The Hon. Christy Clark, M.L.A.
Premier of British Columbia
West Annex, Parliament Buildings
Victoria, BC
V8V 1X4

October 5, 2016

Dear Premier,

We are writing today to urge you to follow the conclusions of the research on the effects of spilled bitumen which proves that spilled bitumen cannot be effectively recovered and therefore you must not approve the Kinder Morgan Trans Mountain pipeline.

In July 2012, your government released the results of a technical analysis of heavy oil pipeline proposals in British Columbia. This analysis was used to inform your government's current position that five principles must be met before you would consider support for such pipeline developments in our province. In January 2016, you confirmed that the proposed Kinder Morgan Trans Mountain pipeline would have to meet these five conditions before your government could support it.

These conditions include the need for "world-leading" oil spill response systems for both land and sea in order to ensure the lakes, rivers, ocean, and land are protected from the devastating and long-term impacts of an oil spill. It is the assumption of the undersigned groups that "world-leading" means *effective* oil spill response. In short, an oil spill response system can only be considered world-leading if it actually cleans up the oil.

The ability to clean up oil is questionable. Prince William Sound and the Gulf of Mexico are still suffering the consequences of the Exxon Valdez spill in 1989 and the Deepwater Horizon spill of 2010, respectively.

But those spills involved conventional oils. British Columbia is confronted with a proposal that will result in a 6-fold increase in the amount of tar sands crude moving through the province and onto our delicate coastal waters. Most of this thick tar sands oil is thinned with condensate, creating dilbit which is able to flow through the pipelines. A 2013 study by the Government of Canada titled *Properties, Composition and Marine Spill Behaviour, Fate and Transport of Two Diluted Bitumen Products from the Canadian Oil Sands* found that when the spilled bitumen is exposed to sediment in marine settings, it sinks; it also found that chemical dispersants tested on dilbit were not effective.

In 2016, the National Academy of Sciences (NAS)—the scientific advisor to the United States Congress and President —released a more comprehensive study titled *Spills of Diluted Bitumen from Pipelines: A Comparative Study of Environmental Fate, Effects, and Response*. After examining the entire field of existing studies on the environmental fate of dilbit (including the

Government of Canada 2013 report) over the course of nearly two years, the NAS concluded that when compared with commonly transported crudes, diluted bitumen behaves in fundamentally different ways when spilled.

The NAS found that as a result of weathering, dilbit can and will sink when spilled in water, increasing the impacts associated with a spill. Furthermore, the study concluded that there is no technique or equipment available to effectively clean up heavy oils that have submerged, mixed into the water column or settled on the bottom of fresh- or salt-water bodies.[1] The study also noted that the evaporating diluents are known to result in risks to human health and risks of explosions. The NAS report concluded that "when all risks are considered systematically, there must be a greater level of concern associated with spills of diluted bitumen compared to spills of commonly transported crude oils" and "[T]here are no known, effective strategies for recovery of crude oil that is suspended in the water column."[2]

The NAS study goes on to recommend to the US government that the results of this research *"warrants modifications to the regulations governing diluted bitumen spill response plans, preparedness, and cleanup.*" To date, the US Coast Guard has not acted to address the concerns in the NAS study, despite publicly stating their own concerns in testimony and agency reports.

When a pre-publication draft of the NAS study was released in December 2015, shortly before the National Energy Board (NEB) was completing its assessment of the Kinder Morgan pipeline, intervenors requested the study be considered. However, the NEB rejected this request. This has meant that the NEB's review ignored the most comprehensive study of the effects of spilled dilbit— a significant omission that puts the health of the BC coast and rivers at risk.

Prime Minister Trudeau has acknowledged the NEB review was not credible and committed to addressing the flaws in its environmental review. In January 2016, Ministers Carr and McKenna announced an interim process for projects currently going through an NEB regulatory review and as a result a new ministerial panel was appointed to review the Kinder Morgan pipeline. After the new panel failed to convene a table of experts to consider the NAS's findings and other studies, there are concerns the panel's report will not consider the incredible risk the pipeline poses to the Salish Sea and British Columbia's rivers should it be approved.

In short, neither the NEB process nor the Trudeau-appointed interim Panel considered the NAS study, which means the Prime Minister and Cabinet will be making an uninformed decision about the risks of the pipeline to the Salish Sea.

The Salish Sea is more than a body of water. It is what defines much of Vancouver, Vancouver Island, and the Gulf Islands. From the iconic beauty of Kits Beach and Stanley Park, to the

[1] NAS study, pg. 70.
[2] NAS study, pg 82.

commercial fisheries and tourism businesses that employ thousands, to the recreational fisheries and outdoor activities that define B.C.'s communities and livelihoods—the Salish Sea is a cherished presence in the lives of anyone who lives in or visits B.C.'s southern coast. It is a national treasure that Canadians from coast to coast to coast recognize as symbolic of Canada's vast wilderness and natural beauty. It is western Canada's marine gateway that helps bind this vast country together. Just like the St. Lawrence Seaway in the east, the Salish Sea is an iconic part of Canada's rich natural, economic and cultural history.

The science has shown that today there is no spill response technology that can effectively clean up spilled diluted bitumen. Therefore we urge you to stand up to recommendations made without good information that trade off BC's environment for political expediency. Please remain committed to the integrity of your five conditions and confirm that an effective world-leading oil spill response system does not exist for diluted bitumen, and therefore the Kinder Morgan pipeline cannot be built.

Sincerely,

350.org
Alerte Pétrole Rive-Sude
AQLPA
BROKE
Coalition vigilance oléoducs
Conservation Council of New Brunswick
Council of Canadians
David Suzuki Foundation
Ecology Action Centre
Ecology Ottawa
Environmental Defence
Equiterre
Force of Nature
Georgia Strait Alliance
Greenpeace
Leadnow
Les citoyens au courant
Living Oceans Society
Local 10, Saint John Chapter, Aboriginal People's Council
Nature Quebec
Northwest Watch
NRDC
Peace New Brunswick
Pipe Up Network
Regroupement citoyen contre les bitumineux et pour le développement durable
Regroupment Vigilance Hydrocarbures Quebec
Sierra Club BC

Stand
STOP Oléoduc Île d'Orléans
Stop oléoduc Portneuf Saint-Augustin
SumofUs
Tanker Free BC
Transition Initiative Kenora
West Coast Environmental Law
Wilderness Committee

KEY FINDINGS OF THE NATIONAL ACADEMY OF SCIENCES STUDY

- “In comparison to other commonly transported crude oils, many of the chemical and physical properties of diluted bitumen, especially those relevant to environmental impacts, are found to differ substantially from those of the other crude oils. The key differences are in the exceptionally high density, viscosity, and adhesion properties of the bitumen component of the diluted bitumen that dictate environmental behavior as the crude oil is subjected to weathering (a term that refers to physical and chemical changes of spilled oil).” (pg. 3)
- “Spills of diluted bitumen into a body of water initially float and spread while evaporation of volatile compounds may present health and explosion hazards, as occurs with nearly all crude oils. It is the subsequent weathering effects, unique to diluted bitumen, that merit special response strategies and tactics . . . In cases where traditional removal or containment techniques are not immediately successful, the possibility of submerged and sunken oil increases. This situation is highly problematic for spill response because 1) there are few effective techniques for detection, containment, and recovery of oil that is submerged in the water column, and 2) available techniques for responding to oil that has sunken to the bottom have variable effectiveness depending on the spill conditions.” (pg. 3)
- “The majority of the properties and outcomes that differ from commonly transported crudes are associated not with freshly spilled diluted bitumen, but with the weathering products that form within days after a spill. Given these greater levels of concern for weathered diluted bitumen, spills of diluted bitumen should elicit unique, immediate actions in response.” (pg. 4)
- “Broadly, regulations and agency practices do not take the unique properties of diluted bitumen into account, nor do they encourage effective planning for spills of diluted bitumen.” (pg. 4)
- “In light of the aforementioned analysis, comparisons, and review of the regulations, it is clear that the differences in the chemical and physical properties relevant to environmental impact warrant modifications to the regulations governing diluted bitumen spill response plans, preparedness, and cleanup.” (pg. 4)