

**TABLE 8-9**  
**IMPACTS OF A POTENTIAL OIL SPILL AND OIL SPILL RESPONSE ON THE PHYSICAL ENVIRONMENT**

Resource Affected	Frequency	Duration Construction	Duration: Operation	Scope	Direct Impacts	Indirect Impacts
Geology and Hydrology	Rare	N/A	Unknown	Area contacted by oil - up to 200 miles (322 km) of coastline (Figure 8-4)	Significant - Contamination (sheens or free product) of soils, sediments, and surface water bodies from direct oiling and deposition of tarballs, potentially lasting for 5 to 10 years.	Minor - Thawing or disturbance of permafrost for the area (few hundred square yards) of vegetation damaged or removal during spill response.
Air Quality	Rare	N/A	Unknown	Air quality above the surface of the oil slick for first few days following the spill (Figures 8-4 and 8-5)	Minor - Release of volatile organic compounds to the air from the evaporation of 25% to 35% of the spilled oil.	Minor - Emission of criteria pollutants from machinery exhaust and/or in situ burning, temporarily reducing air quality for up to a few miles from the burn.
Marine Water Quality	Rare	N/A	Unknown	Marine waters contacted by oil - up to 200 miles (322 km) from the release site (Figures 8-4 and 8-5)	Minor - Dissolution and dispersion of hydrocarbons in water column (concentration depends on ice cover and time since release); State of Alaska water quality (chronic) criteria may be temporarily exceeded in water column in close proximity to the oil slick.	Minor - Dissolution and dispersion of hydrocarbons contained in/on ice into the water column following spring breakup.
Sea Ice	Rare	N/A	Unknown	Area contacted by oil - up to 200 miles (322 km) from the release site (Figures 8-4 and 8-5)	Minor - Reduction of mechanical integrity from melting or oil incursion into the ice and from ice scraping or drilling during spill response.	None anticipated.

Notes: km = Kilometers  
 N/A = Not applicable  
 % = Percent