ALASKA NATURAL GAS TRANSPORTATION SYSTEM

Final Environmental Impact Statement

GLOSSARY

MARCH 1976

U.S. DEPARTMENT OF THE INTERIOR

WASHINGTON, D.C. 20240

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This final Environmental Impact Statement has been prepared under the provisions of Section 102(2)(C) of the National Environmental Policy Act of 1969 (P.L. 91-190). Contact regarding the document should be addressed to:

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For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price 85 cents
Stock Number 024-011-00073-9

GLOSSARY

abiotic--Pertaining to non-living components of the environment.

active layer--The top layer of ground above the permafrost table that thaws each summer and refreezes each winter.

adfreeze--To bond by freezing.

aggregate (concrete)--Hard, fragmentary material (usually rock) mixed with cement to make concrete.

agronomic--Referring to species or varieties of cultivated plants.

Alaskan Native--Indian, Eskimo, and Aleut as defined in Section 3, ALASKA NATIVE CLAIMS SETTLEMENT ACT, Dec. 13, 1971.

albedo--The percentage of incident visible light that is reflected by a natural surface such as ground, water, snow, or ice.

albitized--With the introduction sodium-aluminum-silicate or replacement by albite of a feldspar, mineral; usually replacing a more calcium-rich; usually replacing a more calcium-ricy plagioclase.

alignment--Detailed location of the proposed pipeline; supported by specific data.

alinement--See alignment.

all-terrain vehicle (ATV)--Self-propelled vehicle, usually equipped with tracks or special tires, capable of traveling off roadways.

alluvial fan--A low, relatively flat to gently sloping deposit of alluvium shaped at the surface like an open fan (but actually a segment of a cone) and laid down by a stream at the place where it issues from a narrow mountain valley upon a plain or broad valley.

alluvial plain--A plain resulting from the deposition of silt, sand, and gravel by water.

alluvium--Unconsolidated geologic materials deposited from the running water in which they were transported.

alternative corridor--An elongate area through which it may be possible to locate a different route to the proposed route.

alternative route--A different route that would be in lieu of part of the proposed route.

Alyeska--The corporate name of a consortium of companies building the trans-Alaska oil pipeline system.

ambient temperature--The temperature of the surrounding air in which an activity takes place.

anadromous--Referring to sea-going fish which spawn in the fresh waters of rivers and lakes.

anchor--Structures, frequently piles, affixed to pipelines to restrain lateral or vertical movements.

andesite--A dark-colored, fine-grained volcanic rock.

anhydrite--A mineral consisting of an anhydrous calcium sulfate.

annular ice bulb (frost bulb)--Ring of frozen soil surrounding a chilled pipeline in unfrozen ground.

annulus (frozen)--Ring of frozen soil surrounding a chilled pipeline in unfrozen ground.

anticline--A fold in bedded rocks that is convexed upward.

aquifer--A rock formation, bed or zone containing water that is available to wells. An aquifer may be referred to as a water-bearing formation or water-bearing bed.

archeological--Of or pertaining to the study of prehistoric peoples, their dwellings and artifacts, and their life styles.

argillite--A compact rock derived from shale or lithified mud; not conspicuously laminated.

artesian--Involving, relating to water that rises under pressure from a permeable stratum overlaid by impermeable rock.

ash flow tuff--A sedimentary rock deposited by an ash flow or gaseous cloud that orginated from a volcanic vent.

ATV--See all-terrain vehicle.

aufeis--A German term for icing. (See icing)

autotape-laser vertisite--Equipment for use in surveying, involving a laser (or coherent light beam) projected vertically from the location to be determined, a detector borne by a helicopter hovering over the laser, and an autotape system consisting of an interrogator in the helicopter emitting microwave signals to responders located at two known geodetic points. This allows range and azimuth calculation of the unknown point.

axial flow--Surface or subsurface flow of water directed parallel to the long axis of the pipeline in or on top of a backfilled pipeline ditch.

axis (geology)--In a fold, a line that connects the central points of each stratum and from which its limbs bend.

azimuth--The angle of horizontal deviation, measured clockwise, of a bearing from a standard direction, as from North.

backfill--Material used to replace material removed during construction.

backfill mound--A ridge located above a backfilled pipeline ditch.

backhoe--An excavating machine.

badland--A region characterized by the intricate and sharp erosional sculpture of generally weak rocks usually forming nearly horizontal beds, generally developing in decomposed granite, loess, or other soft material, lacking or having only scanty vegetation, and consisting of steep, furrowed, or fantastically formed hills, labyrinthine drainage, and normally dry watercourses or arroyos.

barrel (bbl)--42 U.S. gallons, petroleum; 31.5 gallons, water.

basalt--A dark to medium-dark colored iron-magnesium igneous rock; commonly intrusive.

base, economic--The fundamental source of livelihood for the inhabitants of a region.

basic (geology)--Term for a rock with low silica and high iron, magnesium and (or) calcium contents; sometimes loosely used for any dark-colored igneous rock.

basin, drainage--The area from which all water flows to a common body (ocean, lake, or stream).

basin, frontier--A sedimentary basin for which the petroleum potential has not been established.

basin, offshore--A sedimentary basin wholly or partially beneath the sea.

basin, sedimentary--An area in which sediments accumulate; in common usage is frequently used as a loose synonym of petroleum province.

Bb--Billion barrels (of oil); may be written bb.

Bcf--Billion cubic feet of natural gas; may be written bcf.

Bcf/d--Billion cubic feet per day (natural gas), may be written bcf/d.

bed--Synonym of stratum.

bedding (engineering)--Select fill material placed under an object to provide uniform bearing; (geology)--Stratification in sedimentary or volcanic rocks.

bedrock--Rock that has undergone no major change through the effects of weathering and erosion at the surface of the earth; commonly overlain by surficial material.

bench--A long, gently sloping, nearly plane surface bounded on one side by a steeper rising slope and on the other by a steeper descending slope, generally parallel to a stream course or a coastline; formed by stream or marine erosion or deposition.

benchmark (surveying)--A marked point of known or assumed elevation.

benthic--Pertaining to the bottom of a body of water.

bentonite--Soft, plastic, porous, light-colored rock composed essentially of clay minerals.

Bering land bridge--Dry-land connection between Siberia and Alaska during Pleistocene intervals of world-wide low sea levels.

berm--An embankment of fill.

bifurcation--Point at which a linear feature (stream highway, etc.) divides or forks into two branches.

biochemical oxygen demand (BOD)--The measure of the quantity of dissolved oxygen, in milligrams per litre, used for the decomposition of organic matter by microorganisms, such as bacteria.

biomass--The weight or volume of living material in a unit area or volume of a community.

biome--A major community or ecosystem characteristic of, and in equilibrium with, the climate of a large region, as Low Arctic Tundra, Boreal Forest and Deciduous Forest.

biosphere--The part of the lithosphere, hydrosphere and atmosphere inhabited by organisms.

biota--The total of all kinds of organisms inhabiting an area at a given time.

biotic--Pertaining to life or living things.

bison jump--A cliff over which aboriginal inhabitants of the plains drove bison. The animals were crowded over the cliff, being killed outright in the fall, or so severely injured as to be unable to escape.

bituminous coal--Coal that contains 15-20 percent volatile material; synonymous with "soft" coal.

blade (archeology)--Shaped tool; stone, bone, or antler; made by grinding or chipping (either percussion or pressure).

block valve--A valve capable of completely closing off gas flow in a pipeline.

blowdown--1. Clearing of gas from pipeline by blowing it into the atmosphere. 2. A pipe or valve used to vent gas to the atmosphere. 3. The procedure whereby the gas pressure is intentionally reduced in a section of the line by venting. It is accomplished by the operation of valves and closure fittings provided in each block valve assembly.

blowdown valve--A mechanism for venting gas into the atmosphere to eliminate pressure in the pipeline.

BOD--Biochemical oxygen demand.

bog--An acidic, mineral-deficient, peat-filled or peat-covered wetland, usually having vegetation of peat moss (Sphagnum spp.), sedges, heath shrubs and scattered black spruce and tamarack.

bog soil--Any one of an intrazonal group of poorly drained soils with a muck or peaty surface underlain by peat.

bolt-on-weights--Concrete weights that are bolted in place around pipe traversing rivers and streams to provide negative buoyancy.

boreal forest--A zone encircling the globe south of the Arctic where forests are usually formed by a very limited number of species belonging to a few coniferous and hardwood genera including spruce, larch, pine, fir, birch, poplar, alder.

borehole--A hole drilled into the earth to determine subsurface conditions.

boring--To make a hole by sinking a hole or tunneling underground.

borrow--Any earthen, granular, or rock material taken from one area for use in another.

braided stream--1. A stream flowing in several dividing and reuniting channels resembling the strands of a braid, the cause of the division being the obstruction by sediment deposited by the stream; where more sediment is being brought to any part of a stream than it can remove, the building of bars becomes excessive and the stream develops an intricate network of interlacing channels.

breaker--A diversionary device for prevention of erosion by water flow.

breakup--In general, the spring melting of snow, ice, and frozen ground; specifically, the destruction of the ice cover on rivers during the spring thaw; or applied to the time when the solid sheet of ice on rivers breaks into pieces that move with the current; breakup connotes the end of winter to residents of the North.

breccia--A rock composed of angular fragments.

brecciated--Converted into, characterized by, or resembling a breccia.

brushdozer--A track-type tractor having a special bucket rake for removing and loading brush and debris; used for clearing land, road building or similar activity.

buoyant forces--For a submerged object, the force equal to the weight of the fluid displaced by the object.

C^{14} age--The number of years calculated from the quantitative determination of the amount of carbon-14 remaining in an organic material.

cadastral--Pertaining to a map or survey showing boundaries, property lines, etc.

calcareous--Pertaining to a substance that contains calcium carbonate.

Cambro-Ordovician--A combining name for the earliest two periods of the Paleozoic Era, the Cambrian and Ordovician; from about 570 to 430 million years ago.

canid--An animal of the Canidae (dog family), as wolf, fox and coyote.

capacity peaking--The capacity of facilities or equipment normally used to supply incremental gas under extreme demand conditions.

carbonate--In a geologic sense refers to sedimentary rocks mainly composed of calcium or magnesium carbonates.

Carboniferous--A division of geologic time in the Paleozoic Era from about 345 to 280 years ago.

carnivore--A flesh-eating animal which preys on herbivores, omnivores or other carnivores.

catchment basin--A drainage basin.

cathodic protection--A method of preventing corrosion of steel pipe and components by causing an electrical current to flow from the soil to the pipe.

Cenozoic--An era of geologic time, from the end of the mesozoic about 70 million years ago to the present; characterized by the appearance of mammals.

centerline (pipeline)--A line in the vertical plane that longitudinally bisects a pipeline.

cfs--cubic feet per second.

cfsm--cubic feet per square mile.

channel (watercourse)--An open conduit, natural or artificial, which periodically or continuously contains moving water.

chemical grout--As used in the Applicant's documents, a substance sprayed on the walls of an excavation to retard water seepage.

chemosensory--Reacting to or sensitive to a (particular) chemical.

chert--A hard, extremely dense sedimentary rock consisting dominantly of very finely crystalline or amorphous silica (SiO_2).

chill factor--An artificial number, derived from temperature and wind-velocity, that reflects human discomfort caused by cold.

chironomid--Of a family of slender, long-winged, long-legged, small, and very delicate nematoceran Diptera, commonly called midges or true midges; they are scavengers, not blood suckers.

clamming--The removal and placement of earth or rock by the use of a bucket divided into two parts suspended and operated from a crane.

clamshell--A bucket or grapple on a crane, dredge, or shovel having two hinged jaws; also called a grab bucket.

clastic--Pertaining to or being a rock or sediment composed mainly of broken rock fragments that have been transported individually for some distance from their point of origin.

clay--Material made up of rock fragments less than 0.00016 inch in diameter; commonly contains a large proportion of clay minerals (a complex, vaguely defined group of aluminum (and sometimes magnesium and iron) silicate minerals that contains water as part of their structure and composition); forms a slippery mass that generally provides poor foundations for engineering structures.

climate--The sum total of the meteorological elements that characterize the average and extreme condition of the atmosphere over a long period of time at any one place or region of the earth's surface; a history of weather.

climatic--Pertaining to climate.

climax--The relatively stable, terminal plant and animal community of a successional series which is in a state of dynamic equilibrium with the regional climate.

cm--Centimeter.

cm^3--Cubic centimeter.

cm/sec--Centimeters per second.

coalescent--Joined together; running together.

coastal plain--A low plain bordering a large body of water, commonly an ocean.

colluvium--A general term applied to loose heterogeneous rock or soil material deposited by gravity on or below a steep slope.

community (biology)--A general term for social or ecological unit of organisms occupying a common habitat; (sociology)--dwelling place for a group of people; may or may not be organized.

competent--As used in a geological sense refers to a rock unit or type that resists mechanical deformation and does not change volume when deformed.

compressor--A piece of machinery used for increasing the pressure of a gas.

compressor station--A facility which supplies the energy to move gas in transmission lines or into storage by increasing the pressure.

condensation nuclei--See ice fog.

conglomerate--A coarse-grained, clastic sedimentary rock composed of rounded to subangular fragments larger than 2 mm in diameter set in a fine-grained matrix of sand, silt, or any of the common natural cementing materials.

coniferous--Species, or vegetation consisting of species, of cone-bearing, needle-leaved, usually evergreen, trees and shrubs of the plant Order Gymnospermae; the larch, or tamarack, is a deciduous member.

construction materials--Naturally occurring mineral commodities used in construction; in this statement they are sand, gravel, crushed rock, and material used for riprap.

construction spread--A portion of the pipeline system that constitutes a complete physical entity in and of itself, and that can be constructed independently of any other portion of the pipeline system in a designated area, or between two given geographical points, reasonably proximate to one another.

construction year--A system of numbering calendar years in which the year in which construction commences is year 1, and succeeding years are numbered consecutively.

conterminous United States--Those states of the United States in North America south of the Canada-U.S. boundary.

continuous permafrost--Permafrost occurring everywhere beneath the exposed land surface throughout a geographic regional zone with the exception of widely scattered sites, such as newly deposited unconsolidated sediments, where the climate has just begun to impose its influence on the ground thermal regime and will cause the formation of continuous permafrost.

contracted reserves--Natural gas reserves dedicated to the fulfillment of gas purchase contracts.

control survey--The survey that fixes a number of points on, or near, the proposed right-of-way or site in relation to the Universal Tranverse Mercator System.

corridor--See alternative corridor.

corrosion coupons--Objects placed inside pipelines to determine acidity, hence potential for internal pipeline corrosion.

coulee--A stream-cut, usually dry, ravine or gulch.

crawlers--Any of a number of tracked vehicles used in pipeline construction.

creep--The slow, gradual, more or less continuous, none recoverable deformation sustained by ice, soil, and rock materials under gravitational body stresses.

Cretaceous--A division of geologic time in the Mesozoic Era (from about 135 to 63 million years ago).

crosstie--Section of pipe used to connect two parallel pipelines.

crust (seismology)--The outermost layer of the Earth as defined by various seismic criteria.

crustacean--Any chiefly aquatic arthropod of the class Crustacea, typically having the body covered with a hard shell or crust; includes the lobsters, shrimp, crabs, barnacles, wood lice, etc.

cryopedology--The study of the processes of intensive frost action and the occurrence of permafrost; includes engineering methods used to overcome or minimize the difficulties involved.

culvert--A drain or channel crossing under a road.

cu.m/s--Cubic meters per second.

cut grading--To reduce to a level or to a practicable degree of inclination by excavating.

cygnet--Young swan.

db(A)--A unit for measuring sound which takes into account the frequency of a sound as well as the intensity. See also decibel.

decibel--A unit for measuring the relative loudness of sounds, equal approximately to the smallest degree of difference of loudness ordinarily detectable by the human ear, the range of which includes about 130 decibels on a scale beginning with 1 for the faintest audible sound.

decomposers--Soil organisms such as bacteria, fungi and arthropods which digest dead organic remains and return soluble minerals to the food web.

deep creep--See creep.

deltaic plain--The level or nearly level landward portion of a large delta; generally characterized by braided drainage.

demand--See Load.

dendrite--A branching figure resembling a shrub or tree; (geol.)--produced on or in a mineral or rock by the crystalization of a foreign mineral, usually an oxide of manganese, as in the moss agate; also the mineral or rock so marked.

dendritic--Similar in pattern to the branching of a tree.

dense-phase--This term is applied to fluids that are in a single phase but exhibit properties between those of a liquid and a gas. Natural gas exhibits the dense-phase property within a pressure range of approximately 400 to 1,000 pounds per square inch gauge, and a temperature range of approximately -115°F to -150°F.

denudation (geol.)--The laying bare of rock by erosive processes. (See also erosion.)

depletion--The progressive withdrawal of water from surface- or ground-water reservoirs at a rate greater than that of replenishment.

design scour elevation--Generally the depth below maximum stream scour based on formula and (or) field measurement of scour during peak flow conditions.

detritiovore--A consumer of detritus. Feeding upon dead organic tissues and organisms.

detritus (geol.)--A collective term for fragmental rock and mineral material, derived from older rocks. (biology)--Dead organic tissues and organisms in an ecosystem, usually including the live microorganisms engaged in the decomposition of the material.

Devonian--A division of geologic time in the Paleozoic Era (from about 405 to 345 million years ago).

dewpoint--The temperature at which a gas begins converting to the liquid state.

diamicton--A nonsorted or poorly sorted, unconsolidated sedimentary deposit that contains a mixture of wide-ranging particle sizes (e.g., boulders, cobbles, pebbles, and sand) in a finer-grained matrix (generally silt and clay). The term may be applied to deposits of any origin.

DIAND--Department of Indian Affairs and Northern Development (Canada).

diatom--Any of the unicellular or colonial, microscopic, marine or freshwater, algae of the Class Bacillariophyceae, characterized by siliceous cell walls.

diatomite--A sedimentary rock composed predominately of the siliceous shells of diatoms.

dig-in--Damage to an underground facility by construction equipment.

dimension stone--Building stone that is quarried and prepared in blocks according to specifications.

dip--Angle between a sloping plane and a horizontal plane; measured normal to the line marking the intersection of the two planes.

discharge--In its simplest concept discharge means outflow: therefore, the use of this term is not restricted as to course or location, and it can

be applied to describe the flow of water from a pipe or from a drainage basin. If the discharge occurs in some course or channel, it is correct to speak of the discharge of a canal or of a river.

discharge, sediment--See sediment discharge.

discontinuous permafrost--Permafrost occurring in some areas beneath the ground surface throughout a geographic regional zone where other areas are free of permafrost.

dissolved solids--Total quantity of solids present in solution quantitatively expressed as milligrams per litre; typically the residue on evaporation.

distributary branch or line--Synonym of distribution line.

distribution line--Pipeline from a trunk line to an existing gas pipeline system or to a gas consumer.

ditch--The excavation in which a pipeline is buried.

ditch plug--An impervious barrier placed across the pipeline ditch to prevent subsurface axial water flow in the ditch.

divide, drainage--The elongate, commonly sinuous, zone or line that separates river, lake or ocean drainage basins.

dominant--A species variously present in large numbers or of major size, and occupying a high percentage of area or space, which exerts a large degree of control over a community.

double jointing--The welding of two joints (lengths) of pipe together.

dragline--An excavation machine in which the bucket is attached only by cables and is drawn toward the machine during the excavation or filling process.

drainage area--The drainage area of a stream at a specified location is that area, measured in a horizontal plane, which is enclosed by a drainage divide.

drainage basin--A part of the surface of the earth that is occupied by a drainage system which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

drift--Material transported by and deposited directly from glacier ice or from water derived from a glacier.

drumlin--A low, smoothly rounded, elongated, oval hill, mound, or ridge of compact till, formed under a glacier and shaped by its flow, or carved out of older drift by readvancing ice.

dry farm--To farm without irrigation.

dry gas--Gas whose water content has been reduced by a dehydration process; or gas produced from a well not in conjunction with oil production.

duff--The partially decomposed organic debris of the forest floor.

easement--An interest (usually nonprofitable) granted by deed or other legal instrument that is held by one person or entity in land owned by another and that entitles its holder to a specific limited use.

ecology--The study of the interrelationships between organisms and their environment.

economy, (ecolog)--The use and management of the abiotic and biotic (including human) resources of a region for the maintenance and enhancement of human life and life styles.

economy, wage--An economic system based on payment for goods and services in a monetary medium of exchange; opposed to barter or complete self-support; equivalent to cash economy.

ecosystem--A natural, integrated, self-sustaining community of organisms interacting with each other and their total abiotic environment in a dynamic system independent of all external energy and material sources except the input of solar radiation.

ecotone--A transitional community lying between two or more different community types, composed of a mixture of species and abiotic components characteristic of all, and often including some additional species from still other communities.

edge effect--Pertaining to the increased diversity and density of the biological populations of ecotones.

emergent--An aquatic plant having its stem, leaves, etc. extending above the surface of the water.

endemic--[Any kind of organism] restricted to a single limited, and often local, geographic area.

environmental quality--The properties and characteristics of the environment.

eolian--Pertaining to wind; in geology applied to rocks or unconsolidated deposits whose constituents were transported and laid down by wind.

ephemeral--Lasting a very short time; transitory.

ephemeral stream--One that flows only in direct response to precipitation and whose channel is at all times above the water table.

epicenter--That point on the Earth's surface which is directly above the focus of an earthquake.

ericaceous--Plant species belonging to the Ericaceae (heath family).

erodibility--The degree of susceptibility of soil to removal by water or wind.

erosion--The process whereby earth materials are loosened or dissolved and removed from a part of the earth's surface; by running water, waves, ice, and winds, it includes weathering solution, corrosion, and transportation.

escarpment--A long, more or less continuous cliff or relatively steep slope facing in one general direction, breaking the general continuity of the

land by separating two level or gently sloping surfaces, and produced by erosion or by faulting.

esker--A long, low, narrow, sinuous, steep-sided ridge or mound composed of irregularly stratified sand and gravel that was deposited by a subglacial or englacial stream.

estuarine--Pertaining to, found in, or living in an estuary.

estuary--The seaward end or widened tidal mouth of a river valley where fresh and salt water mix and where tidal effects are evident.

eutrophication--The mineral enrichment of lakes by natural accumulation of nitrogen, phosphorus and other nutrients or through their accelerated addition by sewage and other pollutants resulting from human activities.

exotic species--Organisms introduced to a region where they are not native.

exploration, petroleum--Physical search for oil or gas in unproven areas; so-called "wildcat" drilling.

fault--A surface or zone of rock fracture along which there has been movement; total movement may range from microscopic to many miles.

fault zone--A relatively long and narrow band on the surface of the earth comprising numerous faults and fractures, and that is the expression of a single fault or fault system at depth.

faulting--The process of rock fracturing and displacement that produces a fault.

fauna--The total kinds of animals inhabiting an area at a given time.

feeder line--Synonym of supply line.

feedstock--A raw material supplied to a machine or processing plant.

felsite--A light-colored, fine-grained igneous rock composed chiefly of quartz and feldspar.

fen--Peat-filled wetlands similar to bogs but alkaline in reaction and richer in mineral nutrients; vegetation is usually of sedges and heaths, often with tall shrubs such as alder and willow, and scattered black spruce and tamarack.

fetch--In wave forecasting the continuous area of water over which the wind blows in essentially a constant direction.

field--A large tract or area of many square miles containing valuable minerals or petroleum.

flag--Surveyor's identification mark that locates where construction should be undertaken or that calls attention to some noteworthy future such as an archaeological site.

flash flow--Streamflow of short duration and rapidly changing stage and flow rate, often caused by extremely rapid melting of snowpack or cloudbursts.

flesher--Tool used to remove flesh from animal hide.

flocculation--The intentional grouping of colloids in a suspension in water or other liquids; in sanitation this process increases the settlement rate of the solids.

flood plain--A strip of relatively smooth land bordering a stream, built of sediment carried by the stream and dropped in the slack water beyond the influence of the swiftest current.

flotation cylinder--A closed cylindrical vessel attached to a pipe to provide positive buoyancy during installation of pipe at river crossings.

flora--The total kinds of plants inhabitating an area at a given time.

flow-duration curve--A cumulative frequency curve that shows the percentage of time that specified discharges are equaled or exceeded.

flow formula--A formula for determining the flow of gas between any two points in a pipeline under various conditions.

fluted points--Stone projectile points characterized by grooves at their bases.

fluvial--Of or pertaining to a river or rivers.

fluviatile--Belonging to a river; produced by river action; growing or living in freshwater rivers.

fluvioglacial--see glaciofluvial.

focal depth--Distance from earthquake focus to the surface of the earth.

focus (earthquake)--The point within the Earth which is the center of an earthquake and the origin of its elastic waves.

fold--A curve or bend in a planar geologic element such as a stratum or joint.

folding--The curving or bending of a planar feature, such as a stratum; see fold.

food chain--One pathway of the transfer of energy and materials from producer organisms through several levels of consumer organisms in a complex food web.

food web--The total integrated food chains by which all organisms of a community derive their energy and material requirements.

freezeup--The time when temperatures generally are below freezing and ice covers are formed on rivers; to northerners, the beginning of winter.

freezing point depressant--A substance added to a fluid to lower the temperature at which freezing occurs.

frost action--The process of alternate freezing and thawing of water in soils and rock and the resulting effects on materials and structures.

frost boil--An accumulation of excess water and mud liberated from ground ice by accelerated spring thawing, commonly softening the soil and causing a quagmire.

frost bulb--The mass of frozen soil surrounding a pipe containing gas at a temperature below 32°F.

frost heaving--The lifting of a ground surface caused by the freezing of internal moisture.

frost-susceptible soil--Soil in which significant detrimental ice segregation occurs when the requisite moisture and freezing conditions are present.

frost-rived--Rock material split into fragments by freezing of liquid water in cracks and crevices.

frozen ground--Soil or rock having a temperature below 32°F (0°C).

fuels--Naturally occurring mineral commodities commonly used as sources of heat; in this Statement the only fuels considered are coal, natural gas, and oil.

gabbro--A group of dark-colored basic intrusive igneous rocks.

gaging station--A particular site on a stream, canal, lake, or reservoir, where systematic observations of water level are obtained.

game--Wild fish, birds, or mammals with recreational value through sport fishing and hunting; use of these animals for food or fur commonly is incidental; some large mammals, however, are used by native peoples for subsistence and by visitors for recreational hunting.

gas field--A tract or district yielding natural gas.

gathering station--Place where gas is gathered from underground gas storage or from a producing natural gas field and inserted into the pipeline transmission system for distribution.

gelifluction--A synonym for congelifluction which is the progressive and lateral flow of earth materials under periglacial conditions; solifluction in a region underlain by frozen ground.

geodetic survey triangulation points--Points precisely located by latitiude, longitude, and elevation.

geosphere--The lithosphere or solid layers of the Earth, as compared with atmosphere and hydrosphere.

geotechnical study--An investigation of geologic conditions to determine the constraints they impose on construction designs.

geothermal--Of or pertaining to the internal heat of the earth.

girth welds--Welds joining two sections of pipe together.

glacial till--see till.

glacial lake--(a) A lake that derives most or all of its water from melting glacial ice; may lie entirely on a glacier. (b) A lake in a basin created by glacial erosion, by a glacier-deposited dam across a valley, or by a glacier that itself dams a valley.

glacial lake deposits--Sediment deposited in glacial lakes; usually characterized by fine grain size and thin beds.

glacial till--Nonsorted, nonstratified sediment carried or deposited by a glacier.

glaciated--A geologic feature or an area that has been shaped or covered by a glacier.

glaciodeltaic--Pertaining to deltas formed by meltwater streams and especially to the deposits comprising such deltas.

glaciofluvial--Pertaining to the meltwater streams flowing from a glacier and especially to the deposits produced by such streams.

glaciolacustrine--Pertaining to, derived from, or deposited in glacial lakes.

glowing avalanche deposit--A deposit formed by a turbulent blend of unsorted, mostly fine-grained pyroclastic debris, ash and high-temperature gas ejected explosively from volcanic fissure or craters.

g/m^2--Grams per square meter.

graben--An elongate, relatively depressed crustal unit or block that is bounded by faults on its long sides. It is a structural form often known as a rift valley.

gradient--1. Slope, particularly of a stream or a land surface; Measurements expressed in percent, feet per mile, or degrees. 2. Change in value of one variable with respect to another variable, especially vertical or horizontal distance, e.g. gravity, temperature, magnetic intensity, electrical potential, etc.

granite--Coarse-grained igneous rock containing the mineral quartz and potassium-rich feldspars; commonly light colored.

granodiorite--A coarse-grained granitic rock containing quartz, plagioclase, and potassium feldspar as well as biotite, hornblende, or (more rarely) pyroxene.

gravel--Unconsolidated deposits of rounded rock fragments larger than sand; more than 0.83 inch in diameter.

greenstone--A low-grade metamorphosed volcanic rock.

ground heaving--Upward movement of the ground surface as a result of the formation of ground ice in excess of pore space.

ground ice--All ice, of whatever age or origin, found beneath the surface of the ground, especially in perennially frozen ground.

ground settlement (sometimes subsidence or slump)--Downward movement of the ground resulting from the melting of excess ground ice.

ground water--Water in the ground that is in the zone of saturation, from which wells, springs, and ground-water runoff are supplied.

ground-water outflow--That part of the discharge from a drainage basin that occurs through the ground water. The term "underflow" is often used to describe the ground-water outflow that takes place in valley alluvium (instead of the surface channel) and thus is not measured at a gaging station.

grouting--The process of injecting a thin fluid mixture of cement into foundations for reinforcing or strengthening them and into mass fills for stabilization.

habitat--The place and its total environmental complex where a plant, animal, or community of organisms lives.

halophyte--A plant growing in soil or water with high salt content.

hardness--The quality in water that is imparted by the presence of dissolved salts.

heath--A community in which the dominant plant species are low shrubs of the Ericaceae (heath family).

herb--A plant with non-woody vegetative organs above ground.

herbaceous--Pertaining to herbs or to vegetation composed of non-woody species, as Herbaceous Coastal Tundra of grasses and sedges.

herbivore--An animal that feeds on plants; a grazing animal; a primary consumer.

hiatus--Absence of record of part of a continuum.

hoarding--A temporary enclosure constructed around a work area or piece of equipment to provide protection from the elements during work or operation of equipment.

holiday--A discontinuous or flawed area in the coating of a pipe.

Holocene--The division of geologic time in the Quaternary Period that extends from about 10,000 years ago to the present.

hydraulic gradient--The gradient or slope of the water table or piezometric surface in the direction of the greatest slope, generally expressed in feet per mile.

hydrograph--A graph showing stage, flow, velocity, or other property of water with respect to time.

hydrology--The science that relates to the water of the earth.

hydrostatic test--The application of a predetermined fluid pressure to the interior of a pipe to test its ability to withstand the specified test pressure over a prescribed time period.

ice bulb--See annular ice bulb.

ice-contact deposit--Stratified drift deposited from running water adjacent to glacier ice.

ice fog--A type of fog composed of minute ice crystals; forms at low air temperatures inversion; three factors are necessary for ice fog to form; (a) a temperature lower than-25°F, (b) a source of water, and (c) particulates in the air that form nuclei for droplet and ice particle condensation.

ice lens--1) A dominantly horizontal lens-shaped body of ice of any dimension; 2) commonly used for layers of segregated ice that are

parallel to the ground surface. The lenses may range in thickness from a hairline to more than 50 feet.

ice-rich permafrost--Perennially frozen ground that contains ice in excess of that required to fill pore spaces.

ice wedge--A massive, generally wedge-shaped body with its apex pointing downward, composed of foliated or layered, vertically oriented, commonly white ice.

ice-wedge polygon--Any polygonally shaped piece of ground bounded by ice wedges; commonly from a few to several tens of feet in diameter.

icing--A mass of surface ice formed by successive freezing of sheets of water that seep from the ground, from a river, or from a spring. River icings are formed from waters of the river itself, building up over the existing river ice and sometimes extending beyond the river channel onto the flood plain. Ground icings are formed on the ground surface when an obstruction blocks normal ground water flow. Spring icings are formed by water flowing from a spring.

igneous--Pertaining to a rock that solidified from molten or partially molten material; granite is a typical igneous rock.

Illinoian--A division of geologic time in the Pleistocene Epoch (from a few hundred thousand to about 100,000 years ago).

impact--In this Statement any change in existing physical, biological, or cultural conditions that would ensue if the proposed gas pipeline system were built, operated, and abandoned.

imperial gallon--One and one-fifth U. S. gallons.

impermeable soil plug--A septum of clay-rich sediment built across a pipeline ditch to retard subsurface axial flow of water in the ditch.

incompetent--(geol.)--lacking sufficient strength to transmit a force.

indigenous--That which is native to a region, as contrasted with that which is imported and alien.

indurated--(geol.) Hardened by the action of heat, pressure, and cementation.

infiltration--The passage of water from the surface of the land to the water table.

infrastructure--The basic, underlying framework or features of something.

insectivore--An animal that feeds on insects.

insectivorous--Pertaining to animals feeding on insects.

intensity (earthquake)--The measure of the effects of an earthquake on man and/or engineering structures; commonly measured on the modified Mercalli scale.

intercalate (geol.)--To insert between layers or beds of other rock.

intermodal transfer--The transfer of goods and materials from one transportation mode to another (i.e. rail to truck or truck to barge).

interstice--A small or narrow space or interval between things or parts; pore.

interstitial--Pertaining to situated in, or forming interstices.

intertie--Connection between two separate systems permitting gas flow to either system from the other.

interruptible--Service offered to customers under schedule or contracts which anticipate and permit interruption on short notice.

intrapermafrost water--Free water occurring in unfrozen zones within the permafrost.

inversion, temperature--The condition which exists in the atmosphere when warm air is above cooler air. Ground-based inversions caused by radiative cooling and cold air drainage are common in the Arctic, especially in winter.

invertebrate--Any animal lacking a vertebral column, or backbone.

isotherm--On a map, a line connecting points of equal temperature.

joint (pipeline)--A length of pipe as supplied from the manufacturer.

joint (geology)--A planar surface fracture or parting in a rock; without displacement.

Jurassic--A division in the Mesozoic Era of geologic time (from about 181 to 135 million years ago).

kame--A low, steep-sided hill, mound, knob, hummock, or short irregular ridge, composed chiefly of sand and gravel deposited by a subglacial stream or a stream marginal to a glacier.

kame terrace--A terrace-like deposit, usually composed of stratified sand and gravel, deposited by a stream between a glacier and a higher valley wall or moraine.

katabatic wind--A local wind that moves downslope.

km--Kilometer (1.6 U.S. miles)

kms--Square kilometer. (also Km^2, sq Km)

lacustrine--Pertaining to lakes.

lacustrine deposits--Sediments deposited in a lake; commonly fine grained and in thin beds.

landform--any physical recognizable feature of the earth's surface having a characteristic shape and produced by natural causes. It includes all broad features, such as plain, plateau, and mountain, and also all the minor features, such as hill, valley, slope, canyon, arroyo, and alluvial fan.

lateral (pipeline)--A supply or delivery pipeline connecting to a main or trunk pipeline.

leachate--A solution obtained by water that has percolated through material containing soluble substances and that contains certain amounts of these substances in solution.

lead--A break or crack in sea ice.

levee, alluvial or natural--A long, low, broad ridge or embankment built up by a stream on a floodplain on both sides of its channel, especially during times of flood.

LGP vehicle--Low-ground-pressure vehicle.

lichen--Any of a group of plants (lichenes) characterized by a body structure consisting of thallus made up of a fungus and an alga growing symbiotically; thallie may be unitoe, funtions or faliose and always lack any differentation into such organs as roots, stems and leaves, commonly growing on rocks, tree bark, soil and other substrates and sometimes occurring as air plants.

life-form--The characteristic growth form or vegetative body form of a plant, such as grass, tree, shrub or vine.

lift (engineering)--A layer of material of specified thickness laid down prior to the placement of the next layer.

lignite--Brownish-black coaly material with a lower heating value than that of subbituminous coal.

limestone--A rock composed chiefly of calcium carbonate ($CaCO_3$).

line list--An individual tract description of properties traversed by the route of the pipeline which identifies owners and tenants and notes special construction considerations specified in easements or leases.

liter--a unit of volume equal to one cubic decimeter. It is equivalent to 1.0567 U.S. liquid quarts.

lithified--Converted to rock; commonly by the consolidation and (or) cementation of sediments.

lithology--The physical character of a rock.

littoral--Pertaining to a shore of a sea or lake roughly within a depth to which light and wave action reach. For sea, usually taken as between high tide mark and 200 meters.

liquefied natural gas (LNG)--A clear, flammable liquid principally composed of methane. Natural gas must be cooled to -260 degrees Farenheit in order to produce LNG and its volume occupies 1/600 of the volume of gas.

load--The volume of gas delivered or required at any specified point in a system. (also, demand)

location survey--The survey that locates where facilities are to be built.

loess--A widespread, homogeneous, commonly nonstratified, unconsolidated but slightly coherent deposit generally laid down by the wind and consisting predominantly of silt with subordinate grain sizes ranging from clay to fine sand.

Low Arctic tundra--The usually moist to wet tundra of the Arctic mainland as distinct from the arid, desert-like tundra of the High Arctic of the islands of the Canadian Arctic Archipelago.

low ground-pressure (LGP) vehicles--vehicles which exert a small number of pounds per square inch of tire or track surface, sometimes referred to as all-terrain vehicles.

m--meter (39.37 U.S. inches)

magnitude (earthquake)--A measure of the strength of an earthquake, or the strain energy released by it, as determined by seismograph measurements. (See Richter scale.)

Main Line--The trunk line of the Applicant's proposed system.

mantle--Layer of the earth between crust and core.

MAOP--Maximum allowable operating pressure.

marine--Of, or belonging to, or caused by the sea.

mass wasting; mass movement--Movement of material down a slope by the force of gravity.

Matrix--A rectangular arrangement of quantities or symbols in rows and columns of the elements of a set.

mcf--One thousand cubic feet.

meander--1. One of a series of somewhat regular and looplike bends in the course of a stream, developed when the stream is flowing at grade, through lateral shifting of its course toward the convex sides of the original curves. 2. A land survey traverse along the bank of a permanent natural body of water.

meander scar--An abandoned meander, often filled in by deposition and vegetation, but still discernible (esp. from the air).

megafauna--Large animals.

meltwater--Water resulting from the melting of snow or of glacier ice.

mesozoic--An era of geologic time from the end of the Paleozoic to the beginning of the Cenozoic, extending from about 225 million to 70 million years ago.

metallic--As applied to mineral deposits or resources, refers to source materials for metals.

metamorphic; metamorphosed--As applied to rocks, infers that the rock was derived from pre-existing rocks by changes induced by high temperatures and (or) pressures beneath the earth's surface.

meter run--A series of instruments used to measure rates of gas flow.

methanol--Methyl (wood) alcohol (CH^3OH).

mg--Milligram.

mg/l--Milligrams per liter.

Metis--A person of mixed white and native ancestry.

MHz-Megahertz, a unit of frequency equal to one million cycles per second.

micromhos--A millionth of a mho (a unit of electrical conductance as opposed to ohm which is a unit of resistance).

microtine--Any member of a group of small to medium-sized rodents including voles, lemmings, and the muskrat.

microwave--An electromagnetic wave of extremely high frequency, usually having wavelength of from 1 mm to 50 cm.

midden--A refuse deposit with archeological or historic potential.

midge--any of numerous, small two-winged flies (Diptero) of several families, usually of family Chironomidae unless otherwise qualified.

mi^2--square mile.

Milepost--A point on a route that is the numbered distance, in miles, from a point of beginning.

millage--Tax rate expressed in mills per dollar (1 mill equals $0.001).

mineral deposit--A naturally occurring concentration of potentially valuable minerals or rocks; need not be economically minable under current economic conditions.

MMcf/d--Thousand thousand (one million) cubic feet per day.

μmhos/cm--Micromhos per centimeter.

MMCF/D--Million cubic feet per day.

MMSCF/D--Million standard cubic feet per day. Denotes routine correction to standard conditions of temperature and presssure.

mobilization--Movement of supplies and equipment and readying for work at a construction site.

modular construction--A technique involving the assembly of basic components for a facility into units of transportable size prior to their delivery to the construction site so that field construction involves only the joining together of separate units or modules.

molybdenite--A mineral which is the principal ore of molybdenum. Resembles graphite in appearance and to the touch.

moraine--A mound, ridge, or other distinct accumulation of generally unsorted, unstratified glacial drift, deposited chiefly by direct action of glacier ice in a variety of topographic landforms that are independent of control by the surface on which the drift lies.

M.P. (Milepost)--A point on a route that is the numbered distance, in miles from a point of beginning.

muck--Unconsolidated mixture of silt and well-decomposed organic material.

mudflow--A viscous, downslope-moving mixture of sediment and water which is capable of transporting pebbles, cobbles and boulders.

mudstones--Indurated sedimentary rock composed dominately of clay, and silt-sized particles in approximately equal amounts.

muskeg--A bog, usually a sphagnum bog frequently with tussocks of deep accumulation of organic material, growing in wet, poorly drained, boreal regions, often areas of permafrost.

mustelid--An animal of the family Mustelidae, as weasel, skunk and marten.

native backfill--Material that has been excavated from an area and which is then used as backfill in the same area.

nautical miles--A unit of linear measure equal to 1/60 of a degree or about 6,080 feet.

negative buoyancy--The condition under which a substance or a structure is denser than the medium in which it exists and it will sink in that medium. For example, a gas that is heavier than air is said to have "negative buoyancy," and it may be necessary to weight an empty or gas-filled pipeline to give it "negative buoyancy" in water.

Neolithic--A stage of human prehistory characterized by the use of polished stone implements.

nonmetallic--As applied to mineral deposits or resources, refers to source materials for mineral commodities other than metals, fuels, and construction materials.

nucleoprotein--A compound of protein and nucleic acid, a constituent of cell nuclei.

odorant--A chemical compound (mercaptan) used to give a perceptible odor to natural gas which has no natural odor of its own.

off-peak--Period during a day, week, month, or year when the load being delivered by a gas system is not at or near the maximum volume.

oligotrophic--Refers to lakes with considerable oxygen on the bottom waters and with limited nutrient matter.

omnivore--An animal that feeds on both plants and other animals.

oolitic--Pertains to small, round pellets similar in appearance to fish roe; in a sedimentary rock.

operating year--A system of numbering calendar years in which the first year of gas transmission is numbered 1, and succeeding years are numbered consecutively.

organic silt--See muck.

orographic--Pertaining to mountains.

outcrop--The exposure of bedrock at the surface of the earth.

outwash--Stratified unconsolidated deposits composed chiefly of sand and gravel that have been "washed out" from a glacier by meltwater streams

and deposited in front of or beyond its terminal moraine or outer margin.

outwash train (or valley train)--A long, narrow body of outwash, deposited by meltwater streams beyond the terminal moraine or the margin of a glacier and confined within the walls of a valley below the glacier.

over-break--Excessive shattering or excavation resulting from blasting.

overburden--Barren rock material usually unconsolidated overlying a deposit useful materials, and which must be removed prior to mining.

oxbow lake--A crescent-shaped lake formed in abandoned river bend which has become separated from the main stream by a change in the course of the river.

padding--Select fill material around a pipe to provide protection to the pipe and coating during backfill. Also called bedding.

pahoehoe--A type of lava flow having a glassy, smooth, and billowy or undulating surface.

palagonite tuff--A pyroclastic rock consisting of angular fragments of the mineral palagonite.

paleontological--Of or pertaining to the study of the forms of life existing in former geologic periods.

Paleozoic--An era of geologic time,from the end of the Precambrian to the beginning of the Mesozoic, extending from about 570 to 225 million years ago.

particulate matter--Minute separate particles; with respect to air pollution, these particles are airborne.

particulates--See particulate matter.

passerine bird species--Having feet adapted for perching.

patterned ground--In the Arctic, polygonally marked flats and stone-striped hillsides resulting from frost action and ice wedging.

peak day--A 24-hour period of greatest total gas sendout.

peak shaving--Supplementing the supply of gas during increased demand periods when the demand is greater than the average.

peat--Raw or partially decomposed plant remains preserved as organic deposits largely under anaerobic conditions of wetlands; also accumulating in cold climates by low temperature preservation.

peat moss-Species of the genus Sphagnum.

peat plateau--A low, generally flat-topped expanse of peat, rising 3 feet or more above the general surface of a peatland. A layer of permafrost exists in the peat plateau and may extend into the peat below the general peatland surface and even into the underlying mineral soil.

pediment--A broad, flat or gently sloping, rock-floored surface developed by erosion; generally formed in arid or semi-arid environment at the base

of a mountain front; commonly veneered or more deeply buried by alluvium.

perennially frozen ground (or soil)--See permafrost.

periphyton--The assemblage of microorganisms attached to and growing upon submerged solid surfaces.

permafrost--Soil, rock, or any other earth material whose temperature remains below 32°F (0°C) continuously for 2 or more years.

permafrost aggradation--An increase in thickness and (or) areal extent of permafrost because of natural or artificial causes as a result of climatic cooling and (or) change of terrain conditions, such as vegetation succession or infilling of lake basins.

permafrost degradation--A decrease in thickness and (or) areal extent of permafrost because of natural or artificial causes as a result of climatic warming and (or) change of terrain conditions such as disturbance or removal of an insulating vegetation layer by fire or human means.

permafrost table--The upper boundary of permafrost.

permeability--Capacity of rock or soil for transmitting a fluid. Degree of permeability depends upon the size and shape of pores, their interconnections and the extent of the latter. Permeability is measured by the rate at which a fluid of standard viscosity can move a given distance through a given interval of time. The customary unit of permeability is the millidarcy.

petroglyph--An ancient or prehistoric carving or inscription on a rock.

pH--A measure of hydrogen ion concentration.

phreatophyte--A plant that obtains its water supply from the zone of saturation or through the capillary fringe and is characterized by a deep root system.

photosynthesis--The energy storing process by which green plants utilize the energy of visible light and raw materials of carbon dioxide and water in the synthesis of simple sugars.

phyllite--An argillaceous rock commonly formed in regional metamorphism and having a silky sheen to the surfaces of cleavage.

physiographic division (or province)--A region with all parts having generally similar land forms because of similar geologic structures, geologic history, and climate; commonly has sharp boundaries with neighboring areas.

phytoplankton--Passively drifting and floating, largely microscopic, plants of marine and fresh waters.

pig--A device sent through a pipeline for internal cleaning, separating transmission products of different types, or other purposes.

pictograph--An ancient or prehistoric drawing or painting on a rock wall (as of a cave or cliff).

pingo--A conical, commonly more or less asymmetrical mound or hill, with a circular or oval base, a commonly fissured summit, and a core of massive ground ice covered with soil and vegetation; occurs in the continuous and discontinuous permafrost zones and exists for at least two winters.

pioneer community--In ecology, the first community to develop on an area and representing the beginning of community succession.

pioneer species--The first species to invade bare or newly available ground.

Pleistocene--A division in the Quaternary Period of geologic time (from about 2,000,000 to 10,000 years ago).

pluton--Any body of igneous rock formed below the surface of the earth.

pluvial--Said of a geologic episode, change, process, deposit, or feature resulting from the action or effects of rain.

polar pack ice--Ice first formed on the surface of the polar sea that becomes broken up and separate portions of which pile or pack on top of each other forming masses.

polygon-(See also ice-wedge polygon and polygonal ground.)

polygonal ground--A type of ground surface consisting of roughly equidimensional figures bounded by several sides, commonly more or less straight. Polygons commonly range from a few feet to several tens of feet in diameter.

ponding--Forming ponds by the blocking of natural drainage courses.

population--The total individuals of a species, or of a mixture of species, in an area.

postglacial--Pertaining to the time interval since the total disappearance of continental glaciers in middle latitudes or especially from a particular area.

pothole--A shallow depression, generally less than 10 acres, occurring between dunes on a prairie, often containing an intermittea pond or marsh and serving as a nesting place for waterfowl.

pozzolan--Siliceous tuff, ash, or other material used in cement, because when mixed with lime it hardens underwater.

ppm--Parts per million.

Precambrian--A division of geologic time (more than about 570 million years ago).

predator--An animal preying on others; a secondary or tertiary consumer in the food web.

prehistoric--Occurring before the beginning of written records; in this Statement means all events antedating exploration by white men.

pressure limiting station--Equipment that prevents pressure in a pipeline from exceeding the maximum allowable operating pressure by controlling the flow of gas.

pressure relief station--Equipment that prevents the pressure in a pipeline from exceeding the maximum allowable operating pressure, by venting gas to the atmosphere.

prey--An animal hunted and used for food by carnivores and omnivores.

primary consumers--Plant-eating animals, or herbivores, which constitute the second trophic level of the food web.

primary producers--Photosynthetic or chemosynthetic plants which are at the base of first trophic level of food chains or the food web.

productivity (ecology)-- the rate at which energy is stored by photosynthetic and chemosynthetic activity of producer organisms (chiefly green plants) in the form of organic substances which can be used as food materials.

projectile point--A point such as an arrowhead or spearhead that is attached at the front of a weapon to be hurled, thrown or projected with force.

proposed route--The pipeline route proposed by the Applicant in the submittal documents.

prove--In economic geology, to establish by drilling, trenching, underground openings, etc., that a given deposit of a valuable substance exists (and where), and that its grade or tenor and dimensions equal or exceed some specified amounts.

proven reserves--Mineral reserves, especially of crude oil, natural gas liquids, and natural gas, for which reliable quantity and quality estimates have been made.

province (oil and gas)--A region characterized by several geologically generally similar accumulations of natural gas and (or) oil.

psi--Pounds per square inch.

psia--Pounds per square inch absolute.

psig--Pounds per square inch gauge.

pumicite--A low-density light (in weight) rock formed by a volcanic eruption; used as an abrasive and for lightweight concrete aggregate.

pyroclastic--Pertaining to an unconsolidated deposit or a rock made up of fragments and formed by volcanic explosion or aerial expulsion from a volcanic vent; also, pertaining to the texture of a rock of volcanic origin.

purging--Clearing water or other substances from a pipeline.

quadrat--A square or rectangular plot of land marked off for the study of plants and animals.

quartz diorite--A granitic rock low in potassium feldspar and high in plagioclase and with an appreciable amount of quartz.

quartz latite--Volcanic equivalent of quartz monzonite.

quartz monzonite--A granitic rock intermediate in composition. Contains quartz and about equal amounts of potassium feldspar and plagioclase.

quartzite--A hard rock consisting mainly of the mineral quartz (SiO_2); may be sedimentary or metamorphic in origin.

Quaternary--The second period of the Cenozoic Era (following the Tertiary), thought to cover about the last two million years.

radiographic testing--The use of X-rays or other rays to produce an image to determine weld integrity.

radiational cooling--Cooling of the air layer close to the ground, caused when the ground has lost heat due to ground radiation and is cooler than the air above.

raft foundation--A reinforced concrete foundation slab with no construction joints.

rainshadow--The region on the lee side of an orographic feature where precipitation is noticeably less than on the windward side.

raptor--Bird of prey, as falcon, hawk and eagle.

R.C.M.P.--Royal Canadian Mounted Police.

reach--The length of a stream channel uniform with respect to discharge, depth, area, and slope.

recurrence interval (return period)--In hydrology, the average interval of time within which a given flood will be equaled or exceeded once.

regulation--In hydrology, the artificial manipulation of the flow of a stream.

re-injection--The process of injecting a gas or fluid into the underground reservoir from which the gas or fluid was origianlly produced or removed.

relief--Difference in elevations of high and low points of the area or region under discussion.

reserves--Identified deposits known to be recoverable with current technology under present economic conditions.

reserves, indicated--Reserves based partly upon specific measurements, samples, or production data, and partly from projection for a reasonable distance on geologic evidence.

reserves, inferred--Those reserves based upon broad geologic knowledge for which quantitative measurements are not available. Such reserves are those estimated to be recoverable in the future as a result of extensions, revisions of estimates, and deeper drilling in known fields.

reserves, measured--Identified resources from which an energy commodity can be economically extracted with existing technology, and whose location, quality, and quantity are known from geologic evidence supported by engineering evidence.

reserves, proved, probable, and possible--Are terms that commonly have been used loosely and interchangeably with the terms measured, indicated and inferred.

reserves, remaining, recoverable--Include the total of measured, indicated, inferred and undiscovered recoverable resources.

reserves speculative--Undiscovered materials that may occur either in known types of deposits in a favorable geologic setting where no discoveries have been made, or in as yet unknown types of deposits that remain to be recognized. Exploration that confirms their existence and reveals quantity and quality will permit their reclassification as reserves or identified-subeconomic resources.

resources--A concentration of naturally occurring solid, liquid, or gaseous materials in or on the earth's crust in such form that economic extraction of a commodity is currently or potentially feasible. Resources include materials that have been identified but cannot now be extracted because of economic or technologic factors, as well as, economic or subeconomic materials that are yet to be discovered.

resources, undiscovered, recoverable--Those quantities that may be reasonably expected to exist in favorable geologic settings, but which have not yet been identified by drilling. Exploration will permit the reclassification of such resources to the reserves category.

rhyolite--A group of volcanic rocks, with quartz and orthoclase crystals in a glassy groundmass.

Richter scale--The range of numerical values of earthquake magnitude. In theory there is no upper limit to the magnitude of an earthquake, but the strength of earth materials produces an actual upper limit of slightly less than 9. The scale is logarithmic.

rill--A very small stream (rivulet) or the shallow narrow channel it has eroded.

riparian--Related to the bank of a body of water.

riprap--Blocks of rock, commonly of irregular shape, used to armor parts of stream banks, shorelines, or artificial embankments against erosion.

riser--General term for a vertical run of gas piping, normally rising to an above-ground system from a below-ground system.

river weights--Concrete weights that are bolted or clamped in place around pipe traversing rivers and streams to provide negative buoyancy.

rock shield--A manufactured product applied over pipe coating to prevent damage to the pipe and its coating during backfilling.

route--A routing for the proposed pipeline; the Applicant has provided alignment sheets depicting routes.

runoff--That part of the precipitation that appears in surface streams. It is the same as streamflow unaffected by artificial diversions, storage, or other works of man in or on the stream channels.

saddle weights--Weights, usually of concrete, that straddle pipe, and which have no clamps or bolts, that are used to provide negative buoyancy.

sag bend--A vertical bend made in pipe and placed in a concave upward position to allow it to conform to the contour of the ditchline.

salmonid--A fish of the salmon family (Salmonidae), as salmon, trout, char and whitefish.

sand--Material made up of rock fragments between 0.0025 and 0.08 inch in diameter.

sandstone--Sedimentary rock composed largely of rounded or angular sand-sized rock fragments cemented by any of several chemical compounds deposited from solution; the rock equivalent of sand.

scabland--An elevated tract of bare or shallow-soiled rocky land (as the top of a butte or mesa) caused especially (as on the Columbia lava plateau) by denudation of the soil mantle or prevention of its formation.

scarp--A line of cliffs produced by faulting or erosion. The term is an abbreviated form of "escarpment," although "scarp" is more often applied to cliffs formed by faulting (fault scarps).

scat--Animal droppings or feces such as pellets of rabbit dung.

scf--Standard cubic feet measured at 60 degrees Farenheit, 14.73 p.s.i.a.

scheelite--An ore of tungsten.

schist--A strongly foliated crystalline rock formed by dynamic metamorphism, and which can be readily split into thin flakes or slabs.

scour--Erosion, especially by moving ice or water.

scraper trap--A receptacle for sludge cleaned from a pipeline.

scree--A deposit of loose, angular, fragmental rock material lying on or mantling a mountain slope or hillside.

scrub--Low-growing, stunted trees or shrubs.

scrubber, gas--Equipment used to remove condensate from gas.

sea ice--Ice formed by freezing the surface of the sea.

secondary consumer--An animal feeding on primary consumers, or herbivores; a predator at the third trophic level of the food web.

secondary vegetation--Plant communities originating through disturbance of natural vegetation by such human activities as lumbering, clearing, grazing and cultivation.

security river crossing--Parallel section of pipeline installed at river crossings for emergency use only.

sedge--A grass-like plant in appearance, belonging to the family Cyperaceneae.

sediment--Fragmental material that originates from weathering and erosion of rocks and is transported by, suspended in, or deposited by water or air or is accumulated in beds by other natural agencies.

sediment discharge--The rate at which sediment, as measured by dry weight, passes a section of a stream; or the quantity of sediment, as measured by dry weight, that is discharged in a given time.

sediment yield--Sediment discharge at a point, measured in either weight or volume of sediment per unit area of the contributing drainage area upstream per unit of time. Sediment yield often represents a quantity of sediment retained in a reservoir or other catchment structure.

sedimentation--The action or process of depositing sediment.

sedimentary rock--A rock formed by lithification of sediments; (1) Clastic rocks, as conglomerate, sandstone, and shales, formed of fragments of other rock transported from their sources and deposited in water. (2) Rocks formed by precipitation from solution, as, rock salt and gypsum, or from secretions of organisms, as most limestone.

seed set--the growth and development, following pollination or other stimulus, of a viable seed which adheres to the parent plant to maturity.

seismic--Pertaining to an earthquake or earth vibration.

seismicity--The phenomenon of an earthquake or earth vibration.

seismograph--An instrument to record earth vibrations.

select backfill--Backfill for which a specification has been established specifying gradation limits and (or) composition.

semianthracite--Coal having a fixed-carbon content of between 86 percent and 92 percent; "harder" than bituminous coal.

sensitive permafrost--Perennially frozen ground whose temperature is only slightly below 32°F (0°C); sometimes referred to as "warm" permafrost.

serpentine--A group of hydrous magnesium iron silicate minerals often derived from olivine, found in both igneous and metamorphic rocks; serpentine has a slightly soapy feel and greasy luster.

services sector--Those functions of an economic entity that are of assistance to primary economic production and producers, but of themselves are not productive; for example: banking, sewerage, real estate and insurances, food services, government, etc.

services, supporting--Those functions of an economic entity that are of assistance to primary economic production and producers, but of themselves are not productive; for example: banking, sewerage, real estate and insurances, food services, government, etc.

sewage lagoon--A pond-like reservoir for storing waste water and refuse from a camp treatment plant.

shale--Fine-grained sedimentary rock composed of clay-sized and silt-sized rock fragments characterized by thin bedding; a rock equivalent of clay or silt.

shoes--Devices attached to dozer blades to prevent the blades from cutting into the ground surface.

shot hole--A drill hole in rock or earth into which explosives are placed.

shrink sleeve--A conformable sleeve that is shrunk in place around a field-welded joint of pre-coated pipe by applying heat.

side ditches--Drainage channels built on one or both sides of a road.

sideboom crawler tractor--A large track laying tractor with a boom attached to one side used for lifting, holding, transporting, or placing pipe.

silt--1. A clastic sediment, most of the particles of which are between 62 micrometers and 4 micrometers in diameter. 2. Soil consisting of 80 percent or more silt (0.05-.002 mm) and less than 12 percent clay.

siltation--The deposition or accumulation of silt that is suspended throughout a body of water; often includes sedimentary particles ranging in size from colloidal clay to sand.

sink (hole)--A circular or ellipsoidal depression formed on the surface of limestone terrain.

slack chainage--A measurement that follows the ground contours to simulate pipe lengths installed in the ground.

slash--Tree limbs or brush cut down to clear the right-of-way.

slump--a mass of eath material that has moved down a slope.

SMSA--Standard Metropolitan Statistical Area. An integrated urban area according to specific U.S. Census Bureau criteria as to population and urban character.

snow road--A temporary access road constructed by leveling and packing snow to the required depth and density to support traffic.

snowmelt runoff--Runoff primarily responding to melting snow during the spring months, sometimes called spring runoff, or breakup.

sodic--Of, relating to, or containing sodium.

soil--That upper portion of surficial materials capable of supporting plant growth. Used by soils engineers for all materials above bedrock.

soil profile--Succession of zones or horizons beginning at the surface that have been altered by normal soil-forming processes of which leaching and oxidation have been particularly important.

solifluction--The process of slow, gravitational, downslope movement of saturated, nonfrozen earth material behaving apparently as a viscous mass over a surface of frozen material.

sound attenuation--A reduction in sound level.

specific gravity--The ratio of the density of any substance to the density of some other substance.

specification--A detailed description of requirements, dimensions, materials, etc., as of a building, machine, bridge or other structure.

specific conductance--A measure of the ability of a given substance to conduct electric current.

spoil--Any earth or rock material that has been excavated.

spoil berm--An embankment of excavated material located on the non-working part of a pipeline right-of-way.

spread--A group of workers and necessary equipment organized to handle all phases of construction for a given pipeline section.

sporadic permafrost--Permafrost occurring in the form of scattered islands of perennially frozen ground.

stage--In hydrology the height of a water surface above an established datum plane; also gage height.

steppe--Arid to semi-arid land characterized by vegetation requiring minimal moisture and usually found in large tracts and in regions of extreme temperature range and loess soil; plains usually characterized by grassland.

STOL aircraft--An aircraft that has short takeoff and landing characteristics.

stone polygons--A form of patterned ground whose mesh is dominantly polygonal and has a sorted appearance commonly due to a border of stones surrounding finer material.

stone stripes--A sorted stripe consisting of coarse rock debris, and occurring between wider stripes of finer material; oriented down the steepest available slope.

strata--Plural of stratum.

stratum--A single layer of sedimentary rock or other sedimentary material generally consisting of one kind of matter representing continuous deposition.

streamflow--May be the same as runoff but is a more general term including flow affected by diversion or regulation.

strike--Direction of the line formed by the intersection of an inclined plane with a horizontal plane.

strike-slip fault--A fault, along which the actual movement is predominantly parallel to the strike of the fault.

stringing--The transportation of pipe from stockpiles to the right-of-way and its placement on the right-of-way parallel to the ditch in preparation for welding.

strudel--Cracks and holes in sea ice.

subaerial--Formed, existing or taking place on the land surface.

subbituminous coal--Black coal similar to lignite, but with higher carbon and lower moisture contents than lignite and a lower heating value than bituminous coal.

subpermafrost water--Free water in the ground below the permafrost base.

subsidence--Settling or sinking of ground.

subsistence--As applied to hunting and fishing, entails use of animals and fish for direct maintenance of life rather than for recreational purposes or for disposal of products for some other medium of exchange.

substrate--The physical surface upon which an organism lives.

substrate, artificial--A device purposely placed in a stream or lake for colonization of organisms.

succession--The orderly process by which one community replaces another, each successive community modifying local environment in a manner and degree resulting in its replacement by another until a state of dynamic equilibrium is reached between the kinds of organisms available and the climate of the region and a relatively stable, climax community is developed.

supply line--Pipeline from a gas field to a trunk line.

suprapermafrost layer--The layer of ground above the permafrost, consisting of the active layer and, wherever present, taliks.

suprapermafrost water--Free water in the ground above the permafrost.

surface water--Water on the land surface in streams, lakes, and reservoirs.

surficial--At the surface of the earth; commonly applied to geologic materials above hard bedrock.

taiga--The Boreal Forest of coniferous, mostly evergreen, needle-leaved trees.

talik--A Russian term for unfrozen ground beneath the active layer above, within, or beneath the permafrost.

talus--Rock fragments of any size and shape lying at the base of the cliff or very steep slope from which they were derived; movement of fragments is by gravity.

tap--Point of connection or delivery of gas to smaller pipe.

taxonomy--1. The systematic classification of plants and animals. 2. The science of the classification and arrangement, according to relationships, of living organisms.

Tcf--Trillion cubic feet (natural gas); also written as tcf.

tds--Total dissolved solids. Statistic used in expressing the amount of mineral matter in solution.

tectonic--Pertaining to the forces involved in, or the resulting structures or features of deformation of the earth's crust.

tellurometer--A ground-based survey instrument which measures distances electronically using sound waves.

terrace--A long, gently sloping, nearly plane surface bounded on one side by a steeper rising slope and on the other by a steeper descending slope, generally parallel to a stream course or a coastline; formed by stream or marine erosion or deposition.

terrain typing--The Applicant's classification of the proposed Prime Route into segments with different geotechnical characteristics.

terrestrial--Consisting of or pertaining to the land.

Tertiary--The first period of the Cenozoic Era from about 63 to two million years ago.

tertiary consumer--A predator preying on usually smaller predators and constituting the fourth trophic level of a food web.

thaw lake--In regions underlain by permafrost, a shallow body of water whose basin is produced by settlement of the ground following thawing of ground ice.

thermal--Of, relating to or caused by heat.

thermal erosion--Settling or slumping following melting of permafrost.

thermokarst--The irregular topography resulting from differential thaw settlement or caving of the ground because of the melting of ground ice in thaw-unstable permafrost.

throughput--The quantity of natural gas or other product transported by pipeline.

thrust fault--A fault with a dip of 45° or less in which the upper block appears to have moved upward relative to the lower block; horizontal rather than vertical displacement is dominant.

tibia--Larger bone in the lower hind leg.

tidal prism--Volume of water that flows into or out of a harbor or estuary with movement of the tide, excluding any fresh water flow.

till--Unsorted and unstratified drift, generally unconsolidated, deposited directly by a glacier without subsequent reworking by water, and commonly consisting of a heterogeneous mixture of clay, silt, sand, gravel, and boulders varying widely in size and shape.

train--See valley train.

tree line--The latitudinal or altitudinal limit of tree species exhibiting the tree life-form; toward their extreme environmental limits tree species are often reduced to low shrubs.

trophic--Pertaining to nutrition; the nutritive processes.

trophic level--A step in the energy transfer processes of a food chain, or the food web, as represented by primary production, primary consumption, secondary consumption, etc.

trough--An elongate geologic feature in which the middle is lower than the sides; may have no surface expression other than the presence of rocks younger in the middle than along the sides.

trunk airport--A major airport facility within an air transportation system.

trunk line--That part of a pipeline system connecting a junction of supply lines to a junction of delivery lines; see Main Line.

tsunami--A sea wave caused by submarine seismic or volcanic activity; although this phenomenon is wholly unrelated to tides, it is frequently called a "tidal wave."

tuff--A sedimentary rock made up of fragments formed by volcanic explosion or aerial explosion from a volcanic vent.

tundra--An ecosystem characterized variously by low-growing vegetation of mosses, lichens, grasses and sedges, and dwarf shrubs; such animals as lemmings and other microtine rodents, caribou, musk oxen and grizzly bears; occurring in the Arctic beyond the latitudinal limit of trees and in mountains above timber line.

turbid--Unclear or murky because of stirred-up sediment.

turbidity--A condition of opacity of a stream caused by suspended matter.

tussock--A tuft or clump of growing grass or low shrubs.

unconsolidated material--A sediment whose particles are not cemented together.

underemployment--Part-time or intermittent employment or employment in positions that do not allow full use of an individual's talents.

understory--Small tree or shrub layers as undergrowth in forest.

ungulate--Hoofed mammal; caribou, deer, moose, etc.

Universal Transverse Mercator System--An internationally recognized metric system of coordinates derived for a conformal grid projection with east-west coordinates based on the central meridian in any given zone north-south coordinates based on the Equator.

valley train--A long, narrow body of outwash, deposited by meltwater streams beyond the terminal moraine or the margin of an active glacier and confined within the walls of a valley below the glacier.

valve--A mechanical device used to start, stop, or regulate the flow of gas through the pipeline.

vascular--Consisting of or containing vessels adapted for transmission or circulation of fluid.

valve operator--The source of mechanical energy used to open or close valves.

venting--Releasing gas in a pipeline section to the atmosphere through valves. Also blowdown.

vision quest--A solitary vigil by an adolescent American Indian boy to seek spiritual power and learn through a vision the identity of his guardian spirit, usually an animal or bird.

volcanic--As applied to rocks, any igneous rock formed at the surface of the earth or under a body of water, also, any process or feature associated with a volcano.

wage economy--An economic system based on payment for goods and services in a monetary medium of exchange; opposed to barter or complete self-support; equivalent to cash economy.

wash--The dry bed of an intermittent stream.

water table--The upper surface of a zone of saturation. No water table exists where that surface is formed by an impermeable body.

weathering--In-place physical disintegration and chemical decomposition of rock or unconsolidated materials.

weight casting--The manufacture of concrete river weights and saddle weights.

wet gas--Natural gas deposits found in association with oil deposits.

wetlands--Any terrain having the water table at or near the ground surface.

windchill--The amount or proportion of the total cooling of a body caused by wind action; loss of heat through convection is accelerated in increasing wind velocities.

Wisconsin Stage--A division of geologic time in the Pleistocene Epoch (from about 100,000 to 10,000 years ago).

withdrawal use of water--The water removed from the ground or diverted from a stream or lake for use.

working age population--All persons between ages 15 and 64.

working lane--Working side of pipeline right-of-way.

zone of aeration--The zone above the water table. Water in the zone of aeration does not flow into a well.

zone of saturation--The zone in which permeable rocks are saturated with water under hydrostatic pressure.

zooplankton--Passively drifting to weakly swimming, mainly microscopic, animals of marine and fresh waters.

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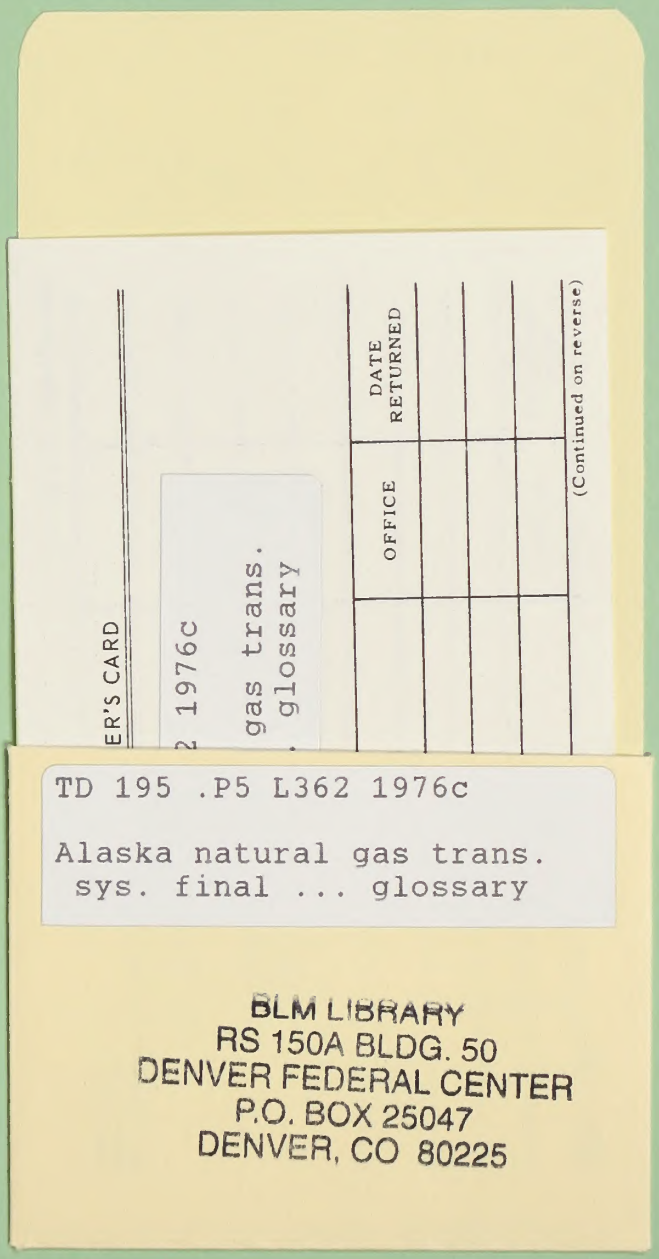

Alaska Natural Gas Transportation System

Environmental Impact Statement — GLOSSARY