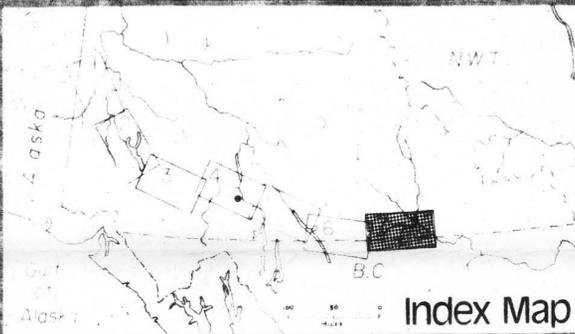
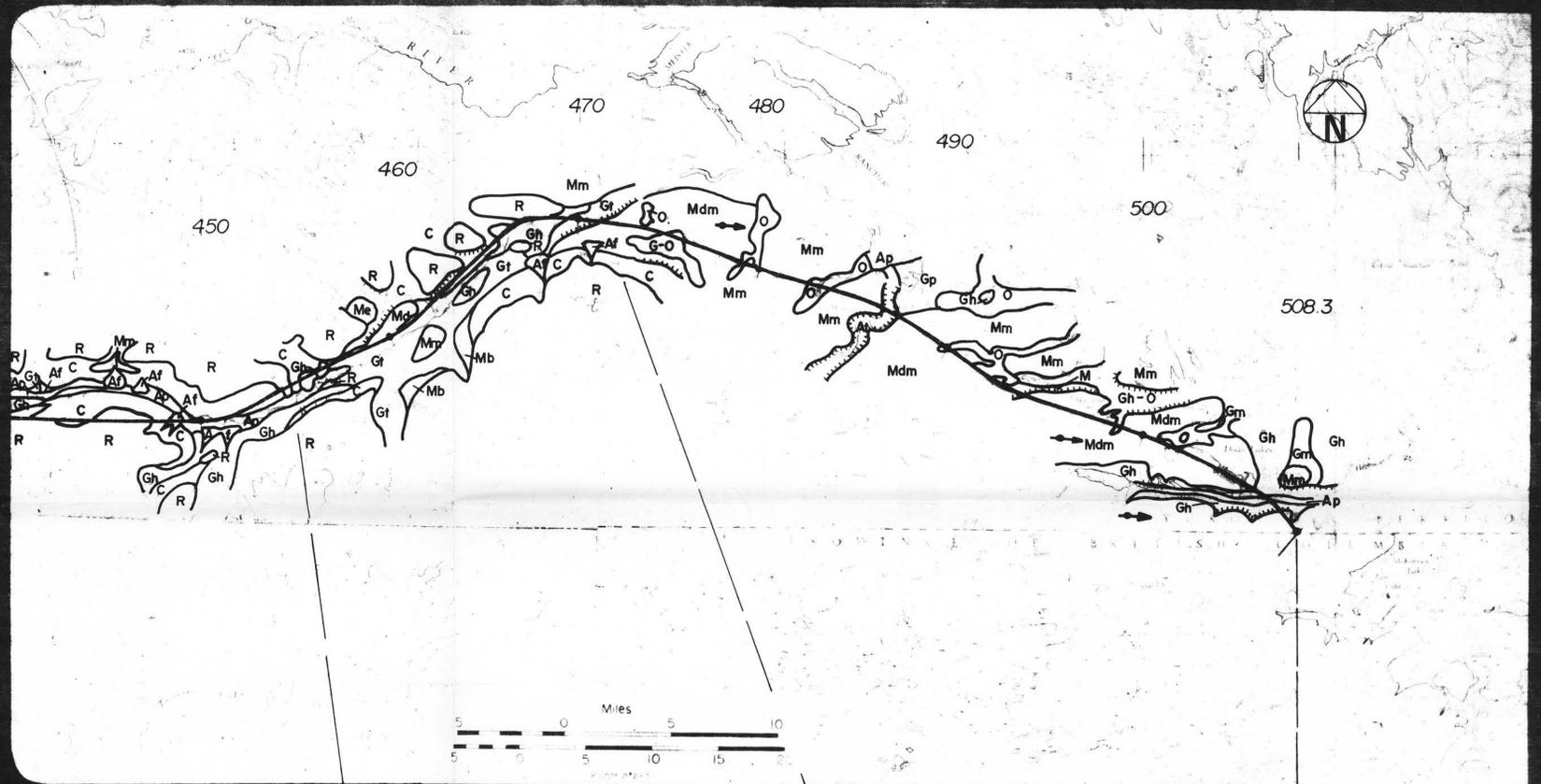


MAP 7 TERRAIN OVERVIEW ALCAN PIPELINE YUKON TERRITORY



Refer to Geologic Legend on Front Page.

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PHYSIOGRAPHIC UNITS		CASSIAR MOUNTAINS RANCHERIA RIVER VALLEY	CASSIAR MOUNTAINS, RANCHERIA RIVER VALLEY DEASE PLATEAU IN EASTERN PART	LIARD PLAIN
PHYSICAL ENVIRONMENT	TERRAIN TYPES	Mainly bedrock and colluvium, alluvial sand plain in valley, sand and gravel in alluvial fans.	Glaciofluvial ice-contant sand, gravel and terrace gravels mainly; central part along colluvial slope with minor drumlinized till plain.	Till plain, bouldery, drumlinized in places, scattered glaciofluvial and organic units in restricted depressions; alluvial sand and gravel at Little Rancheria River and Albert Creek; some glaciofluvial sand and gravel in these valleys.
	LOCAL RELIEF AND DRAINAGE	Steep to moderately steep in bedrock unit and colluvial unit, gently rolling in valley bottom units. Well drained, minor ponding in alluvial unit.	Gently rolling to moderately sloped locally, well drained in general.	Gently rolling, moderately steep locally on stoss side of drumlins; abrupt scarps in valleys; organic units flat with minor hummocks; well drained except for poorly drained organic units.
	GROUND ICE AND PERMAFROST	Discontinuous permafrost may exist in nearby terrain unit; does not occur along this sampled section of the highway.	Discontinuous permafrost; permafrost islands may occur along the eastern section of the highway.	Discontinuous permafrost; permafrost islands occur along sections of the highway; see Notes.
	BEDROCK LITHOLOGY	Granite, granodiorite, schists and gneiss, Jurassic age. (6,24)	Limestone, dolomite, argillite, slate, phyllite, quartzite and schist, Carboniferous age. (5,6,24)	Clastics of Tertiary age in east, bedded limestone, quartzite, slate and siltstone and phyllite in west. (5,24)
	HYDROLOGY	Liard River Drainage Basin below Rancheria River, east meandering, Carlick Creek, general drainage parallel to pipeline.	Rancheria River, Spencer Creek, Boulder Creek.	Little Rancheria River meandering, Albert Creek.
	PROCESS AND STABILITY	Soil creep in colluvium, erosion in stream channel, minor snow avalanche.	Soil creep in colluvial units; erosion possibility at creek and river crossings.	Erosion and floods at Little Rancheria River and Albert Creek.
	ENGINEERING IMPLICATIONS AND CONSTRUCTION MATERIALS	Minor gully erosion along slopes, extensive blasting in bedrock, difficult crossing of Rancheria River, steep slope offers access problem, aggregate common.	Small creek crossings, near-surface bedrock along colluvial units, scarp in till on south side of Rancheria River; abundant aggregate.	Minor gully erosion at scarps; river and creek crossings; sand and gravel deposits may not be convenient.
LIVING ENVIRONMENT	VEGETATION	Narrow floodplains with some balsam and poplar. Mixed stands of white spruce, aspen and birch, lodgepole pine in association with white spruce and aspen on lower slopes. Some of lower elevation stands of timber marginally merchantable.		
	FISHERIES	Rancheria River provides overwintering sites for arctic grayling. Sport fishery for arctic grayling and dolly varden along the river.	Veronica Lakes likely adjacent to pipeline. Lake trout, dolly varden and arctic grayling are common.	Dodo Lakes adjacent to pipeline. Lake trout, dolly varden, and arctic grayling are common. Liard River provides overwintering sites. Arctic grayling spawn in Albert Creek and are in gravel bottomed streams.
	MAMMALS AND BIRDS	Spring moose habitat and moose calving areas along the Rancheria river.	From Allegretto Lake to BC border good beaver and muskrat habitat, moose summer habitat.	Dodo Lakes suspected trumpeter swan nesting area.
RESEARCH PRIORITIES	Possible re-alignment to avoid steep bedrock, detailed analysis of Rancheria River crossing. Critical fisheries habitat in Rancheria river.	Creek and river crossings; detail with regard to near-surface bedrock occurrence.	River crossings require detailed analysis. Critical fisheries areas, (spawning, overwintering, nursery, etc.) in relation to the pipeline.	
NOTES	One major river, the Rancheria, and seven minor river streams are crossed by the route in this section.		*Permafrost at MP 657, depth 1'9", 9" thick. (6) *Permafrost at MP 676.8 (21) *Permafrost at mile 681.1 (50) *Sample site, no permafrost MP 682.4 (50)	