

## **Alaska Canada Rail Link Project**

### **MGP Regional Logistics Opportunities**

The Mackenzie Gas Project (MGP – see Map 1 following) will provide logistics business opportunities for communities along the pipeline right-of-way in NWT. Opportunities may also exist for transportation services located in Alaska and Yukon. The producer's current plan calls for all pipeline major commodities to be delivered to the project stockpile sites by barge or truck, with only Shell Canada planning to use the Beaufort Sea route for modules to be used for gas treatment at their Niglintgak production site in the Mackenzie Delta. Some consumables and supplies will no doubt be trucked from Whitehorse and other southern points to the more northerly spreads and facilities sites, during construction.

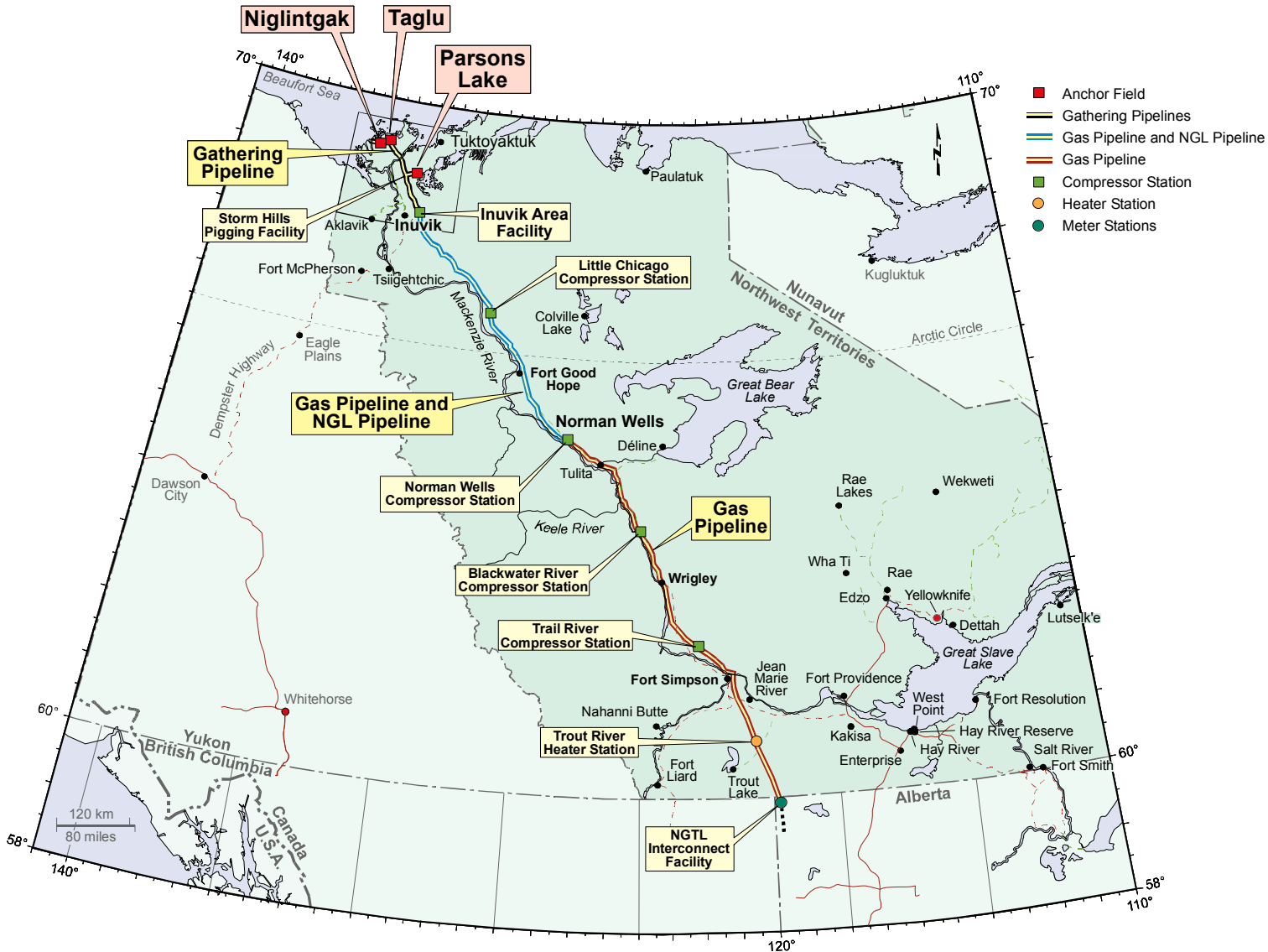
### **Yukon Gateway Opportunities**

The Klondike and Dempster Highways provide an all-weather transportation gateway capable of servicing the northern end of the Mackenzie Gas Project. The proposed Alaska/Canada Rail Link could serve as a pipeline materials supply system involving an inter-modal road/rail network from industrial Canada, and the US, to the Mackenzie Delta. Segments of the MGP that could be facilitated by a southern rail and Yukon highway-based trucking system include: the three producer gas treatment and gathering systems; the Inuvik natural gas processing facility; and the two natural gas and extracted liquids pipelines south 180 km (at least) to a major camp and stockpile location on the Mackenzie River planned for the Little Chicago, NWT, barge landing site. The actual portion of the pipeline, if any, that can be economically supplied over the Yukon Gateway will be determined when detailed rail costs and system construction timing are better known.

The major pipeline construction materials that are amenable to a road/rail network are pipe (several sizes, from 10 in. – 16 in. for gathering system pipe, to 30 in. for the line pipe); fuel (the current plan is to rail winter diesel fuel from Edmonton area refineries to Hay River, NWT for furtherance by truck and barge); and construction equipment (called

“yellow iron” by planners). Other major commodities such as camp buildings, drilling equipment and supporting materials, consumables, parts and supplies – will be trucked or barged directly to ROW storage areas.

## Map 1 Mackenzie Gas Project



Source: Preliminary Information Package, Mackenzie Gas Project (April 2003)

## **Alaska/Canada Rail Link Opportunity**

The “Yukon” gateway route, if viable, will involve accessing the MGP by truck, with pipe, fuel and equipment sourced (a) in Alberta, eastern Canada or US and transferred from Alaska/Canada Rail at either Whitehorse or Carmacks, or (b) from Canadian or US West Coast sources via the inner passage route to rail at Skagway, shipped by an upgraded WP&Y railway system to trucks at either Whitehorse or Carmacks (see Map 1).

### **Pipe**

The MGP’s 30 inch treated natural gas pipeline to Alberta; the smaller 18 inch pipeline for extracted liquids (NGL’s) from Inuvik to Norman Wells; and the Delta gathering systems (10 inch to 16 inch standard pipe) planned for the system, all involves pipe that can be rolled in North American mills. If indeed sourced in North America, **430,000 tonnes** will be shipped northward to transfer points by rail.

However, the heavy wall thickness (0.625 in.) 30 inch line pipe and other diameters may well be sourced and manufactured off-shore (Japan, Korea or Germany), pending attractive pricing incentives and lower ocean shipping rates. This presents the more obvious opportunity of accessing the project with the all-weather Yukon Gateway option i.e., rail from Skagway or other rail-served West Coast ports to either Whitehorse (WP&Y Utah Yards) or Carmacks if the Rail Link system is constructed on the northern Yukon route. If double joining and coating of pipe is planned once the pipe is off-loaded from ocean vessels and prior to the final truck leg, adequate space is available at Skagway, Whitehorse, or Carmacks, to facilitate this requirement.

### **Fuel**

The MGP proponents intend to maximize Canadian sources for pipeline materials. Fuel, the second largest commodity volume required by the project (**192,000 tonnes**), is currently planned for sourcing in the Edmonton area, almost certainly Imperial Oil’s (the MGP’s lead proponent) Strathcona refinery. The plan involves railing fuel to Hay River, NWT, and then to the stockpile/storage sites by barge and truck.

Interestingly, and for the first time, fuel was delivered to Western Arctic communities during the 2005 shipping season by NTCL barges lightered from a large ocean barge at Herschel Island in the Beaufort Sea. 12 million litres of winter diesel fuel was shipped from Imperial's marine terminal at Vancouver, BC, after being shipped over the Trans Mountain products pipeline from their Edmonton area refinery. This program makes a bold statement that even after the cost of pipeline from the refinery and terminaling at Vancouver, fuel can be transported to the Mackenzie Delta area around Point Barrow cheaper than the conventional supply route over Hay River. A rail link from Edmonton direct to Yukon with a (relatively) short highway link to the Mackenzie Delta, may well prove to be more economic than the traditional route over Hay River to the Delta, and obviously more reliable than either it or the Pt. Barrow route, considering the all-weather capability of the proposed Yukon Gateway road/rail option.

### **Equipment**

The MGP proponents plan to ship new "yellow iron" project construction equipment (77,100 total tonnes) from southern dealers or factories (e.g., Finning Tractor, a Caterpillar dealer in Edmonton). While equipment used in the north is typically shipped on flat deck trucks out of Edmonton or Calgary, rail flat cars could be easily substituted and likely would be used if the equipment is sourced in the US or Eastern Canada, or imported from (say) Japan.

These three product groups account for 80% of the total project material requirements of 865,000 tonnes, and are easily transported by rail. **Approximately 28%, or 237,000 tonnes of this volume will be utilized north of the Little Chicago stockpile site on the Mackenzie River.** Pipe could be transported to the Inuvik area on a year-round basis and strung along the ROW service road during the construction season, or trucked directly to Little Chicago (and points between) along the all-weather Mackenzie Highway if completed in time. The same logistics would apply for construction equipment. Fuel could be moved from the Yukon rail trans-shipment point to available tankage at Inuvik, for distribution to project portable tank farms.

While the Alaska/Canada Rail Link may not be in place by the time the MGP commences, and upgraded White Pass & Yukon system could be completed in time. It is likely that Year 1 for the project has now been delayed to (at least) 2008 due to regulatory/procedural delays and aboriginal claims.

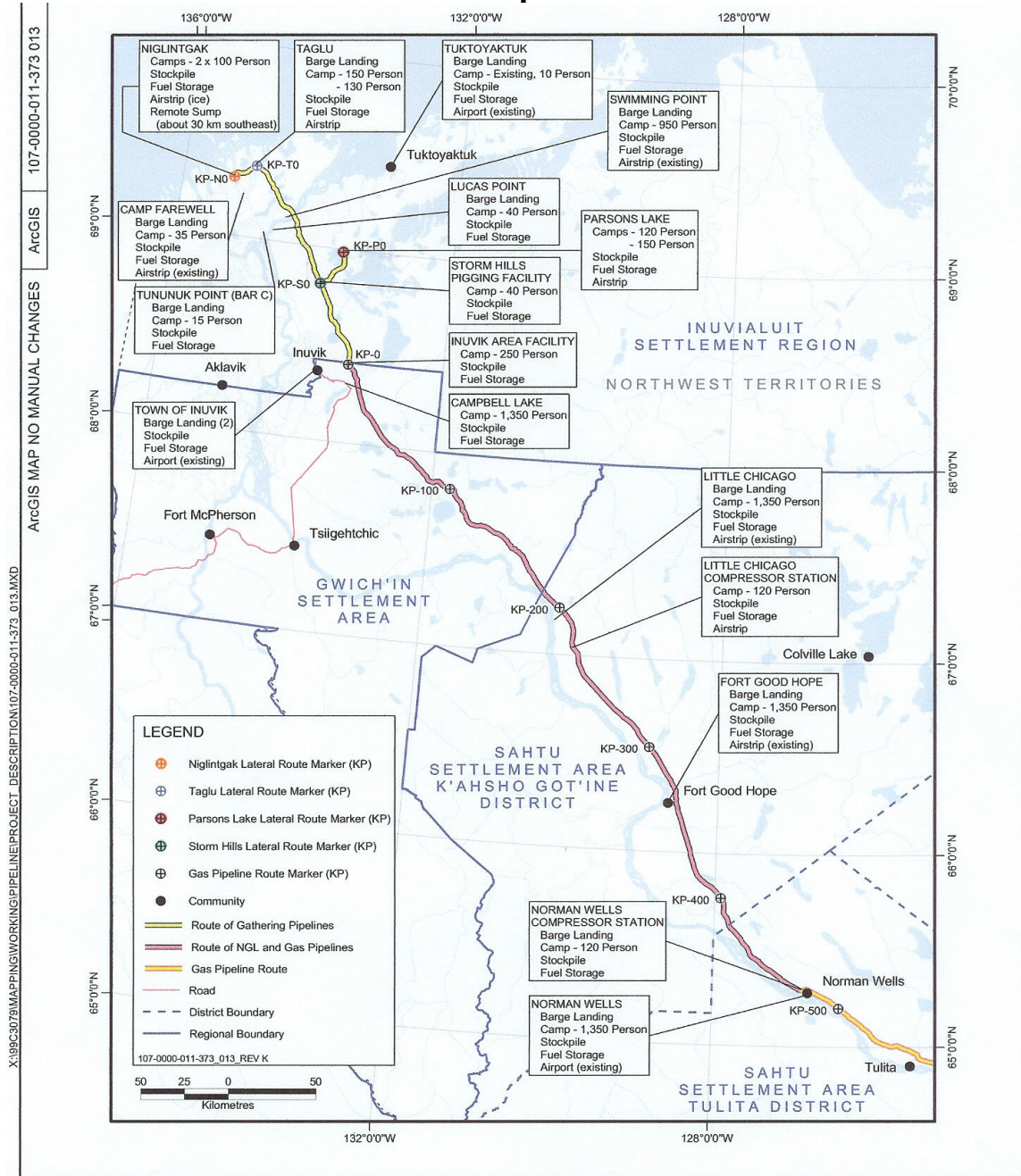
The following table presents the MGP's major commodity volumes, and season employed, and the portions to be utilized north of the Little Chicago camp and stockpile site on the Mackenzie River.

**Table 1**  
**MGP Major Commodity Volumes & Carloads**  
**& Volumes & Carloads for Little Chicago North**

<u>Commodity</u>	<u>Unit</u>	<b>Total Project – Inbound</b>		<b>Total In</b>	<b>De-Mob Total Out</b>	<b>Little Chicago North</b>		<b>AK/Can</b>
		<u>Year 1</u>	<u>Year 2</u>			<u>Year 1</u>	<u>Year 2</u>	
<b>Pipe</b>	tonnes	240,780	189,700	430,480	-	88,610	20,360	108,970
Carloads	@74 MT	3,254	2,564	5,818	-	1,198	275	1,473
<b>Fuel</b>	tonnes	65,680	126,140	191,820	-	30,990	61,690	92,680
Carloads	@60 MT	1,095	2,103	3,198	-	517	1,028	1,545
<b>Equipment</b>	tonnes	61,100	16,000	77,100	77,100	27,800	8,000	35,800
Carloads	@60 MT	<u>1,018</u>	<u>267</u>	<u>1,285</u>	<u>1,285</u>	<u>464</u>	<u>133</u>	<u>597</u>
<b><u>Totals</u></b>								
<b>Volume – Tonnes (In)</b>				<b>699,400</b>		<b>147,400</b>	<b>90,050</b>	<b>237,450</b>
<b>Tonnes (Out)</b>					<b>77,100</b>			<b>35,800</b>
<b>Carloads – (In)</b>				<b>10,301</b>		<b>2,179</b>	<b>1,436</b>	<b>3,615</b>
<b>(Out)</b>					<b>1,285</b>			<b><u>597</u></b>
<b>TOTAL CARLOADS FOR AK/CAN RAIL/YUKON ROUTE</b>								<b>4,212</b>

Map 2<sup>1</sup> provides more specific details on the MGP pipeline infrastructure at the northern end of the project, through which the Yukon Gateway could provide logistics benefits.

**Map 2**



<p>MACKENZIE GAS PROJECT A proposed development by Imperial Oil Resources Ventures Limited (Imperial), Aboriginal Pipeline Group (APG), ConocoPhillips Canada (North) Limited (ConocoPhillips), Shell Canada Limited (Shell) and ExxonMobil Canada Properties (ExxonMobil). Imperial is the operator of the Taglu Field. ConocoPhillips is the operator of the Parsons Lake Field. Shell is the operator of the Niglintgak Field. Imperial is the operator of the Gas Gathering and Processing Facilities. Imperial is the operator of the Pipeline from Inuvik to northwestern Alberta.</p>		<p><b>MACKENZIE GAS PROJECT</b></p>		<p><b>MACKENZIE GAS PROJECT INFRASTRUCTURE SITES</b> <b>MACKENZIE VALLEY NORTH OVERVIEW MAP</b></p>			
<p>PROJECTION LCC</p>		<p>DATUM NAD 83</p>		<p>CONTRACTOR NAME COLTKBR</p>		<p>CONTRACTOR MAP NUMBER 99-C-3079</p>	
<p>DRAWN PM</p>		<p>CHECK MK</p>		<p>DATE 05 04 14</p>		<p>SCALE 1:3,000,000</p>	
				<p>CONTRACTOR MAP NUMBER 107-0000-011-373 013</p>		<p>REV. K</p>	

<sup>1</sup> Maps 1 & 2 courtesy Mackenzie Gas Project