

**TABLE 4-23
ALTERNATIVE 4 - ESTIMATED TRANSPORTATION REQUIREMENTS, SINGLE SEASON**

| Project Activity | Transported Items | Transportation Method ¹ (by number of round trips) | | | | | Comments |
|------------------------------------|--|--|-------|------|------------|--------|--|
| | | Bus | Barge | Boat | Helicopter | Truck | |
| Island Construction | | | | | | | |
| Manufacture Concrete Mats | Personnel, Cement, Aggregate, and Supplies | 120 | | | | 250 | Mobilize personnel via bus locally in Deadhorse daily. Local trucking from Deadhorse yard to block plant with aggregate and water. Haul Road trucking from Fairbanks and Anchorage with permanent materials. |
| Ice Road Construction | Personnel, Heavy Equipment | 150 | | | | 125 | Mobilize personnel via bus from Deadhorse to job site daily. Local trucking from Deadhorse yard to job site with equipment and supplies. |
| Island Construction | Personnel, Gravel, Heavy Equipment | 300 | | | | 30,500 | Mobilize personnel via bus from Deadhorse to job site daily. Local trucking from Deadhorse yard to job site with equipment and supplies, Haul Road trucking from Fairbanks and Anchorage with permanent materials. Haul approximately 15,000 cy of gravel per day from mine site to Seal Island. |
| Install Island Piling | Personnel, Sheet Pile, Foundation Piles, Concrete Footings | | | | 360 | 75 | Mobilize personnel via helicopter from Deadhorse to job site daily. Truck supplies from Anchorage/Fairbanks to North Slope via Haul Road, then to Seal Island by ice road. |
| Install Island Slope Protection | Personnel, Concrete Blocks, Filter Fabric, Hardware | | 45 | 10 | 440 | 175 | Mobilize personnel via helicopter from Deadhorse to job site daily, via boat during bad weather. Barge supplies in July to August from West Dock to Seal Island. Truck fuel and supplies to West Dock for shipment by barge. |
| Pipeline Installation | | | | | | | |
| Install Road and Caribou Crossings | Personnel, Materials, Heavy Equipment | 100 | | | | 64 | Mobilize personnel via bus to/from the job site. Truck trips required for transporting equipment and supplies to/from the job site. |
| Install Offshore Pipelines | Personnel, Materials, Heavy Equipment, Consumables | 985 | | | | 384 | Mobilize personnel via bus to/from the job site. Truck trips required for transporting equipment and supplies to/from the job site. |
| Install Onshore Pipelines | Personnel, Materials, Heavy Equipment, Consumables | 837 | | | | 762 | Mobilize personnel via bus to/from the job site. Truck trips required for transporting equipment and supplies to/from the job site. |
| Module Installation | | | | | | | |
| Infrastructure Installation | Personnel, Heavy Equipment, Consumables/Tools, Construction Materials, Fuel/Start-up Materials | 90 | 5 | 50 | 900 | | Mobilize personnel via bus, then boat or helicopter, to job site daily. Infrastructure installation will require 2 local barge trips and 1 barge trip from Anchorage. Barges will transport materials between Anchorage and/or West Dock and Seal Island. |

**TABLE 4-23 (Cont.)
ALTERNATIVE 4 - ESTIMATED TRANSPORTATION REQUIREMENTS, SINGLE SEASON**

| Project Activity | Transported Items | Transportation Method ¹ (by number of round trips) | | | | | Comments |
|--|---|--|-------|------|------------|-------|---|
| | | Bus | Barge | Boat | Helicopter | Truck | |
| Module Installation (Cont.) | | | | | | | |
| Process Facilities Installation | Personnel, Modules, Fuel/Start-up Fluids | 240 | 2 | 20 | 480 | | Mobilize personnel via bus, then boat or helicopter, to job site daily. Same heavy equipment as used for infrastructure installation and will require 2 barges from Anchorage. |
| Drilling | | | | | | | |
| Drilling Mobilization | Personnel, Drill Rig, Drilling Materials and Supplies | | 21 | | 30 | | Assume one helicopter trip per day for drilling personnel. Drill rig and associated buildings require 5 to 6 local barge trips. Approx. 4 months of supplies will require 15 to 16 local barge trips. |
| Drilling Resupply | Personnel, Drilling Materials and Supplies | | | | | 200 | Personnel already housed on island. Approx. 4 months of supplies will require 150 to 200 truck trips. Subsequent biannual resupply (Feb to April by ice road, Aug to Sept by barge). During the first year of drilling, diesel fuel would be obtained via trucks from Prudhoe Bay, or from other instate refineries via trucks and/or barges or from Canada via barges. |
| Operations/Maintenance Activities | | | | | | | |
| Ice Road Construction | Personnel, Heavy Equipment | 30 | | | | 50 | Mobilize personnel from Deadhorse. Water haul and blade to condition road. |
| Operations Staff, Pipeline Recon, and Rotating Equipment Maintenance | Personnel, Commodities, Supplies | 60 | 50 | 50 | 84 | | Transportation of staff and consumables via bus over ice road during winter and by helicopter and/or barge/boat during open water season. |
| Logistics Resupply | Heavy Equipment, Chemicals, Parts, Materials | | 3 | | | 50 | Annual re-supply by barge during open water season and by truck during winter over ice road. |
| Island Grading and Slope Protection Maintenance | Graders, Tractors, Cranes | | 3 | | | | Heavy equipment to re-grade island and potentially add gravel. |

Notes: 1 = Transportation methods reflect maximum total estimated round trips during noted period.
 cy = Cubic yards

Source: Hanley, 1997b:Attachment 4