

PROMITHIAN INC.

WIND RIVER COALFIELD ASSESSMENT REPORT

FEBRUARY, 2003

NTS 106 – E

65 15' N 135 00' W

COAL EXPLORATION LICENCES CYM 0011 – 0019

During the 2002 Assessment year significant work was carried out by Promithian Inc. to appraise the economic potential of the Coal and Coal Bed Methane of the Bonnet Plume Basin. Two separate projects evolved out of the extensive research carried out by Promithian Inc. As a result of this an evaluation report entitled PROMITHIAN INC. was prepared and released on July 22, 2002. Extensive consultations were subsequently undertaken, and a detailed plan for future work has been prepared. Promithian Inc. is therefore submitting as its' Assessment the above mentioned Evaluation Report under section 6 of schedule 2, Exploratory and Representation Work, of the Canada Mining Regulations. It is our believe that when the work carried out in 2002 is viewed in it's entirety it can clearly be seen that significant "work was done for the purpose of developing the claim."

Coal was first discovered in the Bonnet Plume Basin over a century ago. From 1977 through 1983 approximately five million dollars worth of exploration was carried out in an effort to find mineable coal deposits. It was determined that the southwest corner of the basin - the Wind River Coalfield - contains approximately six hundred and sixty million tonnes of in situ high grade, Bituminous C, thermal coal. The Wind River Coalfield is made up of seven surface mineable deposits with five seams each. One of the deposits, ILLTYD, was extensively drilled in order to prove mineable reserves. A Prefeasibility Mining Study was completed for the ILLTYD Deposit in conjunction with a plan for on-site electric power generation and transmission to the existing Yukon power grid. The northern end of the Bonnet Plume Basin also contains a resource of approximately one billion four hundred million tonnes of lower grade Lignite coal. These two extremely large coal formations raised Promithian's interest in the Bonnet Plume Basin's potential for Coal Bed Methane.

During the spring of 2002 Promithian Inc. acquired and consolidated all known geological, exploration, and environmental information available on the Bonnet Plume Basin. Promithian used this information to have a technical evaluation report entitled: "COAL BED METHANE POTENTIAL OF THE BONNET PLUME BASIN" prepared. The report indicates that the basin could theoretically contain approximately nine trillion cubic feet of high quality natural gas - CBM. The report is included as appendix F in the attached PROMITHIAN INC. report.

Eighty kilometers east of the Wind River Coalfield is the Crest Iron Ore property. The Crest Iron formation contains in excess of eighteen billion tonnes of 43-46% Fe Iron Ore. In April 2002 Promithian Inc. engaged Hatch Associates to carry out a High Level Evaluation of the company's plan to develop a mining-steel manufacturing operation on the Wind River Coalfield. The plan involves developing the Coal deposits of the Wind River Coalfield for the purpose of reducing the Crest Iron Ore and to produce the power necessary for the energy intensive steel making and manufacturing process. The "PROMITHIAN INC." High Level Evaluation Report is included with this Assessment Report.

The costs involved in producing these two evaluation reports amounted to \$ 36, 200.00 during 2002.

Extensive consultations were also carried out during the year. These consultations resulted in much work being done to further define the economic potential of the Bonnet Plume Basin. The Geological Survey of Canada carried out a more comprehensive Coal Bed Methane Resource Assessment during the year for the Yukon's Oil and Gas branch. A comprehensive data base including satellite imagery, digital maps, geological information, exploration and drilling results, and Aeromagnetic Survey data will be released with the Resource Assessment in April 2003. An Aeromagnetic Survey was carried out over the Bonnet Plume Basin between June 13 and July 21, 2002. The maps were released in January 2003. The Geological Survey of Canada also made a presentation on the Coal Bed Methane potential of the Basin to the Northern Geoscience Forum in November 2002. In April 2003, Promithian Inc., the Yukon's Oil and Gas Branch, and the Geological Survey of Canada will make a joint presentation to the Coal Bed Methane Symposium in Calgary, Alberta. In October 2002 the Yukon Department of Infrastructure began a Transportation Infrastructure Study on the Bonnet Plume Basin's potential access route via the Wind River Trail. The report will be complete in April 2003.

Promithian Inc. has put together a plan to drill a test hole in 2003 to determine the Methane content of the Bonnet Plume Coal Seams. An Action Plan for a Prefeasibility Study of the Steel making complex has also been assembled. Both of these documents have been included with this Assessment report.

The costs involved in preparing the PROMITHIAN INC. High Level Evaluation Report were as follows:

Hatch High Level Engineering:	\$ 21,072.61
Bonnet Plume Coal Bed Methane Resource Assessment:	\$ 11,507.39
Promithian Inc. Overhead on both reports:	\$ 3,620.00
 TOTAL COSTS IN 2002:	 \$ 36,200.00

The expense per Coal Exploration License was \$ 4,022.22 for each of CYM 0011 through CYM 0019 in 2002.

Action Plan

PR305005.001
FL305005.201
Rev. 3, Page 1

February 26, 2003

Promithian Inc. Steel Complex

Action Plan for a Prefeasibility Study of the Promithian Steel Complex

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1. SUMMARY

1.1 Introduction

The attached Action Plan has been developed by personnel from Hatch Vancouver, in consultation with Rescan Environmental Services, and is reflective of input from Promithian subsequent to the issuing of Hatch's High Level Evaluation Report of July 22, 2002.

The planning process has been coordinated and documented by Hatch.

1.2 Objective of Project

Promithian's vision of the Project, as confirmed by the July 22, 2002 Report, is to methodically develop a profitable steel mill in conjunction with the Crest Iron Ore and Wind River Coal properties in the Yukon, focussed on the high value market for energy related pipe and tube products.

1.3 Objective of the Action Plan

Hatch's Report highlighted many promising aspects of the Project, along with several areas of intangibility and uncertainty, and recommended a Pre-Feasibility Study (PFS) as a logical next step. Promithian have requested that an outline of such a study be prepared for evaluation by the Project Principals, and that the work plan reflect the timing constraints involved with the Crest property as well as the need to finance the work on a continuing basis.

1.4 Planning Team

Hatch identified the work areas, and subsequently defined the work packages and their logical, sequence-based relationships, to be finalized by input from Promithian.

<u>Firm</u>	<u>Area of Contribution</u>
Hatch	Study Management incl. Process, Marketing, Financial
Rescan Environmental	Permittability, Base-line Studies
EBA	Geotechnical, Constructability
Access Engineering Services	Permittability
Yukon Engineering Services	Access/Infrastructure, Constructability

1.5 Work Breakdown Structure

Given the scope, complexity, and minimal definition of the Project to date, the Work Packages will be directed towards resolving issues and uncertainties in the following Study Areas:

- A. Permittability
- B. Constructability
- C. Operability
- D. Marketability
- E. Financability

In most cases, Work Packages will impact on more than one Area, however, the timing and degree of completeness of any given Package will be controlled so that the overall Work Areas are completed in the sequence shown. In this manner, any “fatal flaws” in the critical Permitting and Constructability areas will be surfaced early in the Study. The more detailed and expensive resource and process definition development studies, particularly with respect to the Crest property and the conversion of the ore to useable electric furnace feed, can be deferred.

In the aggregate, completion of all of the work will go a great distance towards defining and designing a viable Project, and establishing its prospects for financing.

1.6 Schedule Calendar

The Master Schedule will be prepared using Microsoft Project. It will utilize time units of one day, with five working days per calendar week. Work will be managed to mitigate the impact of statutory holidays, key personnel vacations, and so forth on the critical path.

1.7 Schedule Results

The Prefeasibility Study is expected to take of the order of 6 months.

There will be three distinct parts to the programme.

Phase I	April 1, 2003 to July 31, 2003
Phase II	Pending Exploration and Metallurgical Testing program

1.8 Schedule Formats

After finalization with the project principals, the Prefeasibility Schedule will be presented in the following formats:

The one-page Summary schedule as noted above.

2. SCOPE DESCRIPTION

The scope description of each Work Package is briefly described to highlight the essential context and content involved and is intended to be read in conjunction with the appropriate section(s) of the High Level Evaluation report of July 22, 2002.

As Study Managers, Hatch Vancouver will be responsible for ensuring the timeliness and completeness of each.

Prefeasibility Study will be executed in two phases.

Phase I

A. Project Administration

A-01 Finalize Plan of Approach: a detailed step by step plan for producing the PFS will be documented, based on this activity framework, and the schedule finalized.

The Table of Contents for the PFS Report will be prepared.

A-02 Finalize Project Team: Staffing requirements and availability will be prepared to identify appropriate personnel from among the companies participating, as well as any additional resources, ensuring that all skills necessary to complete the PFS are represented.

A-03 Develop Preliminary Project Criteria: a detailed statement will be prepared, building on the July 22 Report, to identify all critical project criteria such as basic operating parameters, daily and annual throughputs, assumed grades, qualities and product mix, operating days per year, etc. to be used as the basis for design. This criteria statement will be revised from time-to-time as the PFS develops.

A-09 Socio/Economic Impact on First Nations Community and the Region: the economic impacts arising from development, construction, and on-going operational activities will be quantified.

B. Site(s) Assessment

B-01 Plan Site Visit: the High Level Review was performed on the basis of assumptions with respect to the siting of the steel mill and pipe manufacturing complex at the Wind River site, slurry pipeline supply of iron ore from the Crest site, road transport of product to Whitehorse, international market access through Skagway, etc.

Prior to the site visit, a review meeting will be held with the Project Principals and the principal Consultants to develop a punch list to ensure that all relevant issues are validated or otherwise covered-off during the initial visit. Where appropriate, questions will be submitted to local agencies in advance.

B-02 Visit Sites: the critical sites will be visited by key members of the PFS Team to confirm the current assumptions and gather additional information. During the visits, the answers to any previously submitted questions will be reviewed and discussed for clarification. Available infrastructure in relevant locations will be assessed and information acquired on current capabilities and costs.

B-03 Follow-up Contacts: issues and questions arising during the sites visits will be the subject of further dialogue with personal contacts established in the course of the visits.

B-04 Assessment Report: the deliverable of this activity will be a trip report by all participants, which will help to finalize the scope of activities required, and refine the Project Criteria. Particular attention will be given to identifying any potential “fatal flaws” in the approach contemplated in the High level Review.

This report will be reviewed with senior representatives of the sponsoring entities for confirmation of the concepts and approaches to the balance of the PFS.

C. Environment/Community

C-01 Regulatory Framework: relevant legal information with respect to the siting of this greenfield mining, steelmaking and manufacturing complex and the ancillary facilities will be requested, and upon receipt, summarized in tabular format.

A cultural, historical, archeological survey and plan will be developed in consultation with the Nacho Nyak Dun and Gwich'in First Nations.

Within this context, Promithian's corporate philosophy will be melded with the Territorial guidelines for land use and mine-industrial mill development. World Bank guidelines for comparable development will be identified inasmuch as adherence to these guidelines is normally the minimal standard required by financial institutions providing funds for development.

C-02 Develop Project Environmental Criteria: a policy on mitigating the environmental impacts of the operations will be developed. Standards will be established that will be in conformance with North American and World bank standards.

C-03 Identify Environmental “Fatal Flaws:” an environmental assessment of the project within its wilderness setting context will be conducted in the course of the sites visits. The assessment will include the mining areas, the potential steel mill plant site(s), transportation and infrastructural interconnections, and waste handling.

Environmental risks will be identified and tabulated.

C-04 Develop Environmental Programme: an environmental work plan will be developed based on the information obtained during the site visits and consultation with local regulatory authorities/stakeholders. This work plan will be a standard environmental assessment outline, including physical, chemical and biological components.

The work plan will be to a standard, and degree of comprehensiveness consistent with those for other recently permitted large scale industrial developments in the Canadian North.

E. Iron Ore – Crest Property

E-01 Review Existing Geology: the available studies and reports will be assessed by Hatch’s geology and mining personnel to establish an appropriate “target” portion of the resources and an inferred geological model.

E-02 Design Exploration Programme: an “exploration” programme will be designed to upgrade an appropriate portion of the target resources to the reserve category. This is required for financing, mine planning and engineering for a subsequent BFS. The design of this programme will involve the choice of appropriate infill drill hole patterns and spacing, as well as sampling programmes for grade and metallurgical purposes.

E-06 Review Crest Metallurgy and Testwork: the available studies and reports will be assessed to determine the adequacy of the data for a PFS metallurgical evaluation of the target resource. Areas of concern will be identified and necessary action determined.

E-07 Design Test Programme: in conjunction with the exploration programme, sampling, comminution tests, flotation test procedures and results, reagent types and consumption rates, tailings and concentrate qualities achieved, product dewatering characteristics, and metallurgical projections will be required.

The deliverable of this activity will be a summary report of metallurgical observations as support for flowsheet design and plant equipment and layouts.

F. Coal – Wind River Property

F-01 Review Existing Geology: the available studies and reports will be assessed by Hatch’s geology and mining personnel to establish an appropriate “target” portion of the resources and an inferred geological model.

F-02 Design Exploration Programme: an “exploration” programme will be designed to upgrade an appropriate portion of the target resources to the reserve category. This is required for financing, mine planning and engineering for a subsequent BFS. The design of this programme will involve the choice of appropriate infill drill hole patterns and spacing, as well as sampling programmes for grade and metallurgical purposes.

F-06 Review Wind River Metallurgy and Testwork: the available studies and reports will be assessed to determine the adequacy of the data for a PFS metallurgical evaluation of the target resource. Areas of concern will be identified and necessary action determined.

E-07 Design Test Programme: in conjunction with the exploration programme, sampling, comminution tests, washing test procedures and results, reagent types and consumption rates, tailings and product qualities achieved, product dewatering characteristics, and metallurgical projections will be required.

The test work will be designed to establish the costs/benefits of washing the coal to the degree necessary to support each of the three alternative energy generation/iron unit production options identified in the High Level Report. As well, the tailings/ fines will be assessed as to their suitability for power plant fuel. The deliverable of this activity will be a summary report of metallurgical observations as support for flowsheet design and plant equipment and layouts.

G. Energy/Iron Unit Production

The high level review considered the complex interactions between energy and iron unit production and crystallized three principal concepts:

- gasification of coal for both power generation and iron reduction in a Midrex shaft furnace (100% Gasification)
- Corex/Midrex combination to produce liquid hot metal, Midrex shaft furnace DRI, and by-product power (Corex/Midrex)
- Rotary hearth furnace DRI from coal/ore/fluxed pellets with Submerged arc furnace production of liquid hot metal, and by-product power (RHF/SAF)

Promithian subsequently introduced the notion of liquid fuel production for transportation purposes as part of the 100% Gasification concept; Hatch introduced the notion of supplementary power from direct combustion of tailings.

G-01 Develop Energy and Carbon Balances: with input from vendors as appropriate, energy and carbon balances will be developed for the total complex, including requirements for the Crest site, for each of the three concepts. In the course of this work, the requirements for tonnage oxygen will be established and incorporated into the energy balance.

G-02 Assess Gasification Technologies: candidate processes will be evaluated in conjunction with vendors. Implications for coal preparation requirements will be quantified as well as waste management considerations.

G-03 Assess Iron Production Routes: candidate processes will be assessed with emphasis on steel production efficiencies and waste requirements with appropriate vendor involvement.

G-04 Establish Process Configuration: the most promising process configuration for energy and iron unit production will be documented. Flowsheets will be prepared.

The deliverable from these activities will be a report including the necessary trade-off analyses leading to the selection of the energy and iron unit production route. Output will determine the preparation route for coal, as well as the configuration of the electric furnace for steel production.

Phase II

A. Project Administration

A-04 Develop Basis of Estimate: estimating parameters, including unit costs for materials and labor, productivity factors, taxes, duties, etc. will be compiled in preparation for estimating the capital and operating costs. This statement will be revised from-time-to-time as the PFS develops.

A-05 Determine Revenues: the revenue profile for the project will be determined based on the projections of the prices of the products contemplated, netted against the costs of marketing, distribution, quality and service, with due allowance for the transition from initial operations. This statement will be revised from time-to-time as the PFS develops.

A-06 Finalize Pre-Feasibility Criteria: the Project Criteria will be updated to integrate new and current information arising during the course of the PFS. The revised documentation will formally establish the basis for completion of the PFS and estimating the cost of a subsequent Bankable Feasibility Study (BFS) as appropriate.

A-07 Compile Project Costs: using the basis of estimate, quantities developed from preliminary designs, equipment lists and other data produced for the study, capital and operating cost estimates will be prepared.

A-08 Develop Financial Analysis: estimates of costs and revenues for the forecast project life will be used to prepare pro-forma financial statements, including cash flows, for the project. The cash flows will be analyzed to determine net present values, DCF rates of return, and the sensitivity of those to changes in major project parameters including input costs, product mix, product prices and currency exchange rates.

A-10 Finalize Draft Report: descriptive reports for each aspect of the project will be prepared as the work progresses. These will include the description of the issue/aspect being addressed, a statement of the rationale for the resolution/alternatives selected, and listing of the assumptions made respecting the selection.

Individual sections will be consolidated into a comprehensive descriptive report.

A-10 Review Draft: the report will be reviewed with senior representatives of the sponsoring entities for relevance, completeness, accuracy and general conformity with PFS study reports.

A-11 Finalize Report: The PFS report will be modified to incorporate changes and/or additions arising from the review. The report will be finalized, copied and issued.

C. Environment/Community

C-05 Estimate Environmental Costs: a preliminary cost estimate will be developed to complete the permitting and licensing. The capital and operating costs of the mitigative, and ongoing monitoring and reporting, measures required respecting such matters as water treatment, tailings and other waste impoundments, water supply, air emissions, transportation impacts, and so forth will be estimated.

D. Infrastructure

D-01 Finalize Infrastructure Requirements: in the course of the sites visits, confirm that the requirements as assumed in the High Level Review are appropriate and/or practicable and update/modify as necessary.

D-02 Assess Existing Infrastructure: in the course of the sites visits determine on a system by system, site by site basis which of the project requirements can be met by existing infrastructure, particularly with respect to transportation, support services for construction and on-going operation.

Information available from past, and current Yukon Territorial Government surveys and studies will be utilized.

D-03 Develop Infrastructure Designs: concepts and designs will be developed for new components to an appropriate level of detail to support the preparation of a PFS quality estimate.

Particular attention will be given to the interconnections between the Crest and Wind River sites and between the Wind River site and the points of transshipment for the steel products.

D-04 Personnel Housing and Support Assessment and Report: as noted in the Report of July 22, a trade off study will be required, subject to site assessments and local consultations, as to the best method to accommodate and service the personnel required during construction as well as ongoing operations and maintenance.

The deliverable of this activity will be a report, which should provide guidance to both the Principals of the sponsoring entities and the local authorities/stakeholders as to the potential costs and benefits of a Wind River “townsite” as contrasted with a Wind River “camp.”

D-05 Estimate Infrastructure Costs: capital and operating costs will be prepared based on the concepts and designs prepared for the infrastructural work package.

E. Iron Ore – Crest Property

E-03 Estimate Exploration Costs: an estimate of the cost of the exploration programme will be calculated

E-04 Develop Preliminary Mine Plan: a preliminary development and operating plan for the target resource will be developed. A conceptual mine layout will be prepared based on the inferred geological model.

E-05 Consider Mine Geotech Information: available geotechnical information will be assessed for its usefulness in determining the development approach. Any deficiencies will be included in the assessment during the site visit.

E-08 Estimate Cost of Test Programme: an estimate of the cost of the test programme will be developed. Candidate test facilities will be established.

E-09 Preliminary Design of Concentrator: mill layouts will be developed using the preliminary process flowsheet. Included will be the systems from the coarse ore dump hopper to the product slurry pumping system and the tailings pumps. Slurry transport to, and dewatering at the Wind River site will be handled separately as will tailings management.

E-10 Develop Tailings Design: in conjunction with the geotech review and site assessment, establish candidate tailings locations and management system.

E-11 Develop Site Plan: preliminary layout of total site, including infrastructural requirements, personnel housing, and administration and repair facilities.

E-12 Estimate Cost of Crest Development: capital and operating costs for the complex will be prepared.

F. Coal – Wind River Property

F-03 Estimate Exploration Costs: an estimate of the cost of the exploration programme will be calculated

F-04 Develop Preliminary Mine Plan: a preliminary development and operating plan for the target resource will be developed. A conceptual mine layout will be prepared based on the inferred geological model.

F-05 Consider Mine Geotech Information: available geotechnical information will be assessed for its usefulness in determining the development approach.

F-08 Design Test Programme: in conjunction with the exploration programme, sampling, comminution tests, flotation test procedures and results, reagent types and consumption rates, tailings and concentrate qualities achieved, product dewatering characteristics, and metallurgical projections will be required.

The deliverable of this activity will be a summary report of metallurgical observations as support for flowsheet design and plant equipment and layouts.

F-09: Preliminary Design of Wash Plant: plant layouts will be developed to reflect the configuration appropriate to each of the three options. Included will be the systems from the coarse coal dump hopper to the product and tailings/fines discharge points.

F-10 Develop Tailings Management System: a trade off study will be performed to establish the costs/benefits of conventional “ponding” in contrast with combustion for power generation with subsequent ash management.

Results from this study will be employed in the assessment of the three energy/iron unit production options.

G. Energy/Iron Unit Production

G-05 Preliminary Specification and Design: layouts and general arrangements will be prepared from the flowsheets for both the iron unit production and energy production units. Battery limits for iron production will be from receipt of slurry from Crest to delivery of units to the steel-making furnace.

G-06 Estimate of Capital Costs: capital cost estimates will be prepared for both the energy production and iron unit production facilities. Equipment budget prices and PFS level electrical, civil and structural quantities will be developed and costed. Piping, instrumentation and ancillaries will be factored.

G-08 Estimate of Operating Costs: Labor, supplies, maintenance costs etc. will be estimated using local conditions, estimated yields and conversion efficiencies, and allowances where necessary, for both the energy production and iron production facilities. Waste handling and disposal will be handled separately. Costs will be presented on the basis of major categories showing quantities, unit prices, total annual costs, and costs per unit of electricity and per unit of useable iron produced.

H. Steel Production

H-01 Preliminary Design of Steel Mill: layouts and general arrangements will be developed in conjunction with vendors as appropriate for the production of hot strip, cut-to length plate, and plate-in coil products. Battery limits will be from receipt of solid/liquid iron units to shippable products.

H-02 Estimate of Capital Costs: capital cost estimates will be prepared recognizing the production of all three product groups. Isolation of the specific costs beyond the common Stekel Mill output stage will enable assessment of the costs and benefits of including each in the final production mix. Equipment budget prices and PFS level electrical, civil and structural quantities will be developed and costed. Piping, instrumentation and ancillaries will be factored.

H-03 Estimate of Operating Costs: operating costs will be estimates using local conditions, estimated yields and conversion efficiencies, and allowances as necessary for all three product categories. Waste handling and disposal will be handled separately, as will transportation of product to third-party users. Costs will be presented on the basis of major categories, unit prices, total annual costs, and cost per unit of shippable product of each type produced.

I. Pipe and Tube Production

I-01 Preliminary Design of Large Diameter Pipe Mill: layouts and general arrangements will be prepared using vendor input as appropriate. Battery limits will be from receipt of plate-in-coil through preparation, spiral forming and welding, cut-to-length, flaw detection, hydrotesting. Coating for field installation will be handled separately by others.

Provision will be made for incremental, modular expansion of the production volume.

I-02 Preliminary Design of Small Diameter Pipe and Tube Mill. Layouts and general arrangements will be prepared using vendor input as appropriate. Battery limits will be from receipt of coiled hot strip through forming and welding to finishing and warehousing of shippable product. Transportation to third-party users will be handled separately.

Provision will be made for production of construction and mechanical products (HESS) through API pipe and tube, in appropriate size ranges on an incremental basis.

I-03 Estimate of Capital Costs: capital cost estimates will be prepared for both Mills recognizing the variability in product demand timing and volume. Equipment budget prices and PFS level electrical, civil and structural quantities will be developed and costed. Piping, instrumentation and ancillaries will be factored.

I-04 Estimate of Operating Costs: operating costs will be estimates using local conditions, estimated yields and conversion efficiencies. Coating for field installation will be handled separately as will transportation to third-party users. Costs will be presented on the basis of product type, major size ranges, unit prices, total annual costs and cost per unit of shippable product of each type and range.

J. Marketing and Distribution

J-01 Estimate Product Capability: a model will be developed for the output capability of the complex, by product type and tonnage from start-up through full operation. The model will recognize the estimated time requirements for process definition and capability demonstration for the various product groups contemplated.

J-02 Market Access Assessment: the markets for the product groups contemplated will be surveyed for growth prospects and timing, current pricing and trends, product placement opportunity, and comparative advantage. Particular attention will be paid to the segmentation between "nearby accessible," domestic North American, and international opportunities.

J-03 Transportation and Distribution Assessment: with input from the trading, distribution, and transportation sectors as appropriate, the requirements for on-site, nearby, and remote handling and warehousing requirements will be determined. Particular attention will be given to railhead and marine terminal considerations.

J-04 Preliminary Estimate of Revenue: the output from activities J-01 through J-03 will be employed to create a preliminary model of the revenue generation capability of the Project on an all-else equal basis.

The deliverable for this set of activities will be a report summarizing the strategy for guiding the nature sizing, and timing of the facilities downstream of the Stekel Mill, feeding directly into the design and cost estimating activities. As well, the report will provide the revenue data necessary to conduct the financial modeling and evaluation for the Project.

Adam Majorkiewicz

AM:ddb

February 26, 2003

VIA E-MAIL (wheelton@direct.ca)

Mr. Philip Wheelton
Promithian Inc.
209 - 2995 Princess
Coquitlam, BC
V3B 7N1

Dear Phil:

Subject: Proposal for Phase I - Pre-feasibility Study of the Promithian Steel Complex

Based on Hatch's high level evaluation of Promithian's plan for a mining-steel manufacturing operation in northern Yukon report dated July 22, 2002, Promithian have decided to advance project to a pre-feasibility level. Due to the complexity of the projects and available founding Promithian wish to execute this pre-feasibility study in phases. This proposal addresses the first phase.

1. SCOPE OF WORK AND EXECUTION

- Finalize Plan of Approach: a detailed step by step plan for producing the PFS will be documented, based on this activity framework, and the schedule finalized.
- Finalize Project Team: Staffing requirements and availability will be prepared to identify appropriate personnel from among the companies participating, as well as any additional resources, ensuring that all skills necessary to complete the PFS are represented.
- Develop Preliminary Project Criteria: a detailed statement will be prepared, building on the July 22 Report, to identify all critical project criteria such as basic operating parameters, daily and annual throughputs, assumed grades, qualities and product mix, operating days per year, etc. to be used as the basis for design. This criteria statement will be revised from time-to-time as the PFS develops.
- Socio/Economic Impact on First Nations Community and the Region: the economic impacts arising from development, construction, and on-going operational activities will be quantified.

Prior to the site visit, a review meeting will be held with the Project Principals and the principal Consultants to develop a punch list to ensure that all relevant issues are validated or otherwise covered-off during the initial visit. Where appropriate, questions will be submitted to local agencies in advance.

- Visit Sites: the critical sites will be visited by key members of the PFS Team to confirm the current assumptions and gather additional information. During the visits, the answers to any previously submitted questions will be reviewed and discussed for clarification. Available infrastructure in relevant locations will be assessed and information acquired on current capabilities and costs.
- Follow-up Contacts: issues and questions arising during the sites visits will be the subject of further dialogue with personal contacts established in the course of the visits.
- Assessment Report: the deliverable of this activity will be a trip report by all participants, which will help to finalize the scope of activities required, and refine the Project Criteria. Particular attention will be given to identifying any potential "fatal flaws" in the approach contemplated in the High level Review.

This report will be reviewed with senior representatives of the sponsoring entities for confirmation of the concepts and approaches to the balance of the PFS.

- Regulatory Framework: relevant legal information with respect to the siting of this greenfield mining, steelmaking and manufacturing complex and the ancillary facilities will be requested, and upon receipt, summarized in tabular format.

A cultural, historical, archeological survey and plan will be developed in consultation with the Nacho Nyak Dun and Gwich'in First Nations.

Within this context, Promithian's corporate philosophy will be melded with the Territorial guidelines for land use and mine-industrial mill development. World Bank guidelines for comparable development will be identified inasmuch as adherence to these guidelines is normally the minimal standard required by financial institutions providing funds for development.

- Develop Project Environmental Criteria: a policy on mitigating the environmental impacts of the operations will be developed. Standards will be established that will be in conformance with North American and World bank standards.
- Identify Environmental "Fatal Flaws:" an environmental assessment of the project within its wilderness setting context will be conducted in the course of the sites visits. The assessment will include the mining areas, the potential steel mill plant site(s), transportation and infrastructural interconnections, and waste handling.

Environmental risks will be identified and tabulated.

- Develop Environmental Programme: an environmental work plan will be developed based on the information obtained during the site visits and consultation with local regulatory authorities/stakeholders. This work plan will be a standard environmental assessment outline, including physical, chemical and biological components.

The work plan will be to a standard, and degree of comprehensiveness consistent with those for other recently permitted large scale industrial developments in the Canadian North.

- Review Crest Existing Geology: the available studies and reports will be assessed by Hatch's geology and mining personnel to establish an appropriate "target" portion of the resources and an inferred geological model.
- Design Crest Exploration Programme: an "exploration" programme will be designed to upgrade an appropriate portion of the target resources to the reserve category. This is required for financing, mine planning and engineering for a subsequent BFS. The design of this programme will involve the choice of appropriate infill drill hole patterns and spacing, as well as sampling programmes for grade and metallurgical purposes.
- Review Crest Metallurgy and Testwork: the available studies and reports will be assessed to determine the adequacy of the data for a PFS metallurgical evaluation of the target resource. Areas of concern will be identified and necessary action determined.
- Design Iron Ore Test Programme: in conjunction with the exploration programme, sampling, comminution tests, flotation test procedures and results, reagent types and consumption rates, tailings and concentrate qualities achieved, product dewatering characteristics, and metallurgical projections will be required.
- Review Coal Deposit Existing Geology: the available studies and reports will be assessed by Hatch's geology and mining personnel to establish an appropriate "target" portion of the resources and an inferred geological model.
- Design Coal Deposit Exploration Programme: an "exploration" programme will be designed to upgrade an appropriate portion of the target resources to the reserve category. This is required for financing, mine planning and engineering for a subsequent BFS. The design of this programme will involve the choice of appropriate infill drill hole patterns and spacing, as well as sampling programmes for grade and metallurgical purposes.
- Review Coal Deposit Metallurgy and Testwork: the available studies and reports will be assessed to determine the adequacy of the data for a PFS metallurgical evaluation of the target resource. Areas of concern will be identified and necessary action determined.
- Design Coal Deposit Test Programme: in conjunction with the exploration programme, sampling, comminution tests, washing test procedures and results, reagent types and consumption rates, tailings and product qualities achieved, product dewatering characteristics, and metallurgical projections will be required.

The test work will be designed to establish the costs/benefits of washing the coal to the degree necessary to support each of the three alternative energy generation/iron unit production options identified in the High Level Report. As well, the tailings/ fines will be assessed as to their suitability for power plant fuel. The deliverable of this activity

will be a summary report of metallurgical observations as support for flowsheet design and plant equipment and layouts.

The high level review considered the complex interactions between energy and iron unit production and crystallized three principal concepts:

- gasification of coal for both power generation and iron reduction in a Midrex shaft furnace (100% Gasification)
- Corex/Midrex combination to produce liquid hot metal, Midrex shaft furnace DRI, and by-product power (Corex/Midrex)
- Rotary hearth furnace DRI from coal/ore/fluxed pellets with Submerged arc furnace production of liquid hot metal, and by-product power (RHF/SAF)

Promithian subsequently introduced the notion of liquid fuel production for transportation purposes as part of the 100% Gasification concept; Hatch introduced the notion of supplementary power from direct combustion of tailings.

- Develop Energy and Carbon Balances: with input from vendors as appropriate, energy and carbon balances will be developed for the total complex, including requirements for the Crest site, for each of the three concepts. In the course of this work, the requirements for tonnage oxygen will be established and incorporated into the energy balance.
- Assess Gasification Technologies: candidate processes will be evaluated in conjunction with vendors. Implications for coal preparation requirements will be quantified as well as waste management considerations.
- Assess Iron Production Routes: candidate processes will be assessed with emphasis on steel production efficiencies and waste requirements with appropriate vendor involvement.
- Establish Process Configuration: the most promising process configuration for energy and iron unit production will be documented. Flowsheets will be prepared.

The deliverable from these activities will be a report including the necessary trade-off analyses leading to the selection of the energy and iron unit production route. Output will determine the preparation route for coal, as well as the configuration of the electric furnace for steel production.



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Task	Total Manhours	Cost
Finalize Plan	44	\$6,770
Develop Project Criteria	24	5,232
Socio/Economic Impact	44	8,032
Site Visit	128	26,064
Regulatory Framework	28	4,858
Environmental	90	15,430
Crest Geology & Programme	88	11,892
Crest Metallurgy & Testwork	36	6,492
Coal Deposit Geology & Programme	108	14,792
Coal Deposit Metallurgy & Testwork	14	2,402
Develop Energy & Carbon Balances	48	10,464
Assess Gasification Technologies	68	15,464
Assess Iron Production Routes	54	12,732
Establish Process Configuration	120	21,576
Phase I Report	100	14,740
Subtotal	994	\$176,940
Office Disbursements \$10/hour		9,940
Travel by Promithian		
TOTAL		\$186,880
* Taxes extra		

Schedule of Rates

	<u>Per Hour</u>
Project Management	\$125.00
Project Engineers	100.00
Senior Process Engineers	100.00
Senior Engineers	85.00
Senior Designers	82.50
Intermediate Engineers	65.00
Intermediate Designers	58.50
Junior Engineers	60.00
Junior Designers	45.00
Clerical/Project Support	40.00
Procurement Manager	90.00

Currency: Canadian Dollars



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Time Charges:

All time expended on the assignment, whether in our office, at the client's premises, in transit, or elsewhere, is chargeable, including the time of staff engaged in the preparation of documents such as reports and specifications.

Computer and Information Systems:

Standard computer hardware, software and network systems are charged at the rate of \$7.25 per hour billed.

Expenses and Disbursements:

All expenses properly incurred on assignments including, without limitation, reasonable travelling and living expenses, long-distance telephone, fax, reproductions, printing and courier charges and site office costs for resident staff are charged at cost, plus 5%.

Invoicing and Payment:

Fees and expenses are invoiced monthly, payable within 30 days. Invoices are based on estimated Fees and Expenses for the current month and are adjusted to actual in the following month. GST is added when applicable. Interest is charged on overdue accounts at prime rate charged by our principal bank plus 3% per annum.

Process and Technology Experts:

Process and Technology experts are charged out at specific individual rates.

Overtime:

Overtime, as defined by applicable law, is charged at 1.5 times the above rates.

Scheduled Revision:

The next revision of this Schedule of Rates will be effective July 1, 2002.

If you have any questions or require any additional information about our proposal please contact either Ken Major or Adam Majorkiewicz at 604-689-5767.

Yours truly,

Adam Majorkiewicz, P.Eng.
General Manager

AM:ddb

Ref.: L001PW-am Rev 1.doc
Attachment(s)/Enclosure
cc: file

PROMITHIAN INC.

EXPLORATION PROGRAM PROPOSAL TO INVESTIGATE THE COAL-BED METHANE
POTENTIAL OF THE ILLTYD DEPOSIT AND THE BONNET PLUME BASIN.

1.0 INTRODUCTION

This proposal describes a test hole exploration program designed to investigate the coal-bed methane potential of the coal seams in the Lower Bonnet Plume Formation in the area east and down-dip of the ILLTYD Deposit. The purpose of the test hole is to confirm the existence of the five coal seams at depth and to acquire drill core samples of the coal for desorption tests (methane content).

2.0 LOCATION AND ACCESS

The ILLTYD Deposit is located at 65 16' N & 135 00' W on NTS sheet 106 E/6. The property is 190 km NE of Mayo, in the Mayo Mining District. The property is also 160 km SE of Eagle Plains on the Dempster Highway. The ILLTYD Deposit can be reached by using the Wind River Trail in winter, which commences in Elsa. The property can also be reached by helicopter and floatplane, from Mayo, via Kiwi Lake to the south of the property in summer.

3.0 GEOLOGY AND EXPLORATION HISTORY

The ILLTYD Deposit is described in the Yukon Minfile (106 E (35)). Exploration and drilling by Pan Ocean Oil Ltd. between 1977 – 1983 outlined a resource of 183 MT of High Volatile Bituminous C thermal coal. The Wind River CoalField has an estimated resource of 660 MT of coal at mineable depths. The deposit is situated in the 600 to 700 m thick middle member of the Upper Cretaceous Lower Bonnet Plume Formation. In the immediate area of the deposit the stratigraphy of the top three seams consists of the following units:

UNIT	DESCRIPTION
Upper clastics	Sandstone, mudstone and shale.
Overlying conglomerate	Thick massive bedded moderate sorted, poorly cemented, well-indurated, with small pebbles in a 20% sandy matrix. Overall thickness of 90-110 m.
No. 1 Seam	Coal – averaging 6.85 m thick.
No.1 Clastics	10-40 m thick (average 40 m) Conglomerate and sandstone at base grading up to shale at top.
No.2 Seam	Coal – averaging 3.66 m thick.
No.2 clastics	10-20 m thick (average 20m) laterally varying shale, sandstone and conglomerate.
No 3 Seam	Coal averaging 2.4 m thick.
Underlying shale	Shale.

Upper Cretaceous strata in the general area of the deposit dip gently to moderately east and the area is relatively undeformed. The deposit is in the centre of an east west trending slightly asymmetric syncline. The synclinal axis trends E 14 degrees N and plunges to the east at approximately 10 degrees. In the north limb, the overlying conglomerate dips between 12 and 18 degrees ESE and the same unit dips between 18 and 25 degrees ENE in the south limb. The number one coal seam outcrops or subcrops beneath a thin veneer of glacial deposit along the eastern bank of ILLTYD Creek and the creek has eroded the coal in two locations along its length. The number two, three, four and five seams outcrop from east to west in the West ILLTYD Deposit. Pan Ocean mapped a NE trending steeply dipping normal fault (north side down)

during the initial exploration of the deposit. This fault truncates the deposit to the south. The deposit is open to the east and north.

Coal-bed methane is generally economically extracted at depths in excess of 300 m. Pan Ocean Oil, during their 1977-1983 exploration program used a 300 m base as what would be commercially attractive for the purpose of coal mining. Methane quantities increase with depth to approximately 1,500 m. Coal-bed methane quantities, economic, and engineering factors control the maximum depth from which methane can be commercially extracted. For the purpose of this project, 1000 m has been arbitrarily selected as the base of what would likely be a commercially attractive depth. The area extending east and north east of the ILLTYD deposit is an area that will likely contain coal seams at these depths. The most prospective area to identify a large coal-bed methane resource is in the gently dipping axial zone of the ILLTYD Deposit syncline. The test hole will be located along a line, which parallels holes 79-19, 79-9, and 79-10. By stepping out to the east to a point just north of Mosquito Creek a suitable depth for sampling the coal seams will be achieved.

4. OUTLINE OF OPERATIONS

One diamond drill hole will be drilled east of the ILLTYD Deposit, along its axial zone, to a maximum depth of 600 m. A Hydracore 3000 drill will be used to minimize environmental impact and logistical difficulties. The drill is man portable and can be transported by skidoo or four wheel ATV's. Core size will be HTW, NTW, and BTW. Approximately, thirty meters of core coal sample will be acquired from the five seams. All five seams will be tested separately. The hole should take twenty-one days to drill. Coal core samples will be removed and immediately placed in an airtight canister for the purpose of determining methane contents (desorption test). The desorption tests will be carried out by Mr. Barry Ryan, Ph.D., P. Geo. Mr. Ryan is a top Canadian authority on CBM and the Province of British Columbia's coal-bed methane geologist. Mr. Ryan will prepare a final report. The report will list cubic feet of methane per ton of coal. The RYAN formula will allow methane content of coals at differing depths to be determined through extrapolation - from these tests. Coals from the same seams will contain more or less methane at different depths in a predictable manner. One properly configured sample will allow us to determine methane content of the same seam anywhere and at any depth in the Basin.

5. BUDGET

The drilling will cost \$ 85.00 m. to a maximum of \$ 51,000 (600m). The desorption tests and report will cost \$ 10,000. The total budget for the test hole will be \$ 61,000.

6. LEGAL AND REGULATORY

The exploration program will be carried out on Coal Exploration Licenses CYM 0011 – 0019 issued under the Territorial Coal Regulations. A class B permit will be required under the Territorial Land Use Regulations.

Bill C-39, the Yukon Act (Canada) as amended March 27, 2002 contains the following definitions:

“Gas” means natural gas and all substances produced in association with natural gas, but does not include oil or coal-bed methane.

“Oil” means crude petroleum, regardless of gravity, produced at a well-head in liquid form and any other hydrocarbons, except gas and coal-bed methane. It includes hydrocarbons that may be extracted or recovered from surface or subsurface deposits of oil sand, bitumen, and bituminous sand or oil shale or from other types of deposits, but does not include coal.

Furthermore, The Yukon Northern Affairs Program Devolution Agreement, signed October 29, 2001 by both the Government of Canada and the Government of Yukon contains the following definition:

Mineral Resources: means precious and base metals and other non-living, naturally occurring substances, whether solid, liquid or gaseous, including coal, and coal-bed methane but excluding "oil and gas" as defined in the Yukon Act (Canada) on the date this Agreement is signed.

Terms of Reference
Promithian Project
Transportation Pre-Feasibility Analysis

The Promithian Project is located 150 to 200 kilometers northeast of Mayo, Yukon in an primarily undeveloped area. The project involves mining of iron and coal deposits and production of steel at a facility co-located with the coal source. A project definition study completed by Promithian, Inc., the project proponent, was completed in July 2002. That report recommended that a pre-feasibility study be carried out in order to further define the project and determine if furtherance to the feasibility stage is worthwhile.

The Department of Infrastructure, Transportation Engineering Branch, met Mr. Philip Wheelton, the principal of Promithian, on September 4, 2002. A copy of the project definition report was provided along with verbal information relating to the project. Discussion of the assistance which could be provided to Promithian by planners in Transportation Engineering reached the conclusion that collaboration could benefit both parties. In subsequent discussion with officials at the Department of Energy, Mines and Resources it was confirmed that there was a desire to provide assistance to Promithian as a follow-up to the assistance provided in development of the project definition study.

At the present time, the Promithian project is slightly beyond the concept stage. One of the major areas requiring analysis to enable the project to proceed to the feasibility stage is transportation. The project definition study makes a number of assumptions regarding transportation – these need to be more fully defined both in terms of the project itself and in terms of the Yukon transportation system as a whole.

An analysis of the transportation aspects of the Promithian project can be completed by implementing a study consisting of five main elements as follows:

- assemble transportation related information for the development area and portions of the Yukon transportation system potentially affected by the project
- identify, and to the extent possible quantify, transportation demand associated with the project
- develop transportation options which address the demand. Options may concern route selection, transportation operations, maintenance possibilities or other relevant areas.
- evaluate options in terms of capital, operational and maintenance costs, potential environmental impact, transportation system effect, project operational effects, and other relevant factors. Identify viable options requiring further study
- report the results of the analysis including recommendations on work required at the feasibility stage.

The project definition study suggests that the transportation of iron ore from the Crest deposit to the Illtyd Creek site would be accomplished through use of a slurry pipeline. This approach is beyond the ability of the Transportation Engineering Branch to evaluate as an operation of this kind is a specialty in which the Branch has no expertise. Subsequent information provided by Promithian indicates that there may be a need for a road connection between the iron and coal deposits. The possibilities for a road connection can be evaluated as part of the above study – any comparison with a pipeline option would have to be done separately at a later date.

A project plan has been prepared based on the five major elements described above. A copy of that plan is attached as Appendix A. The plan provides a basic task breakdown structure and indicates that a report can be completed to a first draft stage by mid-March 2003 and finalized by March 31, 2003. The level of effort estimated totals 400 person hours which, using the standard charge out rate for Engineering Branch staff, translates to an estimated project cost of \$10,000. The actual cost of the analysis will be tracked as the work proceeds and an accurate total provided in the final report.

Perhaps the most valuable product of the analysis will be the development of a definitive statement of the scope of the transportation aspect of the project. As for most projects in the Yukon, and particularly for one located as remotely as this, solution of the transportation problem is crucial to project viability. The preliminary analysis proposed for this study can hopefully contribute to the project in a positive way.

TASK	DESCRIPTION	STAFF	04-Nov	11-Nov	18-Nov	25-Nov	02-Dec	09-Dec	16-Dec	23-Dec	30-Dec	06-Jan	13-Jan	20-Jan	27-Jan	03-Feb	10-Feb	17-Feb	24-Feb	03-Mar	10-Mar	17-Mar	24-Mar	31-Mar
1	Assemble project information																							
	1.1 assemble previous reports on sites																							
	1.2 assemble maps (1:250,000)(1:50,000?)																							
	1.3 traffic data (Hwy 2 and Hwy 11)																							
	1.4 condition of existing facilities																							
	1.4.1 Klondike Highway																							
	1.4.2 Silver Trail																							
	1.4.3 Wind River Trail																							
	1.4.4 Bridges																							
	1.5 operating costs - trucks, maintenance, etc.																							
	1.6 environmental impact information																							
2	Determine new transportation demand																							
	2.1 review previous reports for transportation info																							
	2.2 review Promithian report to determine general operating theory for mine																							
	2.3 estimate freight and personnel flows (volume and timing)																							
	2.4 describe trans. infrastructure needs																							
	2.5 determine regional access effects																							
3	Determine transportation options																							
	3.1 develop route options																							
	3.2 develop operating options (bulk haul)																							
	3.3 describe/discuss financial responsibility options																							
4	Evaluate options available																							
	4.1 define evaluation criteria (cost, environmental impact, effect on trans system, effect on mine)																							
	4.2 analyse options in terms of criteria																							
	4.3 describe evaluation and identify preferred option(s)																							
5	Report																							
	5.1 describe results of analysis																							
	5.2 describe options worth further evaluation																							
	5.3 determine work required at feasibility stage																							
	5.4 summarize work done and results																							
	5.5 circulate draft report for review																							
	5.6 revise draft report as required																							
	5.7 deliver final report																							

planned
actual