

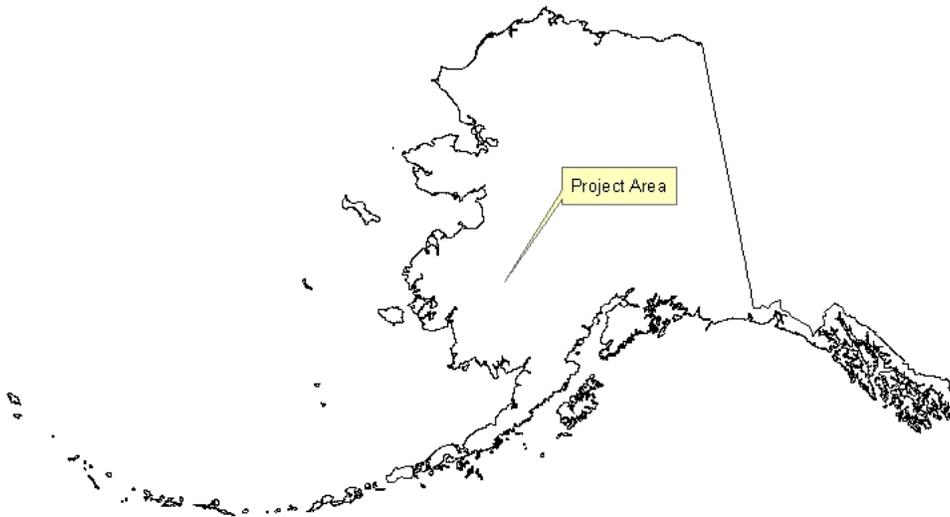


Bureau of Land Management

Anchorage Field Office
6881 Abbott Loop Road
Anchorage, AK 99507
<http://www.anchorage.ak.blm.gov>

Environmental Assessment

Donlin Creek Access Road Alternative Geotechnical Evaluation
Barrick Gold Corporation
AA-087528
AK-040-07-EA-029



Location:

Seward Meridian

- T18N, R56W, all or part of sections 7-9, 11, 12, 14-16
- T18N, R57W, all or part of sections 13-16, 19-21, 30
- T19N, R55W, all or part of sections 3, 4, 8, 9, 17, 20
- T20N, R54W, all or part of sections 2, 3, 9, 10, 16, 20, 21, 29, 30
- T20N, R55W, all or part of sections 25, 26, 34, 35
- T21N, R51W, all or part of sections 1-4, 8, 17-19
- T21N, R52W, all or part of sections 20-24, 29-31
- T21N, R53W, all or part of sections 33-36

Prepared By:

James Fueg/ Harrison Griffin

June 1, 2007

I. INTRODUCTION

The Donlin Creek Project is a feasibility study by Barrick Gold Corporation to evaluate the marketability of a mineral deposit located 12 miles north of Crooked Creek, Alaska on land owned by Calista Corporation and The Kuskokwim Corporation. Part of that analysis includes identifying ingress and egress routes that will facilitate the movement of goods, equipment and ore to and from the mine site.

A. Land Status:

The lands to be impacted by the proposed action are State and Native selected and are described as follows:

Seward Meridian

- T18N, R56W, all or part of sections 7-9, 11, 12, 14-16 (State & Native Selected)
- T18N, R57W, all or part of sections 13-16, 19-21, 30 (State Select)
- T19N, R55W, all or part of sections 3, 4, 8, 9, 17, 20 (State & Native Selected)
- T20N, R54W, all or part of sections 2, 3, 9, 10, 16, 20, 21, 29, 30 (State Selected)
- T20N, R55W, all or part of sections 25, 26, 34, 35 (State Selected)
- T21N, R51W, all or part of sections 1-4, 8, 17-19 (State Selected)
- T21N, R52W, all or part of sections 20-24, 29-31 (State Selected)
- T21N, R53W, all or part of sections 33-36 (State Selected)

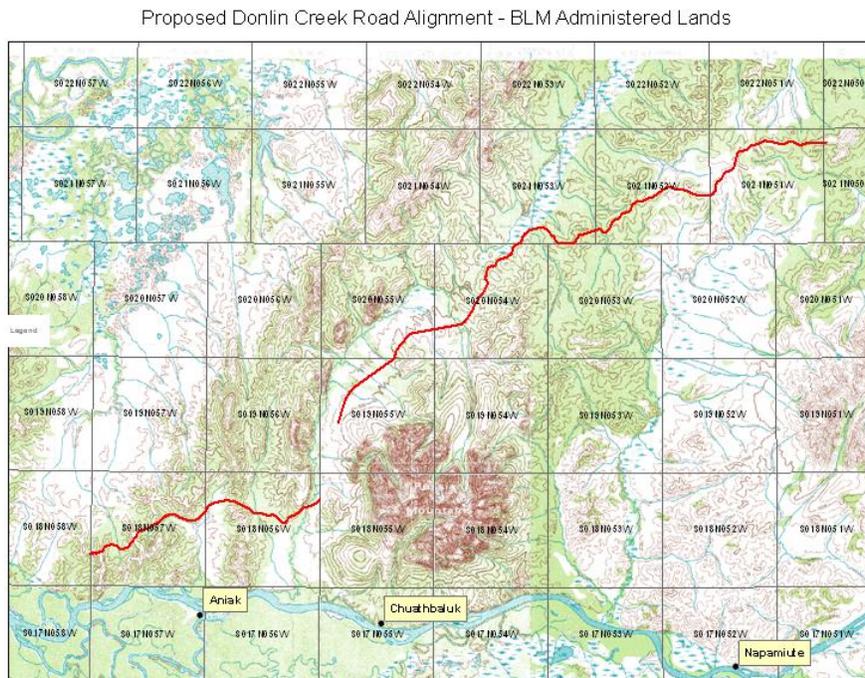


Figure 1 – Red Line is the Proposed Route

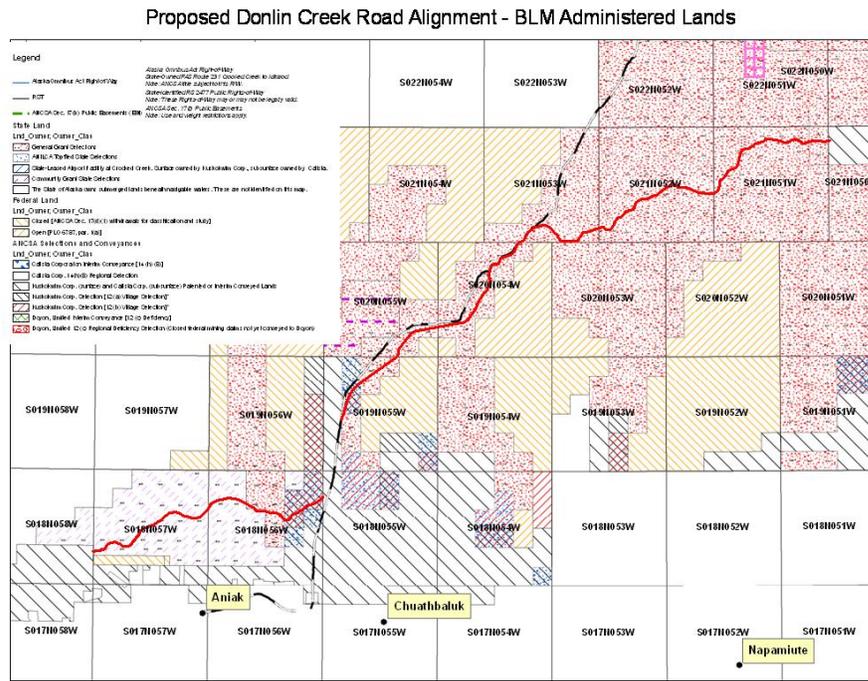


Figure 2 – Red Line is the Proposed Route

- B. Relationship to Statutes, Regulations, Policies or other Environmental Analyses:
 The Proposed Action is authorized under section 302 of the Federal Land Policy and Management Act (FLPMA) of 1976, 43 U.S.C. §§1701 *et. seq.* and the regulations found at 43 CFR Part 2920, which allow for the Secretary of the Interior to provide for the use, occupancy, and development of the public lands through the issuances of permits, easements, and rights of ways.
- C. Conformance with Land Use Plan:
 There is no Bureau of Land Management (BLM), resource management plan for the area where the road would be located. However, "... where public lands are not covered by a ... resource management plan, an environmental assessment ... plus any other data and analysis necessary to make an informed decision, shall be used to assess the impacts of the proposal and to provide a basis for a decision on the proposal." 43 CFR 1610.8 (b) (1). The following is an environmental assessment of the proposed action.
- D. Purpose and Need for the Proposed Action:
 There is no land based ingress and egress to the Donlin Creek Project mineral deposit. Development of the deposit requires ingress and egress to move goods and equipment into the site and to move ore off the site. The proposed action is to evaluate the geotechnical characteristics of a route alignment between Donlin Creek and Birch

Tree Crossing on the Kuskokwim River. (See Fig. 1)

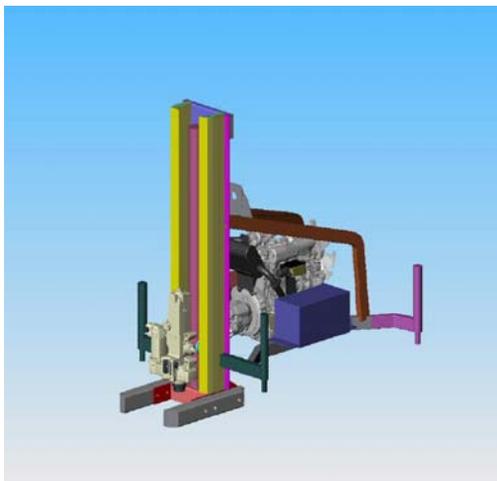
II. PROPOSED ACTION AND ALTERNATIVE

A. Proposed Action:

Barrick Gold Corporation proposes to conduct geotechnical drilling along the route depicted in Figure 1 using the following equipment and drilling specifications:

1. **Specially designed, helicopter-portable Geoprobe drill rigs, as discussed in BLM Environmental Assessment, AK-040-07-EA-011.**

- 2.125 inch holes are drilled by pushing and hammering hollow rods into the ground. No drill cuttings will be produced.
- Hole depth is variable, but will be no deeper than 20 feet.
- The holes will not penetrate bedrock.
- Holes sites will not be immediately adjacent to water bodies or streams.
- No surface disturbance/pad preparation will be required for the drilling.
- Hole locations will be flexible, allowing drills to be placed in such a way that the need to cut any surface vegetation is avoided.
- Maximum number of holes is 50, distributed over the alignment shown in Figure 1 above.
- The holes will be plugged with the drill cuttings if needed. Any remaining cuttings will be dispersed on the surface.
- No water or drilling muds will be used.



Specifications

- Weight – 2500 lb
- 29 HP diesel motor powering a 20 GPM hydraulic pump
- Onboard hydraulic fluid and fuel tanks, roughly 12 gal. each
- 54" max stroke length.
- 5' by 8' with 3 pts of ground contact roughly 1 sf each.
- Spill kit kept on rig at all times

Figure 3: Geoprobe Unit

2. Helicopter portable auger rig.

- Auger rig moved by helicopter.
- Auger hole size is approximately 8 inches.
- The hole depth will be no greater than 40 feet.
- Holes will not penetrate bedrock.
- Hole sites will not be immediately adjacent to water bodies or streams.
- No surface disturbance/pad preparation will be required for drilling.
- Hole locations will be flexible, allowing drills to be placed in such a way that the need to cut surface vegetation is avoided.
- Maximum number of auger holes is 10, distributed over the alignment shown in Figure 1.
- Holes will be plugged with the drill cuttings. Remaining cuttings will be dispersed on surface.
- No water or drilling muds will be used.



Specifications:

Weight - 4300lbs

Designed for low pressure ground disturbance

4 pads, 14" in diameter

Ground surface footprint of 154 sq. in.

Total ground pad area is 616 sq. in.

Overall ground pressure would be 7psi

Figure 4 - Auger Rig

3. Logistics

- All drill and crew moves will be by helicopter.
- A single helicopter (Astar B3) will be used to transport personnel and equipment.
- Crews will consist of three people (a geologist and two drillers).
- Crews will be in a single location for half a day on average and no more than one day per site.

- Crews will be based out of existing facilities in Aniak and Donlin Creek.
- No temporary facilities of sort will be placed in the field.
- Human waste and other refuse will be backhauled to Donlin Creek or Aniak for disposal.
- No ground transportation will be utilized.
- The rig will remain in the field at the end of each day.

4. Fuel

- Fuel will be transported using a single “flight tank” (see Figure 5)
- 110 gallons
- double walled
- self contained with pump
- spill containment lip around top of tank
- 4-point pick system for helicopter slinging
- Fuel caches – None
- Both rigs will have appropriate spill response equipment on hand.



Figure 5 Flight Tanks

All drilling will take place along the alignment shown in Figures 1 & 2. Precise hole locations will be determined in the field to allow for optimal collection of information while avoiding the need for brush clearing or other surface disturbance. Placement of the rigs should not generate significant surface disturbance. Penetration of the vegetative mat will be limited to the drill hole collars, which will be around 3.5 square inches for the 50 geoprobe holes and 50 square inches for the 10 auger holes. Overall, each drill site should cover no more than 100 square feet, for a total area of 6000 square feet.

The proposed activity would commence immediately following authorization and should take no more than one month to complete.

B. No Action Alternative:

Under the No Action Alternative, the Donlin Creek access road geotechnical evaluation will not take place. BLM would continue with current land use management practices of the lands and Barrick would need to identify an alternative road alignment.

III. AFFECTED ENVIRONMENT

A. Critical Elements

1. The following critical elements are either not present or will not be affected by the proposed action:

- Air Quality
- Areas of Critical Environmental Concern
- Environmental Justice
- Floodplains
- Invasive, Non-native Species
- Native American Religious Concerns
- Prime or Unique Farmlands
- Water Quality (Surface and Ground)
- Wetlands/Riparian Zones
- Wild and Scenic Rivers
- Wilderness

Subsistence

The lands that will be impacted by the proposed action are all selected by the State or a Native corporation. Consequently, the land does not meet the definition of “public lands” under Section 102 (3)(A) of the Alaska National Interest Lands Conservation Act and the proposed action is not subject to the subsistence provisions of Title VIII of that act.

Threatened and Endangered Species:

There is no reason to believe that:

1. an endangered or a threatened species is present in the area affected by the proposed action;
2. implementation of the proposed action will jeopardize the continued existence of an endangered or threatened species;
3. implementation of the proposed action will result in the destruction or adverse modification of critical habitat of such species;
4. implementation of the proposed action will jeopardize the continued existence of any species proposed to be listed as endangered or threatened;
5. implementation of the proposed action will result in destruction or adverse modification of critical habitat proposed to be designated for such species;

therefore, no consultation with the U.S. Fish and Wildlife Service is considered necessary pursuant to Section 7 of the Endangered Species Act of 1973, 16 U.S.C. §1536.

2. The following Critical Elements are present and may be affected by the proposed action:

- a. Cultural Resources:

At this time there are no known cultural resources along the proposed road alignment. No cultural resources surveys have been done in this area, but there are some medium to high potential areas within the Area of Potential Effect.

- b. Wastes, Hazardous and/or Solid:

There are no known solid or hazardous waste sites within the area under consideration. The activities proposed will use regulated materials which pose some risk in use, and will generate some solid and sanitary wastes.

- B. Non-Critical Elements or Other Resources:

1. Migratory Birds

The open forest and shrub habitats of the area of the proposed action provide breeding habitat for numerous species of land birds, waterfowl and raptors. These include several species of special management concern and include Grey-cheeked thrush, rusty blackbird, varied thrush, harlequin duck and trumpeter swans.

- The **Arctic peregrine falcon** (*Falco peregrinus tundrius*) is one of three subspecies of peregrine falcon. The Arctic peregrine nests in tundra regions of Alaska, Canada (Yukon, Northwest Territories, Quebec, and possibly Labrador), and the ice-free perimeter of Greenland. They use the cliffs along the Kuskokwim River for brooding and nesting (BLM 2000-2004). The bird is a long-distance migrant that winters in Latin America from Cuba and Mexico south through Central and South America. Arctic Peregrines return to the Arctic in mid-May to their nesting ledges where pair bonds are renewed. Nesting usually takes place on ledges, but there are records of nests on high, open ground in some parts of the Arctic. A clutch of 2–4 eggs is usually laid by early June in a simple scrape in the debris on the ledge; the young hatch about 33 days later. Most peregrines return to the same river bluffs and cliffs and re-use the same nest sites. The nest is a scrape or depression dug in gravel on a cliff ledge. Rarely, peregrines will nest in a tree cavity or an old stick nest. The returning young tend to nest within a few miles of their parents on the same river system. Except for the nesting ledges on rocky cliffs, the Arctic Peregrine is a bird of the wide-open tundra. Large rivers, lakes, and estuaries are their favored haunts. Peregrines vigorously defend their nests, although they may abandon them if severely or continuously harassed. Peregrine falcons, a special status species, have been de-listed from threatened and endangered status and are currently being monitored. Recovery has been enhanced through careful protection of nest sites.

- **Rough-legged hawks** typically nest in forested river-valley tundras, damp flat tundra, dry watershed tundra, and bluffs and precipitous cliff banks of tundra rivers. Their nests are found along forested and cliff habitat of the Kuskokwim River and its tributaries. Earliest arrival dates in Alaska at Seward Peninsula are late April to early May (Kessel 1989). Nest-building begins soon after arrival (Bent 1937, McEwen 1957).

- Breeding pairs of **harlequin ducks** have been documented by BLM in May 2003 in the small, fast flowing creeks of the area. Because of their preference for nesting on mountain streams, they likely inhabit the upper portions of drainages throughout Interior Alaska. During the breeding season, harlequins seek rapidly flowing streams and rivers for nesting and rearing young. However, the harlequin is also known to breed along glacial lakes, in tundra ponds, and perhaps rarely on offshore rocks in marine waters. Nesting occurs from early May to late June. Most nests are built very close to water, on the ground in dense vegetation, among tree roots, or in rock crevices, although a nest has been found in a tree cavity. By late September, females and broods have joined other

harlequins on coastal staging and wintering areas. Because of their broad range and remote habitat preferences, harlequin ducks are seldom affected by human disturbances, such as industrial activity, urban bustle, or recreation. Much of their habitat remains pristine and they are numerous in Alaska during winter. However, they can be affected by degradation of water quality and encroachment of human development in breeding streams.

2. Noise

The general area Aniak to Crooked Creek to Iditarod has been subjected to mining related disturbance since the turn of the twentieth century. Currently, the sampling area is presumed to be serene.

3. Species of Special Concern:

The greater Donlin Creek Project area offers potential habitat for two bird species listed as Species of Special Concern within the State of Alaska. Blackpoll Warblers, and Olive Sided Flycatchers (Category 2 candidate species under federal ESA) could potentially utilize various habitats within the proposed project area. No other threatened or endangered species are known to use the proposed project area.

- **Blackpoll Warbler** – The Blackpoll Warbler is listed as a species of concern in Alaska. Although it is thought to breed throughout much of Alaska, it is only listed as common in the western and southwestern regions of the state. Typically their nesting habitat is coniferous forests and low shrub thickets. There is an abundance of this habitat type within the Donlin Creek Project Area.

- **Olive Sided Flycatcher** – Like the Blackpoll Warbler, the Olive Sided Flycatcher is listed as a State of Alaska species of special concern. A steep decline in North American populations, with limited understanding of possible causes, is the basis for this listing. Olive Sided Flycatchers migrate north to breed in the boreal forests. Males return to central Alaska breeding areas in mid- to late May, with most females returning 1-2 weeks later. They remain in central Alaska through late August. Flycatchers feed from prominent perches by aerial hawking large insects, including bees, wasps, ants, and bark beetles. They nest almost exclusively on horizontal limbs of conifers, where they lay clutches of 4 eggs and raise one brood per season. Adults and young remain together for about two weeks after fledging. Very limited marking of adults indicates both breeding (by both sexes) and wintering site fidelity. Large tracts of potential habitat, including coniferous forests and riparian shorelines, occur within the Donlin Creek Project area.

4. Vegetation

The road alignment crosses a combination of upland areas dominated by black spruce vegetation, with occasional broad open areas or patches of birch, and swampy lowland areas that are covered in tussocks with scrub black spruce.

5. Wildlife

Wildlife found in the area include, moose, brown and black bear, martin, red fox, wolf, lynx, mink, river otter, weasel, snowshoe hare, beaver, rough-grouse and willow ptarmigan.

The discussion below is drawn from the report “2006 Winter Wildlife Tracking Study,” May 2006; (lead author Roger Post, retired Alaska Department of Fish and Game).

- Moose – Very few moose tracks were observed in the project area. The moose population appears to be very low in this area. The few tracks observed were in forested areas.
- Martin – Martin appear to be the most abundant species in the area. Their tracks were observed in most habitat types. They prefer forested areas, particularly old or mature spruce forests, but tracks were also found in wetland areas at moderate frequency. Tracks were least often found in more open habitats.
- Squirrels and hares – These two species appear to be the second most abundant species based on winter track studies. Tracks were observed almost exclusively in mixed wood forest and broadleaf forest.
- Fox – Fox tracks were observed at a moderately relative frequency. They were observed in most habitat types, but were observed least in wetland areas.
- Wolf – Wolf track were rarely observed. Where seen, they were generally in forested areas. They were not observed in wetland areas or other open habitat types.
- Lynx – Only a very few lynx tracks were observed. These were in black spruce forest.

- Mink, Otter, and Weasel – Tracks of these species were observed relatively rarely. Mink and otter tracks were seen almost exclusively in mixed deciduous forests that are generally found adjacent to streams. Weasels tended to be in forested areas, but the track frequency was too rare to draw firm conclusions.
- Grouse and Ptarmigan – Tracks from grouse and ptarmigan were also sparse. As expected they tended to be found in different habitats, with grouse more often in forest areas and ptarmigan in open and brushy areas.
- Black Bear and Beaver – these species are thought to occur in the project area, but were not observed in winter track studies.

Grizzly bears, wolves, bald eagles, sea otters, caribou, peregrine falcons, marten, lynx, river otters, wolverines, loons, and trumpeter swans all continue to thrive in Alaska but are uncommon or absent in much of North America.

6. Recreation

Recreation activities in the vicinity of the proposed action include highly dispersed, year-round hunting, fishing, and subsistence activities. Summer OHV and winter snow machine use mainly by residents of the area is usually associated with these activities. Infrequent flights in private and transporter aircraft over-fly the area of the proposed action.

7. Visual Resources

The proposed road alignment and drill sites occur along a linear path that traverses black spruce forest, upland shrub and tundra vegetation types typical of interior Alaska. The alignment passes from relatively flat lowland landforms through low hills approaching 1000 feet in elevation, adjacent to Russian Mountain Peaks exceeding 3000 feet. The visual resources along the alignment are essentially un-impacted and pristine.

A visual resources inventory has not been conducted for the area of the proposed action and VRM management classes have not been assigned. A preliminary inventory of the visual resources in the area of the proposed action indicate a VRM inventory class of VRM IV, with a possible VRM III area adjacent to the Russian Mountains. The objective of a VRM III classification is to partially retain the character of the existing landscape, allowing activities

that result in moderate change to the characteristic landscape. The objective of a VRM IV classification is to provide for management activities that may require significant modification to the existing landscape.

IV. ENVIRONMENTAL CONSEQUENCES

A. Impacts of the Proposed Action:

By implementing the Proposed Action minimal impact would occur within the evaluation areas. Drill units will be lifted and placed by helicopter sling loads. The units will rest on the surface for short periods of time during sampling with negligible impacts to the tundra.

1. Critical Elements:

a. Cultural Resources:

Some areas of high to moderate potential for previously undiscovered cultural resources occur within the Area of Potential Effect. Qualified contractors hired by Barrick Gold Corporation have applied for and received a permit and fieldwork authorization from the BLM to conduct survey and limited testing within this area.

b. Waste, Hazardous and/or Solid:

The proposed action has potential to negatively impact the environment:

Oil Pollution – The drilling equipment will require significant amounts of diesel fuel and lubricating/hydraulic oils. The fuel will be transported to/around the areas via helicopter external/sling-load in a 110 gallon “flight tank”. Fuel spills could occur during transfer into the equipment and by accidental damage caused by the helicopter dropping, and/or other malfunctions of the containers. Oil may spill from the equipment during operation or storage via leaks and/or mechanical breakdown; i.e. rupture of hydraulic lines, failure of engine seals, etc.

Sanitary Waste – Operators will generate human sanitary wastes during their duty day.

Solid Waste – Operators will generate some solid waste as a result of meals, equipment maintenance and repairs.

2. Non-Critical Elements or Other Resources:

a. Migratory Birds:

The proposed geotechnical evaluation will occur in areas some

distance from the Kuskokwim River and should not impact birds nesting in riparian zones along the river.

Peregrines will return to the area in mid to late April and begin establishing nesting territories. Helicopter activities near the Kuskokwim River should be minimized from April 30th to June 30th, when peregrines and other migratory birds may abandon nest sites as a result of disturbance.

b. Noise

The noise produced by daily helicopter flights from the Donlin Creek mine site or Aniak will degrade the presumed serenity of the area. It is likely that game animals such as moose will avoid the drilling area during operations. As activity in each location will be limited to one day, disturbance should be limited and the chances of wildlife displacement unlikely.

c. Species of Special Concern:

Human intrusion and development may disturb species of special concern and result in the abandonment of nests or the loss of young hatchlings.

d. Vegetation

The drills will extract 2.125" (Geoprobe) and 8" (auger) diameter samples from areas with tundra ground cover. It is anticipated that the small holes will fill in with mud and water, and will not be discernable once the drill is removed. The larger auger holes will be filled using the available cuttings from the auger rig. The amount of vegetation disturbed by the sampling will be negligible.

e. Wildlife

Impacts to wildlife will be minimized if the field crews take care to avoid any wildlife observed during operations.

f. Recreation

Impacts to recreation will be infrequent, temporary and minimal. The greatest impact will be noise associated with delivering equipment by helicopter to and from the drill sites, and noise associated with on-site sample collection.

g. Visual Resources

The impacts of the proposed action fall well within the management objectives of a VRM III or VRM IV classification. The ground disturbing impacts of the 50 sample sites will be minimal and temporary, resulting in no permanent impact on visual resources. Sample sites will be individually selected to reduce the need to cut vegetation and the drilling process will not produce surface drill-hole spoil material. Crushed vegetation from helicopter landings, equipment staging and use, and crew activities will be temporary and should recover within the growing season. No equipment storage, camping or multi-day use is anticipated at each sample site and only a small drill-hole collar will be left at each site after sampling is completed.

D. Impacts of the No Action Alternative

Under the No Action Alternative, the Donlin Creek Access Road Alternative Geotechnical Evaluation would not take place and there would be no impacts to the BLM managed lands outlined in this EA.

C. Cumulative Impacts:

The proposed action is a single event and a low level of human intrusion on the environment. Overall stress in the project area from ground operations will be minimal. The ability of the project area to recover is high. Drilling will be performed in such a manner as to minimize impacts. No surface or brush clearing will be necessary. The overall impact to the tundra will be low. Impacts to wildlife should also be minimal as there will be no more than one day's activity at any given site.

The identification of a suitable road alignment to provide access to the mine is but one variable in Barrick Gold Corporation's feasibility study of the Donlin Creek mineral deposit. It may or may not result in the development of a road, or mine development.

D. Mitigation Measures:

1. No mechanized surface access (Nodwell, 4 wheel ATV's etc.) equipment will be used.
2. Avoid drilling operations in areas where nesting birds (no human intrusion within 200 meters), or other wildlife, have been observed.
3. The alignment will be outside of the riparian zone (outer reaches of riparian vegetation) and the floodplain of the Kuskokwim River and will approach Birch Tree Crossing perpendicular to the bank of the Kuskokwim River.

4. Except when conducting sling load operations, it is recommended that helicopter altitude to and from Donlin Creek Camp shall be no less than 2000 vertical feet as per US DOT Advisory Circular AC No.: 91-36D. AC 91-36C (8)(d) also states that “This advisory does not apply where” flying at “...an altitude of less than 2000 feet AGL is considered necessary by a pilot to operate safely.”

When performing sling load operations, 14 CFR 91.119(d) (which outlines Minimum Safe Altitudes for helicopter use) states “Helicopters may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section if the operation is conducted without hazard to persons or property on the surface. In addition, each person operating a helicopter shall comply with any routes or altitudes specifically prescribed for helicopters by the Administrator.” Helicopter activity will define and adhere to flight corridors that avoid to the degree possible moose habitat to and from the proposed sites and the main Donlin Camp and maintain flight altitudes of 500 feet AGL for flights not involved with the movement of people, drill rigs, and other equipment on the sample areas as per 14 CFR 91.119(c).

5. All holes with a diameter of 2 inches or greater will be plugged to avoid mid-size and large animals from stepping into holes to avoid injury and broken legs. No casing will be installed and left in any of the holes.
6. Risk of fuel spill is greatly reduced by use of the impact resistant, double walled “flight tanks”. The drilling machine’s need to have drip pans or pads placed under them during operations and storage to prevent oil leaks onto the ground. Having on-hand appropriate spill response kits, and employees trained in emergency spill response (HAZWOPER, etc.), will mitigate any damage to the environment caused by accidental releases of oil/fuel. Solid and sanitary waste pollution will be prevented by daily backhaul of all trash, worn equipment parts, and use of a properly maintained toilet facility at the shelter sites.

V. CONSULTATION AND COORDINATION

- A. Persons and Agencies Consulted:
James Fueg – Barrick Gold
- B. List of Preparers:
Harrison Griffin – Realty specialist
James Fueg – Project Coordinator
James Moore – NEPA Coordinator