



# Searching for Arctic Oil: U.S. Geological Survey 1924 Expedition



P. S. Smith Collection, University of Calgary

**Team members from the U.S. Geological Survey's 1924 expedition unload cedar canoes near their winter camp in what is now Gates of the Arctic National Park and Preserve.**

When President Warren Harding created Naval Petroleum Reserve No. 4 in 1923, in order to supply the U.S. Navy with crude oil in times of war, no one knew for sure if useful quantities of oil existed under that vast expanse of permafrost in northwestern Alaska. That same year, U.S. Geological Survey (USGS) geologists fought their way up northern rivers as far as was practical given the short summer season, but had to turn back without a full report on the oil resources within the new 36,000-acre Reserve.

To maximize exploration time and increase success of reporting on the Reserve's oil prospects, geologists Philip Smith and John Mertie planned a new logistical approach. Their expedition would set out in frozen conditions (February), cross over the Arctic Mountains (now known as the Brooks Range), and set up a winter camp. Staging that far north meant that when the ice cleared from the rivers, the party would be poised with their canoes ready to "dash" across the Arctic along the Killik, Colville, and Ikpikpuk Rivers. Even so, this enterprise was still a race against time and the onset of winter. After exploring hundreds of square miles of Reserve lands, the group needed to reach Point Barrow before pack ice blocked passage home by ship.

Although USGS geologists and topographers were accustomed to working in remote and dangerous terrain, Alaskan reporters called the plan "the most hazardous mission ever undertaken by this branch of the government service."

Would this hardy team survive the rigors of the North to accomplish its mission?

## Setting out for winter camp

In addition to leaders Smith and Mertie, the eight-man team included two topographers for mapping, two field assistants, and a cook and a dog musher recruited from remote Alaskan gold camps. In Nenana, they assembled dried foods, tinned butter, bacon, coffee, and tea. After traveling to Tanana by mail stage, the survey team hired local Native women to sew fur parkas, gloves, and mukluks, and began purchasing sled dogs. In late February, the expedition team departed Tanana (see send-off photo on reverse) on dog sleds, following winter trails to Allakaket. Freight-haulers had been hired to deliver several tons of supplies into the southern foothills of the Brooks Range and to leave caches of dry salmon along the trail for the dog teams that followed. The expedition advanced up the frozen Alatna River to the Unakserak River and on to the northern limit of spruce forest. There Smith and Mertie sent the freight-haulers back to Tanana, and the expedition continued north to the Continental Divide.

By late April, the group had established a winter camp at the confluence of Easter Creek and the Killik River in what is now Gates of the Arctic National Park and Preserve. During week-long excursions from camp, the party hunted and mapped rivers in the vicinity.

## Exploring the Reserve

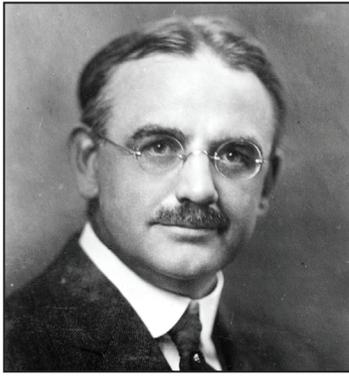
When spring arrived in late May, the men eagerly pried open a special boat-shaped crate, which contained the four cedar canoes made in Canada specifically for the expedition. Because the canoes were built in different lengths, they all nested inside the largest canoe. The men loaded their gear into

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*All stout lads,  
hard as nails,  
with plenty  
of experience  
in difficult  
situations.*

—*New York Times*, 1924

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**Geologist Philip Smith** co-  
led the USGS expedition to  
explore the mineral potential  
of the Naval Petroleum  
Reserve No. 4.



P. S. Smith Collection, U of Calgary

**John Mertie** supplies the  
expedition with ptarmigan  
during the winter traverse of  
the Arctic Mountains (Brooks  
Range) in what is now Gates  
of the Arctic.

the canoes and set off on the Killik River, only to find vast sheets of overflow ice that impeded their progress and battered the canoes. Later, while struggling to guide the boats through ice-filled channels, Mertie crushed a bone in his foot. Mobility impaired, he nursed his swollen foot and used a paddle as a crutch when leaving the canoe to study the geology along the river.

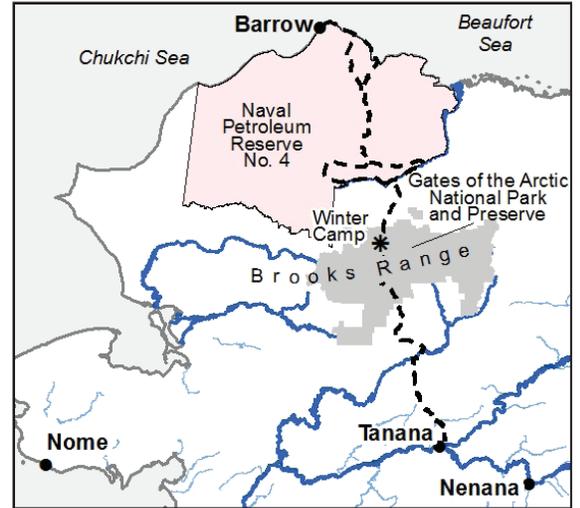
After reaching the Colville River and the southern boundary of the Reserve, the group split into two parties in order to explore more territory (see map). Both parties faced swarms of mosquitoes, back-breaking portages, and the odious task of killing the sled dogs they could no longer feed. Although the government scientists encountered outcroppings of coal along the way, they were unsuccessful at finding evidence of petroleum as they paddled toward the Arctic Ocean. Remarkably, both parties reached Point Barrow within hours of one another. They were able to secure passage on a ship to Nome and eventually arrived in Seattle.

**Legacy of the expedition**

While the expedition was underway, a *Washington Post* headline read “Party Off to Chart Arctic Wilderness—Geological Survey Men Will Fill in Big Blank Spot on Alaska Map.” The expedition’s success was lauded in *Popular Science Monthly*:

*...a little band of government scientists...had penetrated into the terrifying bleakness...to survey the region for oil and precious and useful metals...*

In the decades since Smith and Mertie penetrated the “terrifying bleakness,” the terrain they crossed has become increasingly important in the struggle between energy development and wilderness preservation. A rising tide of environmentalism led to the creation of Gates of the Arctic National Park and Preserve, which encircles the section of the Brooks Range where Smith and Mertie established their winter camp. Although the efforts of the Smith and Mertie expedition were soon forgotten by the American public and aircraft made the foot-slogging exploration style of the USGS obsolete, the journey



**Smith and Mertie** led the expedition through a large area where Eskimo people knew the terrain, but it was terra incognita to outsiders.



P. S. Smith Collection, U of Calgary

The expedition members pose near the dog harnesses before setting out from Tanana.

has become a valued part of the history of Gates of the Arctic.

**For more information**

Chris Allan, Historian  
Gates of the Arctic National Park and Preserve  
chris\_allan@nps.gov  
www.nps.gov/gaar/historyculture

**Expedition life** (clockwise from lower left): Hauling the crate of canoes by dogteam; making notes at a topographic station; lunch stop along the Unakserak River; North Slope camp (note snow remaining); and paddling on the ice-free Colville River. Except for the Colville River photo, all photos were taken in what today is Gates of the Arctic.



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