside diameter (O.D.) buried steel, multiphase (raw sour oil, gas condensate and natural gas) pipeline from the proposed Paramount Cameron Hills Central Battery located at H-03, Grid Area 60° 10', 117° 30' to the existing Paramount Bistcho Plant located at LSD 06-32-122-02-W6M.
2. Approximately 67 km of 88.9 mm (NPS 3) O.D. buried steel sweet natural gas fuel pipeline from the Bistcho Plant located at LSD 06-32-122-02-W6M to the proposed Paramount Cameron Hills Central Battery located at H-03, Grid Area 60° 10', 117° 30'.
3. Facility at the Bistcho Plant consisting of a block valve.
4. Facility at the proposed Cameron Hills Central Battery consisting of a block valve.
5. Impressed current cathodic protection system.
6. Four isolation valve headers for the two proposed pipelines tentatively planned to be located at SE1/4 of Sec. 25-125-23-W5M and the NW1/4 of Sec. 12-124-01-W6M.

### **1.1.3 COGOA Gathering System and Central Battery**

Construction and operation of:

1. A central battery to be located at H-03, Grid Area 60° 10', 117° 30' consisting of the following equipment:
  - Oil System: Inlet header, group and test separators, treater, oil storage tanks, produced water storage tanks, water injection pumps, oil pumps, gas compressor, pig sender, glycol dehydrator with future still column vapour incinerator when required, flare knockout drum and stack, heat medium system, utility air compression system, emergency shutdown system, and a communication system.
  - Gas System: Inlet separator and future gas compression with shared utilities and gas dehydration as noted on the oil treating system.
2. Approximately 38 km of gas and oil gathering system connecting to the following currently existing and proposed wells: A-73 (Grid Area 60° 20', 117° 30') and C-50, B-08, N-28, J-37, A-05, L-47, and C-19, all in Grid Area 60° 10', 117° 30'.
3. Approximately 13 km of oil gathering system connecting to the following currently existing and proposed wells: A-04, H-04, B-05, and G-03 in Grid Area 60° 10', 117° 30' and C-75, M-73 (01), M-73 (02), D-74, and C-74 in Grid Area 60° 10', 117° 15'.
4. Living quarters to house on-site operating personnel and a warehouse/workshop complex at the Central Battery.
5. Impressed current cathodic protection system.

6. Two electrical power generators driven by gas engines, approximately 400 kW each.
7. Water injection wellsite facility at L-44 Grid Area 60° 10', 117° 30' comprising of metering, piping, block valves, and wellhead shelter heated by a propane catalytic heater.
8. Oil wellsite facilities at L-47 and C-19 will include a pumpjack with natural gas engine, emergency shutdown system, separator package complete with skid and building, safety relief tank, methanol storage tank and pump, dewaxing chemical storage tank and pump, and pig launcher. Oil wellsite facilities at C-75, M-73(01), M-73(02), D-74, C-74, G-03, A-04, H-04, and B-05 comprising of pumpjacks with natural gas engines for pumping wells, emergency shutdown system, dewaxing chemical storage tank and pump, and pig launcher.
9. Gas wellsite facilities at A-73, C-50, B-08, N-28, J-37, and A-05 will include a well effluent metering package complete with skid and building, methanol storage tank and pump, corrosion inhibitor storage tank and pump, emergency shutdown system, and pig launcher.
10. Radio telemetry system from the wellsites to the Central Battery which includes communication towers and radios.
11. An electrical power distribution system (overhead lines) to the oil wells where it is appropriate to convert the pumpjack gas engines to electric motors.
12. An airstrip located within 1 km of the Central Battery at H-03 Grid Area 60° 10', 117° 30'.
13. An oil group/test piping header package complete with building located at H-04 Grid Area 60° 10', 117° 30'.
14. Approximately 8 km of 114.3 mm (NPS 4) O.D. internally lined water disposal pipeline from the H-03 Central Battery to the existing water disposal well L-44 Grid Area 60° 10', 117° 30'.
15. Directionally drilled pipeline crossings on all major watercourses (not frozen to the bottom), open cutting of all minor watercourses (frozen to the bottom) and aboveground crossings attached to the proposed bridges located in Section 7 Grid Area 60° 10', 117° 30' and Section 62 Grid Area 60° 20', 117° 30'. These bridges will be used for vehicles and equipment during facility operations, maintenance, well servicing and drilling.
16. A sewage lagoon, landfill, incinerator for camp garbage, and heliport to service the central battery's operations and camp.
17. Field roads for the wellsites and central battery accessible by all terrain vehicles in summer or regular vehicles in winter.
18. All terrain vehicle bridges over minor watercourses for operator access.

#### 1.1.4 Other Undertakings

Other undertakings in relation to the physical work identified above which will be included within the Comprehensive Study are provided below:

1. Transportation of equipment and materials, and storage at locations in the vicinity of the proposed project where it will be available for construction.



2. Construction, operation, and abandonment of various temporary construction camps at the Central Battery and along the proposed pipeline route between the Cameron Hills Central Battery and the Bistcho Plant.
3. Construction and operation of various temporary construction work spaces, access roads storage and work areas and borrow pits.
4. Maintenance of existing winter access roads for this area.
5. Inspection, maintenance, and repair activities associated with this project.
6. The undertakings as identified for each physical work and activity in Sections 1.1.2 and 1.1.3.
7. Modifications or decommissioning/abandonment activities for those physical works or activities in Sections 1.1.2 and 1.1.3.

## **1.2 Physical Project Activities Excluded from the Comprehensive Study**

The following physical project items are not considered to be part of the Cameron Hills transborder pipeline, central battery and gathering system project but will require regulatory approval from other agencies. Therefore, Paramount proposes to exclude these items from the Comprehensive Study to avoid duplication. However, all of the items listed below will be considered in the cumulative effects assessment.

### Delineation Activities

Paramount proposes to conduct seismic across portions of the existing significant discovery licenses. This seismic program has been excluded from the Comprehensive Study as it is not related to the currently proposed project. Seismic data gathered during the 2000/2001 winter period will not be used to determine the 2000/2001 drilling season locations but rather will be used to assess future drilling programs.

### Drilling Activities

Paramount also proposes to drill two to three oil delineation wells. If they are successful, Paramount will then drill two or three additional oil wells. If these wells are successful, an additional two oil wells will be drilled to a maximum of eight new delineation oil wells. Temporary drilling camps, temporary service camps and ice bridges are proposed to support the drilling program. Paramount proposes to flow test three existing gas wells, and to conduct pressure surveys on two other existing wells. These drilling and testing activities will not be included in the Comprehensive Study. The drilling will be addressed in a Type A Land Use Permit Application and Water License Application to the Mackenzie Valley Land and Water Board (MVL&WB) and will also undergo technical review. The drilling of the wells is required in advance of the construction of the gathering system, central battery and transborder pipeline to ensure threshold reserves and deliverability exist to support the subsequent development.

### Alberta Development Activities and Downstream Facilities

A pig receiver and a separator will be installed at the existing Bistcho Plant. The separator will separate raw crude oil and raw natural gas delivered from Cameron Hills as well as other wells located in Alberta. This plant modification will be subject to an application to the EUB.

Approximately 55 km of oil pipeline will be constructed to extend from the existing Bistcho Plant to the Rainbow Pipeline Terminal at LSD 09-28-117-04-W6M near Zama, Alberta. This pipeline will parallel the existing NGTL natural gas pipeline to Zama. This pipeline will be subject to approval from the EUB and Alberta Environment.

Two existing wells in Alberta (LSD 14-34-125-23-W5M and LSD 07-21-123-24-W5M) are planned to be tied-into the Cameron Hills to Bistcho Plant multiphase pipeline. As additional drilling proceeds in Alberta it is anticipated that other wells will be similarly tied into the transborder pipeline.

Approximately 59 km of 88.9 (NPS 3) O.D. internally lined buried steel water disposal pipeline from these wells will be placed in the same trench as the multiphase pipeline and will transport produced water from the Alberta wells to the Paramount Bistcho Plant for downhole disposal. The produced water disposal pipeline and water gathering lines to connect each well to the water disposal pipeline, will be subject to application to the EUB and Alberta Environment as they are located wholly within Alberta.

## **2.0 COMPREHENSIVE STUDY OBJECTIVES**

The specific objectives of the Comprehensive Study are summarized below:

- A. Compile existing information on the environmental and socio-economic conditions in the area of the proposed development.
- B. Collect additional information through aerial and ground surveys to supplement existing environmental information regarding existing environmental conditions to satisfy NEB and CEAA filing requirements.
- C. Provide appropriate level of detail to allow for analysis of optimal routing options.
- D. Conduct an assessment of potential and cumulative environmental and socio-economic impacts of the proposed pipeline project.
- E. Provide site-specific mitigation strategies to avoid or minimize impacts or where appropriate to enhance existing environmental conditions.
- F. To the degree possible, incorporate cumulative effects analysis in the assessment of potential impacts.
- G. Undertake community and public consultation.

## **3.0 APPROACH AND WORK PLAN**

The specific tasks required for each of the disciplines listed are explained below. They are summarized under the following headings: Existing Data Collection and Permit Approvals, Field Programs, and Analysis, Mitigation and Reporting.

### **3.1 Existing Data Collection and Permit Approvals**

All of Paramount's previously prepared environmental assessments and supporting documents for the existing Development Plan and Land Use Permits for the Cameron Hills will be reviewed. Relevant biophysical data from those reports will be incorporated in the Comprehensive Study as applicable.

Terrain

- Review existing literature and aerial photographs to identify landforms and areas of potential slope instability.
- Select specific landforms or areas of potential instability for subsequent field investigation.
- Conduct preliminary route option analysis with consideration of terrain constraints.

Soil

- Review existing literature, maps, and aerial photographs to identify soil types and potential permafrost areas.

Hydrology

- Review existing literature and aerial photographs to identify surface water resources.
- Review existing databases related to precipitation records and climatic data including temperature.
- Delineate drainage areas for ungauged streams and overland drainage areas.

Wildlife

- Review existing literature (e.g., caribou area maps, Values at Risk data, previous studies in the region), and aerial photographs to identify habitat potential.
- Review existing databases to determine species of concern (threatened and endangered wildlife species) including: nests, dens, colonies, winter ranges, etc.
- Personal communications with regional wildlife biologists.
- Obtain Research Licence from the Aurora College - Aurora Research Institute.
- Obtain a Wildlife Research Permit from the Government of the Northwest Territories - Resources, Wildlife and Economic Development.

Vegetation and Land Use

- Review existing literature, aerial photographs, and maps to identify vegetation communities and areas of sensitivity.
- Search existing databases to determine: potential species of concern (threatened and endangered species) and the general habitat types that support them; forestry concerns in the general project area; and Values at Risk (e.g., trap lines, cabins) for the northern portion of the project area.

Fisheries

- Review existing literature, databases, and personal communications with fisheries biologists and locals on affected water crossings and/or lakes to identify potential species, species of concern, etc.
- Obtain License to Capture Fish for Scientific Purposes from the Department of Fisheries and Oceans, Fisheries Management Unit, for the NWT and from Alberta Environmental Protection, Natural Resources Service.

Cultural Resources

- Review the study area to identify regions of moderate to high potential for historical resources and documentation of all previously recorded sites.
- Review databases to determine if any designated protected areas are within the project area.
- Obtain archaeological research permits (Alberta and NWT) and request a search of the National Archaeological Sites database from the Prince of Wales Northern Heritage

Centre and the Alberta Community Development, Provincial Museum of Alberta, Archaeology and Ethnology Section.

- Determine the spatial boundaries of a traditional knowledge study and complete the study through interviews and database review.

#### Air Quality and Noise

- Gather site and emissions data for the facility and other appropriate structures at the wellsites.
- Identify suitable meteorological data for use in dispersion models.
- Identify suitable receptors and topography for use in the models.
- Map projected dBA zones around wellsites and facilities.

#### Community and Socio-economic (see 5.0 for further details)

- Review municipal government documents and profiles and contact representatives of municipal governments.
- Determine potential for human health effects.
- Determine employment and procurement opportunities.
- Determine legitimate stakeholders.
- Determine questions and information needs of the stakeholders.

#### Cumulative Effects (see Section 6.0 for further details)

- Review existing databases to determine spatial and temporal boundaries for the study and other activities that have occurred or are planned for the cumulative effects study area.

#### Waste Management

- Assess potential wastes generated by construction and operations of the development. Items likely to be assessed will include sumps, waste water disposal, solid wastes, sanitary wastes and garbage.
- Review Paramount's existing Waste Management Plan.

### **3.2 Field Programs**

#### Terrain and Geotechnical

- Identify sensitive terrain during a helicopter reconnaissance of the project area.
- Field investigation of the selected sites of potential instability in conjunction with hydrology/surface water sites for areas of high instability.
- Complete ground examination of sensitive terrain identified to determine mitigation or routing options, as applicable.
- Provide basis for environmental and engineering assessment.

#### Soil

- Conduct an aerial assessment of the project area to delineate habitat types and associated soil types.
- Excavate soil pits in representative habitat types throughout the project area and describe the findings.
- Assess the route for potential permafrost areas.
- Utilize the soil information to develop appropriate soil handling techniques.

### Hydrology

- Collect photographs and field notes of all permanent streams crossings, ephemeral stream crossings, and areas which are highly sensitive to gullying.
- Assess each drainage crossing and collect geomorphological information (e.g., bed material, bank composition, slope, flow velocities) to assist in determination of the sensitivity of each crossing type, and determine appropriate mitigation.
- Sample surface water sources for water quality and water yield where required for withdrawal purposes.
- Assess potential for changes to drainage patterns.
- Utilize information to determine appropriate burial depths under the drainages.

### Vegetation and Land Use

- Conduct aerial and ground reconnaissance to identify vegetation communities.
- Assess high potential habitat areas for rare and endangered vegetation.
- Confirm aerial photograph assessment of vegetation communities.
- Complete vegetation descriptions of representative habitat types containing the project.
- Assess timber salvage potential and clearing requirements.
- Assess vegetation communities of human importance with assistance from the local communities.

### Wildlife

- Complete an aerial survey of the project area, with a buffer width of approximately 2 km on either side of the project to determine stick nest locations. All other wildlife observations will be made at that time.
- Delineate the study area based on habitat type and complete ground surveys in a representative sample of those habitats. Information collected will include all wildlife sightings, calls, and/or sign. Representative habitat types will be sampled to determine avian species present.
- Conduct field reconnaissance for sensitive listed wildlife species, and confirmation of habitat mapping from aerial photographs.
- Discuss wildlife populations in the area with wildlife officers and other regulatory biologists, non-government organizations and local experts.
- Assess information collected to determine the potential impacts to wildlife and develop appropriate mitigation strategies.

### Fisheries

- Conduct aerial reconnaissance to locate and classify all stream crossings and lake locations.
- Complete a formal fisheries resource and habitat assessment on qualifying drainages.
- Assess streambanks for potential erosion.
- Capture fish species for identification, if required.
- Assess stream flow characteristics.
- Assess water quality.
- Assess the watercourses' sensitivity related to pipeline construction activities.

### Cultural Resources

- Complete an overflight of the project area to assess archaeological potential.
- Examine all areas of moderate to high historical potential by archaeologists through a formal Historical Resource Impact Assessment (HRIA) using a combination of pedestrian transects and subsurface testing.
- Assess proposed development with the assistance of First Nations representative(s) to provide Traditional Knowledge to determine potential for medicinal plants, craft products, spiritual areas, etc.
- Assess traditional subsistence land use with a First Nations representative.

### Air Quality and Noise

- No field work is planned for these components.

### Community Consultation

- Paramount plans to hold "open houses" to consult with the public and communities of Hay River Dene Reserve, West Point, Hay River Community/Enterprise, Kakisa and Fort Providence. The communities of Trout Lake, Indian Cabins and the Dene Tha' First Nation will be kept informed of the project.
- Conduct meetings with regulators at the federal, territorial, provincial and regional levels.
- Conduct meetings and communications with other stakeholders.
- Provide project updates to stakeholders.
- Establish a tracking sheet for public and community contacts.

### Cumulative Effects (see Section 6.0 for further details)

- Assess identified activities in the project area to confirm status of effects.
- Confirm spatial and temporal boundaries for the study.

## **3.3 Analysis, Mitigation and Reporting**

### Terrain and Geotechnical

- Determine recommended siting and routing, construction methods and equipment requirements for site-specific conditions.
- Identify all areas of potential instability and locations where special construction methods are required.
- The report will include presentation of data including: location, length of section, construction period, construction method, equipment and inspection requirements.

### Soils

- Interpret soil survey data to determine soil handling procedures and mapping soil data onto the alignment sheets. Sensitive areas will be identified, as well as any site-specific soil handling techniques required.
- Report on the discussion of potential impacts and mitigation measures to soils, including potential permafrost areas, if applicable.
- Prepare construction drawings to describe soil handling techniques.

### Hydrology

- Interpret water analysis and water yield data collected.
- Calculate stream discharges for all permanent stream crossings and monthly average flows for all ephemeral stream crossings.
- Provide hydrologic design information for each stream crossing (e.g., bank description, bank material, bed material, natural sediment yield, design flows, etc.) and overland drainage section (water yield, land slope, vegetation cover, soil class).
- Establish the Q100 based on a regional hydrologic analysis to determine the appropriate burial depth for the pipelines.

### Vegetation and Land Use

- Develop site-specific construction techniques to minimize impacts to vegetation resources including: construction timing, sensitive vegetation communities avoidance, development of seed mixes for reclamation, and other methods to limit impacts on native vegetation.
- Assess timber salvage potential including assessment of volumes for salvage and storage requirements, if volumes warrant.
- Prepare a base map indicating all vegetation communities and rare plant species locations and any potential impacts to vegetation will be developed.

### Wildlife

- Develop site-specific mitigation including: construction timing, construction techniques, habitat avoidance or other methods to lessen the impact to wildlife resources.
- Prepare a report to assess impacts including the magnitude of each predicted and potential impact along the proposed route, which are dependent on timing of construction, existing conditions, and sensitivity of the wildlife species and habitat in the areas.

### Fisheries

- Analyze pipeline crossing habitat evaluation parameter data gathered.
- Set up photographic documentation of the streams crossed.
- Map habitat streams potentially affected by pipeline construction and development of site-specific mitigation measures.
- Provide an assessment of impacts using hypothesis based analysis and recommendations of site-specific construction mitigation techniques.

### Cultural Resources

- Prepare a summary of the objectives, methods, results and recommendations of the archaeological impact assessment for submission to regulatory bodies.
- Prepare mitigation program for cultural resources that cannot be avoided.
- Analyze artifacts that are collected during the field assessment component of the study.

### Air Quality and Noise

- Run a suitable dispersion model to predict impacts from the proposed facility and wellsites.
- Analyze impact of the proposed facility using the ISC3 air quality dispersion model (U.S. EPA, 1996) which can account for short-term and long-term meteorology, terrain and building influences.
- Model results will be presented in appropriate graphical and tabular formats.



- Determine future noise levels using noise release characteristics from comparable facilities and manufacturers' specifications. In addition, discussion will be included on the potential sensory disturbance to wildlife.
- Address cumulative impacts in modeling by accounting for significant existing and disclosed multiple emission sources within the study area. Mitigation options, residual impacts and air quality monitoring will be discussed.

#### Public and Community Consultation, Socio-economic Assessment and Traditional Knowledge

- Discuss the project at meetings with the public and communities to provide information relating to northern involvement and supply of goods and services.
- Identify public and community issues and discuss measures to assess and resolve them.
- Compile baseline data such as economic figures, community profiles, historical, current and proposed community land use activities and traditional knowledge.
- Develop an understanding of how these various land uses relate to one another, demographic profiles, transportation and infrastructure.
- Discuss any mitigation required to address human health issues that may arise.
- Discuss the duration of the project impact during construction and operation, the magnitude (high, medium or low), the geographic scope (local, regional, provincial) and the significance (positive, neutral and negative) (See Sections 5.0 and 6.0 for further details).

#### **4.0 REPORT CONTENT**

Paramount will ensure the project complies with Part VII of the Guidelines for Filing Requirements for a Section 52 Application under the NEB Act. The Concordance Table in Attachment 2 will be used to ensure all requirements are addressed. Paramount proposes to structure the Comprehensive Environmental and Socio-economic Impact Assessment to follow the Table of Contents provided in Attachment 3.

#### **5.0 SOCIO-ECONOMIC ASSESSMENT**

Paramount's Cameron Hills Significant Discovery Licenses are immediately north of the Alberta-Northwest Territories boundary, 76 km south of the community of Kakisa. This is a sparsely populated area. The closest communities in the Northwest Territories are Enterprise, Fort Providence, Hay River, West Point and Kakisa. In Alberta, the only nearby settlement is the tiny community of Indian Cabins. The Hay River Dene Reserve is adjacent to the community of Hay River. Cameron Hills also falls within an area which the Dene Tha' Indian Band claims as its traditional lands.

It is anticipated that the most significant socio-economic impacts of the proposed Paramount project will be on the communities of Kakisa, Fort Providence, Enterprise, Hay River, Hay River Dene Reserve, West Point and Indian Cabins. It is proposed that these communities be referred to as the "local study area". Direct impacts on these communities will be most pronounced during the short construction phase and then diminish markedly. A regional community that may also be affected, although in a much less pronounced manner, is Trout Lake. It is proposed that this community will be considered only tangentially within this report.

Temporally, this report proposes to examine impacts and related enhancement or mitigation measures for the construction phase of the project, which is expected to span some 3 months and be completed by April, 2001. There will also be secondary delineation and development projects throughout the operational phase. The pipeline into the area will only bring minimal activity outside the project lands as no mechanism for land issuance currently exists.



## 6.0 CUMULATIVE EFFECTS ASSESSMENT

Paramount proposes to conduct the Cumulative Effects Assessment utilizing the guidelines from CEAA. CEAA requires the consideration of any cumulative effects that are likely to result from the Project in combination with other projects or activities which are very likely to proceed or that have been carried out. The definition from CEAA Section 16(10)(a) is proposed for this assessment:

*"Cumulative effects are those that are likely to result from the project in combination with other projects or activities that have been or will be carried out".*

### 6.1 Spatial and Temporal Boundaries

Paramount is proposing to utilize a study area for the cumulative effects assessment that incorporates natural boundaries to the extent feasible, but which also extends beyond the Paramount lands to result in a meaningful investigation. As such the proposed study area comprises a buffer extending from approximately 3 to 10 km (depending on natural boundaries) on either side of the project components. This area would be consistent with our regional study boundary, and is considered to encompass all of the existing and immediately pending projects that are related to the proposed project.

The temporal boundaries for the assessment would be limited by only considering existing, man-made disturbances and those projects that are immediately pending.

Assessment of past and current developments in the study will be completed through field reconnaissance, public consultation, review of regulatory databases (NEB, MVL&WB, EUB and Alberta Environment). In addition, maps and aerial photographs will be reviewed. Disturbance estimates will be used based on the data which is available.

The assessment will also consider the proposed development by Paramount and others in relation to the overall study area. The assessment will consider the effect of the project on sustainable use of renewable resources.

The cumulative effects assessment will include discussions of impacts to vegetation and wildlife/wildlife habitat, impacts to water resources, socio-economic setting, cultural components and aesthetics. In addition, the potential impacts of the various project activities including access and emissions will be discussed.

## 7.0 PROJECT SCHEDULING

The anticipated schedule for the project is presented in Table 1.

Table 1 – Summary of Proposed Schedule for Paramount's Cameron Hills Pipeline and Facilities Project

Activity	Commence
Prepare Winter Access	November 16, 2000
Seismic	December 4, 2000
Flow Tests	December 15, 2000
Drilling	December 4, 2000
Construction of Gathering System and Pipeline Construction	January 23, 2001
Commence Operations	April 11, 2001

**Attachment 1**

**Project Map**



# PARAMOUNT RESOURCES LTD. Proposed Cameron Hills Project

Scale 1:750,000

Proposed Pipeline  
TCPL Pipelines



Plant Site



Paramount Lands



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