Donlin Gold Project
Environmental Impact Statement

FINAL

Scoping Report

August 2013

Submitted to:

US Army Corps of Engineers, Alaska District

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ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADNR	Alaska Department of Natural Resources
ANCSA	Alaska Native Claims Settlement Act
ANILCA	Alaska National Interest Lands Conservation Act
ATV	all-terrain vehicle
AVCP	Association of Village Council Presidents
BLM	Bureau of Land Management
BMP	Best Management Practice
CEQ	Council on Environmental Quality
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
DGWG	Dolin Gold Working Group
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ft	feet
G2G	Government-to-Government
GHG	greenhouse gases
HDD	horizontal directional drilling
HIA	Health Impact Assessment
INHT	Iditarod National Historic Trail
km	kilometer
m	meter
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
ORV	off-road vehicle
POD	Plan of Development
ROW	right-of-way
SHPO	State Historic Preservation Officer

SOC	Statement of Concern
TEKW	Traditional Ecological Knowledge and Wisdom
TSF	tailing storage facility
USFWS	United States Fish and Wildlife Service
Y-K Delta	Yukon-Kuskokwim Delta

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1.0 INTRODUCTION

1.1 SCOPING OVERVIEW

The Council on Environmental Quality (CEQ) defines scoping as an "early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action" (40 CFR 1501.7). The scoping process provides an opportunity for people potentially affected by the project to express their views and concerns and to contribute to the completeness of the Environmental Impact Statement (EIS).

The Scoping Report for the Donlin Gold Project EIS summarizes the issues, opportunities, and concerns of the public and agencies as provided during the Scoping Period and the Scoping meetings. These concerns will then be integrated into the preparation of the Draft EIS. The Scoping Report is a public document and will be posted to the project website. In addition, the second newsletter will be mailed out after the Scoping Period to provide an overview of the comments received and to invite interested stakeholders to read the full report on the website. The Scoping Report will also be included as an appendix in the Draft EIS.

The Scoping Report includes the results of the detailed scoping comment analysis as well as appendices containing materials and documents such as the Notice of Intent, sign-in sheets, the presentation, and summarized comments or Statements of Concern (SOCs). Copies of original written correspondence, telephone records, emails, and other correspondence generated to support public involvement are part of the administrative record.

1.2 PROJECT OVERVIEW

Donlin Gold, LLC (Donlin Gold) is proposing the development of an open pit, hardrock gold mine located 277 miles (446 kilometers [km]) west of Anchorage, 145 miles (233 km) northeast of Bethel, and 10 miles (16 km) north of the village of Crooked Creek. The proposed Donlin Gold Project includes land leased from the Calista Corporation (Calista), an Alaska Native Claims Settlement Act (ANCSA) regional corporation that holds the subsurface (mineral) estate for ANCSA lands in the region. In addition to the subsurface estate, Calista owns some surface estate lands in the lease area. A Surface Use Agreement with The Kuskokwim Corporation, an ANCSA village corporation, grants surface use rights. Bethel, the largest community in western Alaska, is the administrative and transportation center of the Yukon–Kuskokwim Delta (Y-K Delta).

The proposed mine and all related facilities would have a total footprint of 16,300 acres. The project applicant, Donlin Gold, predicts that the mine would mill 59,000 short tons[1] of ore per day to obtain 1.3 million ounces of gold per year over a 27.5-year mine operational life (37.5 years total including 5 years of construction time and another 5 years of reclamation time).

The Donlin Gold Project EIS will examine three major project components, including:

Mine Site

- Open pit , eventually 1,400 acres in size, providing access for mining proven and probable reserves totaling 556.5 million short tons (504.8 million tonnes), with an average grade of 0.061 ounces/short ton (2.09 grams/ton), and mill processing at a rate of 59,000 short tons per day (53,500 tonnes per day);

[1] The term short ton refers to the English measurement of 2,000 pounds. The term tonne refers to a metric measure of 2,000 kilograms.

- Waste treatment (tailings impoundment) facility eventually covering 2,350 acres with a total capacity of approximately 335,000 acre-feet (ft) (413 million cubic meters [m^3]) of mill tailings, decant water, and stormwater;
- Waste rock facility, eventually covering 2,300 acres for placement of approximately 2,460 million short tons (2,232 million tonnes) of waste rock;
- Water treatment plant with a design capacity of 2,188 gallons per minute (497 m^3 per hour) for treatment of dewatering water to permitted standards;
- Power plant with a total connected load of 227 megawatts, an average running load of 153 megawatts, and a peak load of 182 megawatts; and

- Fuel storage facility with a design capacity of 40 million gallons (15-tank farm with 2.5 M gallons per tank).

Transportation and Camp Infrastructure

- A new upriver barge landing facility at Jungjuk (8-miles downriver from Crooked Creek and 177-miles upriver from Bethel) serving as the terminus between river barge transport and road transport to the mine site, to transport approximately 37,500,000 gallons (141,952,942 liters) of fuel and approximately 100,000 tons (90,718 tonnes) of non-fuel supplies per year;
- Improvements to the Bethel port;
- Mine access road providing access between the port facility and mine site via a 30-mile (48 km) two-lane, gravel-surfaced access road, 5,000-ft long by 150-ft wide (1,524 m by 45 m) gravel airstrip approximately 9 road miles (14.5 km) west of the mine site; and
- Permanent accommodation camp located along the access road approximately 2.4 miles (3.9 km) from the mine site, for housing up to 638 people during operations.

Pipeline

- Natural gas pipeline transporting natural gas to the power plant via a 313 mile (503 km), 14 inch (35.5 centimeters) diameter buried steel pipeline originating from an existing 20 inch (51 centimeters) natural gas pipeline near Beluga, Alaska.

1.3 PURPOSE OF THE ENVIRONMENTAL IMPACT STATEMENT

In July 2012, Donlin Gold submitted a Clean Water Act (CWA) Section 404/10 preliminary permit application to the U.S. Army Corps of Engineers (the Corps). This application "triggered" compliance with the National Environmental Policy Act of 1969 (NEPA), and requires preparation of an EIS. The EIS will contain the elements required by NEPA, including consideration of issues and suggestions raised in scoping comments, analysis of the direct and indirect impacts of a range of alternatives to meet the purpose and need of the proposed action (including a No Action Alternative), analysis of cumulative impacts of the proposed action and other past, present, and reasonably foreseeable future actions, and other relevant issues.

The EIS is intended to fulfill the NEPA compliance responsibilities of the Corps, and other federal permitting agencies. It will also provide the basis for the Corps to determine whether issuing the Section 404/10 permit is contrary or not contrary to the public interest and complies with the Section 404(b)(1) Guidelines.

Federal agencies are charged with engaging in regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that may affect tribal lands and resources pursuant to Executive Order 13175 on Consultation and Coordination with Indian Tribal Governments (November 6, 2000) and the Presidential Memorandum regarding Tribal Consultation (November 5, 2009). As the lead federal agency for the development of the Donlin Gold Project EIS, the Corps is responsible for government-to-government consultation and coordination with federally recognized tribes that may be affected by the proposed project (Section 2.3). This report makes note of the Corps' initiative in convening tribal consultation. However, the information provided during these meetings is privileged between the Corps and the tribes. Therefore, the results of discussions are not described in this report.

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2.0 SCOPING METHODS

2.1 SCOPING ACTIVITIES

The Corps published a Notice of Intent in the Federal Register on December 14, 2012 to announce the intent to prepare an EIS, to describe the locations and tentative schedule for scoping meetings, and to invite suggestions on the issues to be addressed in this EIS. The Notice of Intent noted that the public comment period would conclude on March 29, 2013.

As a more widespread form of public notice, the first project newsletter was sent by the Corps in mid-December 2012 to the project mailing list of nearly 7,000 addresses, including all mailbox holders in the Yukon-Kuskokwim Delta communities. The newsletter explained the EIS process, provided a summary of the proposed project and noted how to the public could participate in developing the EIS (provided in Appendix A).

The Corps completed the formal scoping process when the scoping period closed on March 29, 2013. Comments received or postmarked through March 29, 2013 are summarized and presented in this document. To the extent practicable, the comments received past this date will be considered during the development of the EIS, but late comments are not summarized in this report. Comments received after the scoping period, but before distribution of the Draft EIS will be compiled in an Addendum and made available on the project website www.DonlinGoldEIS.com.

Several additional techniques were used to notify the public of the proposed EIS project and scheduled public meetings. Advertisements placed in the *Anchorage Daily News* ran January 3 and January 8, 2013; for a copy of the advertisement, see Appendix A. Meetings were also advertised in the *Delta Discovery* and the *Tundra Drums*. An announcement for the Anchorage scoping meeting was broadcast on KSKA public radio. Public radio announcements for meetings in the Y-K Delta and the Upper Kuskokwim River area were broadcast on KYUK and KSKO. The Corps also distributed public notices via press release, email, the project website, flyers, and the newsletter; samples of the notices are available in Appendix A. Private individuals also have posted information about the project. Non-governmental organizations were also active in notifying constituents of the project and the EIS process.

2.2 TRIBAL COORDINATION AND GOVERNMENT-TO-GOVERNMENT CONSULTATION[2]

The Corps, as the lead federal agency, has the responsibility to coordinate directly with federally recognized tribal governments during preparation of the Donlin Gold Project EIS in compliance with Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, and the Corps' Tribal Consultation Policy. There are several avenues of participation open to tribes, including through the public process, as stakeholders, as Cooperating Agencies with special expertise, and through the government-to-government relationship. This section describes activities under the government-to-government relationship between federal agencies and federally recognized tribes, which is recognized as a special relationship based on tribal sovereignty.

The Corps identified 66 tribes potentially affected by the project. Consistent with its policies concerning government-to-government consultation with tribes in the project areas, the Corps sent

[2] The phrase "tribal coordination" refers to interactions (e.g. meetings, presentation, teleconferences, e-mails, letters, etc.) at the staff level. The phrase "Government-to-Government Consultation" refers to formal meetings between Tribal Government Leadership and the U.S. Army Corps of Engineers, Alaska District Engineer (Colonel).

a letter of notification and inquiry to the 66 tribes, offering the opportunity to participate in formal government-to-government consultation, to participate as a cooperating agency, or to simply receive information about the project. In this initial letter, the Corps requested information from the tribes on the following topics: subsistence, archaeological sites, and traditional cultural properties as well as information on tribal special expertise regarding any environmental, social, and/or economic impacts.

The following is a sequence of events outlining some of the tribal coordination efforts by the Corps:

- The Corps sent letters inviting consultation on September 24, 2012. The letters included a Tribal Coordination Plan for the development of the Donlin Gold Project EIS. A copy of the letter sent is included in Appendix B, along with the list of tribal governments and a Tribal Coordination Plan.
- An initial teleconference for tribes was held on October 30, 2012. Twelve representatives from eight tribes participated.
- The Corps made a presentation to 30 tribal leaders at the Bureau of Indian Affairs' Providers' Conference on November 26, 2012.
- Another teleconference with tribes was announced through e-mail to all 66 tribes and held on December 12, 2012.
- As of April 12, 2013, the Corps has held tribal coordination meetings regarding the proposed Donlin Gold project with five tribes.
- The Corps sent reminder e-mail messages to all affected tribes on February 13, 2013 and March 25, 2013 regarding the scoping period, encouraging the tribes to submit comments before the closing date of March 29, 2013.
- Section 106 of the National Historic Preservation Act provides tribes an opportunity to include consideration of cultural and historic properties under NEPA. An initial meeting to discuss Section 106 was held on May 02, 2013.

Discussions with potentially affected tribal governments will occur throughout the EIS process.

2.3 AGENCY SCOPING MEETING

Cooperating agencies are those that have jurisdiction by law or special expertise, including tribes who request cooperating agency status.

At the outset of the EIS, the Corps began informal consultation with agencies regarding the permits that may be required to implement the proposed project. These agencies include:

- U.S. Department of Interior, Bureau of Land Management
- U.S. Department of Interior, Fish and Wildlife Service
- U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration
- U.S. Environmental Protection Agency
- Alaska Department of Natural Resources, representing the State of Alaska
- Alaska Department of Fish and Game
- Alaska Department of Health and Human Services
- Alaska Department of Environmental Conservation

The Corps received replies from the National Marine Fisheries Service and the U.S. Coast Guard declining to participate as cooperating agencies.

Tribal governments that have requested participation as cooperating agencies include:

- Akiak Native Community (passed a resolution authorizing the Kuskokwim River Watershed Council to represent them)
- Native Village of Chuathbaluk
- Village of Crooked Creek
- Village of Lower Kalskag
- Knik Tribal Council
- Native Village of Napaimute

An agency scoping meeting was held on February 6, 2013. The purpose of this meeting was to identify issues related to the permitting and consultation authorities of the cooperating agencies. The agency scoping meeting materials, including the agenda, sign-in sheets, and presentation are found in Appendix C. Cooperating agencies were asked to review and identify any additional authorizations and permits relevant to the proposed project under their permitting and consultation responsibilities.

During the meeting, the agencies presented comments from their resource specialists. Towards the end of the scoping period, the cooperating agencies provided follow-up written scoping statements to more fully identify issues related to the agencies' mandates, permitting authorities, consultation responsibilities, and special expertise.

2.4 PUBLIC SCOPING MEETINGS

The Corps strategy for the Donlin Gold Project EIS scoping meetings emphasized distribution of the meetings across the entire project area. The Association of Village Council Presidents (AVCP) region is divided into 10 sub-regions, and a scoping meeting was planned for each of the AVCP sub-regions, along with a meeting in Crooked Creek, the village closest to the mine site. The Holy Cross and McGrath areas were also sites for meetings, along with Anchorage. This resulted in a total of 14 public scoping meetings.

The Corps recognized that it is expensive for residents to travel from a neighboring village to one of the 13 host village meeting sites or to the Anchorage meeting. Plans were made for every meeting to be broadcast via teleconference, but the Corps acknowledged that more outreach and opportunity to provide comments would be better. Therefore, the Corps sought to provide additional opportunity for residents throughout the project area to participate in scoping, using several ancillary means of communication. None of these would substitute for a meeting in each community, but taking all of the tools together allowed for a wide invitation to provide comments.

A key tool was the scoping meeting newsletter, which was mailed in mid-December to each household in the Y-K Delta and a wide range of organizations and individuals on the project mailing list. The newsletter provided the project website address for more information, and included a self-mailer comment sheet. Another major tool was the project website at www.DonlinGoldEIS.com. While many residents on the Y-K Delta do not have internet access at home, nearly all of the tribal councils, cities, and village corporation offices use the web on a daily basis. Another media tool was a call-in show at KYUK radio in Bethel held in mid-January, in which the Corps provided brief remarks and then responded to comments, assisted by a translator, for nearly an hour. This radio station has a wide audience across the Y-K Delta.

The public scoping meeting dates and locations are detailed in Table 1.

Table 1: Scoping Meetings, Dates and Locations

Location	Date	Time & Place
Bethel	January 14, 2013	6:00 p.m. Yup'iit Piciryarait Cultural Center
Aniak	January 15, 2013	6:00 p.m., Aniak High School
Crooked Creek	January 16, 2013	6:00 p.m., Tribal Council Office
Anchorage	January 22, 2013	6:00 p.m., Wilda Marston Theatre
Nunapitchuk	January 30, 2013	1:00 p.m., Bingo Hall
Akiak	January 31, 2013	1:00 p.m., Community Center
McGrath	February 15, 2013	4:30 p.m., McGrath Native Village Council Office
Hooper Bay	February 26, 2013	1:00 p.m., Tribal Council Office
Toksook Bay	February 27, 2013	1:00 p.m., Bingo Hall
Quinhagak	February 28, 2013	1:00 p.m., Qanirtuuq Village Corporation Office
Saint Mary's	March 13, 2013	6:00 p.m., City Hall
Emmonak	March 14, 2013	6:00 p.m., City Complex
Holy Cross	March 20, 2013	6:00 p.m., Community Hall
Kipnuk	March 22, 2013	1:30 p.m., Kipnuk High School

The scoping meeting format and the information presented was the same at each public meeting. In addition to the Corps and EIS Team representatives, a court recorder was present to document comments in a transcript of the meeting.

During the first half hour open-house session, attendees had the opportunity to view informational posters and maps. The Corps and EIS Team representatives were available around the room to answer questions. The more formal portion of the meeting started approximately one half hour later at each meeting with a PowerPoint slide presentation. Based on prior planning discussions with community leaders, the EIS Team employed a Yup'ik language translator for the meeting where appropriate. The presentation described the proposed Donlin Gold Project and its history, introduced the EIS process, and summarized some potential areas of concern, as a basis for discussion. A public question and comment period followed.

Comment forms were available at the meetings so that attendees could submit written comments during the meeting or mail them in at a later date. Translated comments were captured in the meeting transcriptions. The translator made an effort to use specialized vocabulary that has been established to help communicate about technical mining issues in Yup'ik. A link to the scoping meeting summaries and transcripts can be found on the project website: http://donlingoldeis.com/GetInvolved.aspx.

The scoping meetings were well attended with a total attendance of 468 persons in the 14 meetings and oral comments offered by 134 persons. The EIS Team made informal outreach calls to tribal, corporation, and city leaders in the neighboring villages, as well in each host village. The purpose was to alert the leaders to the EIS project and provide information about the scoping meetings.

In addition, Donlin Gold provided travel support (charter flights or gas money for snow machine travel) to representatives chosen by the tribe, city, and village corporation in the neighboring villages, so they could attend the scoping meeting in their sub-region. For example, in the Aniak meeting, Kalskag and Russian Mission villages choose representatives who were able to attend with support from Donlin Gold. In Anchorage, representatives selected by the village of Tyonek were able to attend. In all, representatives from 21 neighboring villages were able to attend the scoping meetings held in the 14 host communities resulting in participation from 35 villages, as shown in Table 2, and displayed in Figure 1.

In addition to the public scoping meetings, the Corps responded to an invitation to provide an overview of the EIS at the Kuskokwim Area Fisheries Management Interagency Meeting on March 19, 2012. This meeting included federal and state fisheries managers as well as tribal representatives from the Kuskokwim River.

Participation in the scoping process has been widespread, with many hours of questions and testimony, along with many written submissions. Participants in the scoping meetings included elders who spoke with great passion about the values of the land, the rivers, the fish and wildlife, and the opportunities for their children and grandchildren to continue the Yup'ik way of life and the subsistence traditions. Many village leaders are very experienced in environmental management issues and spoke in detail about their concerns regarding air emissions, mercury and cyanide contamination, barge traffic, boom and bust impacts on communities, and climate change.

Table 2: Donlin Gold Project EIS Scoping Meeting Attendance

Host Village	Additional Villages	Estimated Attendance	Persons Making Comments
Bethel	Napaimute	57	24
Aniak	Chuathbaluk, Napaimute, Kalskag, Russian Mission	41	13
Crooked Creek	N/A	37	5
Anchorage	Tyonek	59	15
Nunapitchuk	Kasigluk, Atmautluak	21	6
Akiak	Kwethluk, Tuluksak, Quinhagak	36	9
McGrath	N/A	10	6
Hooper Bay	Chevak	33	7
Toksook Bay	Newtok, Nightmute	50	11
Quinhagak	Eek, Goodnews Bay, Platinum	45	14
St. Mary's	Andreafsky	22	10
Emmonak	N/A	5	3
Holy Cross	Anvik	14	4
Kipnuk	Tuntutuliak, Chefornak, Kongiganak	38	7
Totals	**35 villages**	**468 attendees**	**134 commenters**

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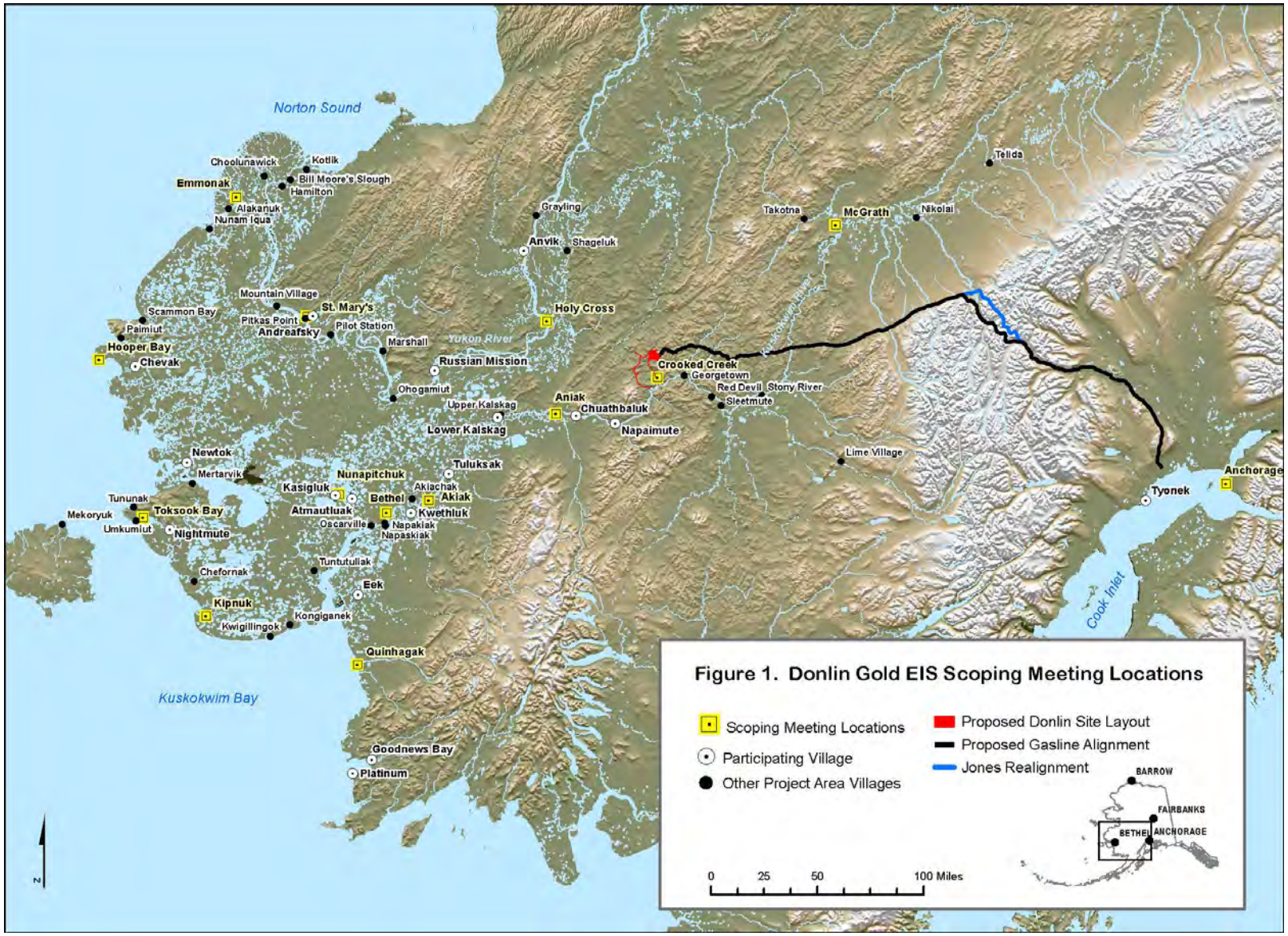
Figure 1: Donlin Gold EIS Scoping Meeting Locations



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3.0 NEXT STEPS IN THE EIS PROCESS

This section is intended to be a very broad overview of the next steps in the NEPA EIS process.

3.1 UTILIZATION OF SCOPING COMMENTS

Public comments shape the NEPA process by identifying project-related questions and issues of concern. Typically questions are in reference to: the project, existing environment, extent of temporal and spatial impacts, or potential consequences to the human environment from the proposed action. Substantive questions and issues of concern are grouped by subject matter in this scoping report. This information is used in the alternatives development process, the study of the affected environment, and in the process to analyze environmental consequences (or impacts).

3.2 DEVELOP ALTERNATIVES

Many of the scoping comments suggested alternatives in project design and operations. The EIS will examine a reasonable range of alternatives that meet the purpose and need of the project, including those identified in scoping comments. This ensures that the full spectrum of positions expressed by participants in the scoping process has been considered, as required by NEPA. The EIS will also describe alternatives that have been eliminated from further detailed consideration and not brought forward for formal analysis, along with the reasons for elimination.

The Corps and the EIS Team will develop each viable alternative, using available information and by identifying additional information that needs to be obtained in order to evaluate all of the alternatives on an equal basis. The alternatives development process occurs after the scoping comments are compiled. This step began in late spring 2013.

3.3 STUDY OF THE AFFECTED ENVIRONMENT

During scoping, the public identified many issues and concerns to be addressed in the EIS. With Corps oversight, the EIS Team will review and summarize available baseline information to address these issues and concerns. The summary will include baseline studies conducted in the project area, agency data regarding key resources, published and unpublished scientific literature, and Traditional Ecological Knowledge and Wisdom. This information will be presented in the *Affected Environment* chapter of the EIS. This step is scheduled to begin mid-2013.

3.4 ASSESS ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

The Corps and the EIS Team will evaluate potential environmental consequences of the applicant's proposed action and the alternatives carried forward for analysis, including direct, indirect, and cumulative effects. We will address regulatory requirements associated with federal, state, and local agency permits in the analysis of potential effects. This step will be conducted after the range of alternatives and the baseline conditions of the affected environment are identified. Scoping comments related to potential project impacts are considered in this stage.

3.5 ISSUE THE DRAFT EIS

The Corps will release a Draft EIS, which will be available for review by the public, tribal governments, local, state, and federal agencies. The Draft EIS will be available for a 90-day review after the Notice of Availability has been published in the *Federal Register*. The Corps will hold public meetings, to offer an opportunity for public comment on the Draft EIS. Currently, the public comment period is estimated to occur from August to November 2014. Public meetings for the

Draft EIS would be held during that period. To the extent possible, meeting dates will be arranged with consideration of local seasonal schedules.

The Draft EIS will include a specialized analysis of potential impacts to subsistence resources and harvests, as required under Section 810 of Alaska National Interest Lands Conservation Act (ANILCA). If that analysis finds that the proposed action would significantly restrict subsistence uses, (as defined by the Alaska National Interest Lands Conservation Act (ANILCA) then Section 810 subsistence hearings would also be held in the affected communities. The Section 810 Subsistence hearings are typically conducted in conjunction with the meetings on the Draft EIS.

3.6 ISSUE THE FINAL EIS AND RECORD OF DECISION

After analyzing public comments received on the Draft EIS, the Corps and the EIS Team will revise the document to prepare a Final EIS. The Final EIS will include the comments submitted on the Draft EIS, including changes made to the EIS in response to comments. This step will include public notice of document availability, the distribution of the document, and a 30-day comment/waiting period on the final EIS. This step is projected to take place in late-2015.

The Corps will strive to meet the NEPA requirements of the federal cooperating agencies in this EIS process. The federal cooperating agencies may each issue a separate Record of Decision. The issuance of the Record(s) of Decision will conclude the EIS process in late 2015. Each Record of Decision will identify the preferred alternative, as well as the agency's rationale for its conclusions regarding the environmental effects and appropriate mitigation measures for the proposed project.

4.0 SUMMARY OF COMMENTS RECEIVED

4.1 ISSUES IDENTIFIED DURING SCOPING

Public scoping comments regarding the Donlin Gold EIS were received as oral and written testimony at the public scoping meetings, and as written comments received through the project website, mail, email, and fax. Comments were submitted by individual citizens as well as groups including: federal agencies, tribal governments, state agencies, local governments, businesses, special interest groups and non-governmental organizations.

This section of the scoping report summarizes the issues identified in the scoping comments. Appendix D provides an index of agency and public scoping comments. The complete text of public comments received is included in the Administrative Record for the EIS and in Appendices E and F.

There were a total of 169 unique "submissions" received by the Corps during the scoping period. The term submission refers to the entirety of oral testimony at a public meeting, a letter, an e-mail message, or a fax transmission. Of these submissions, 13 are transcripts from the public scoping meetings, during which a total of 134 people provide provided their oral comments. Most submissions include many "comments," a term which refers to each of the discrete concepts conveyed in a submission. The EIS Team assigned issue category codes to each comment, based on the content of the comment. The issue categories and codes are listed in Table 3. The EIS Team then grouped the issues by general topics, including environmental effects, purpose and need, proposed action and alternatives, and regulatory compliance.

Table 3: Donlin Gold EIS Scoping Issue Category Codes

Group	Issue Category	Issue Code
Process: NEPA, Permits, this EIS, Consultation and Coordination	Legislative and Regulatory Process	LEG
	Cooperating Agencies	CAP
	Public Involvement and Scoping	PUB
	Government-to-Government	G2G
	NEPA Process	NEP
Purpose and Need	Purpose and Need	P&N
Proposed Action, Alternatives, and Mitigation Measures, Monitoring	Proposed Action and Alternatives	PAA
	Mitigation Measures	MIT
	Bonding, Escrow, Restoration and Reclamation	BER
	Monitoring	MON
	Plan of Development	POD
Affected Environment: Comments about each resource, and Environmental Consequences: Potential direct, indirect and cumulative impacts	**PHYSICAL**	
	Air Quality	AIQ
	Acid Rock Drainage	ARD
	Barge Issues	BARG
	Climate Change	CLIM
	Fuel Spill Risks/Release	FSR

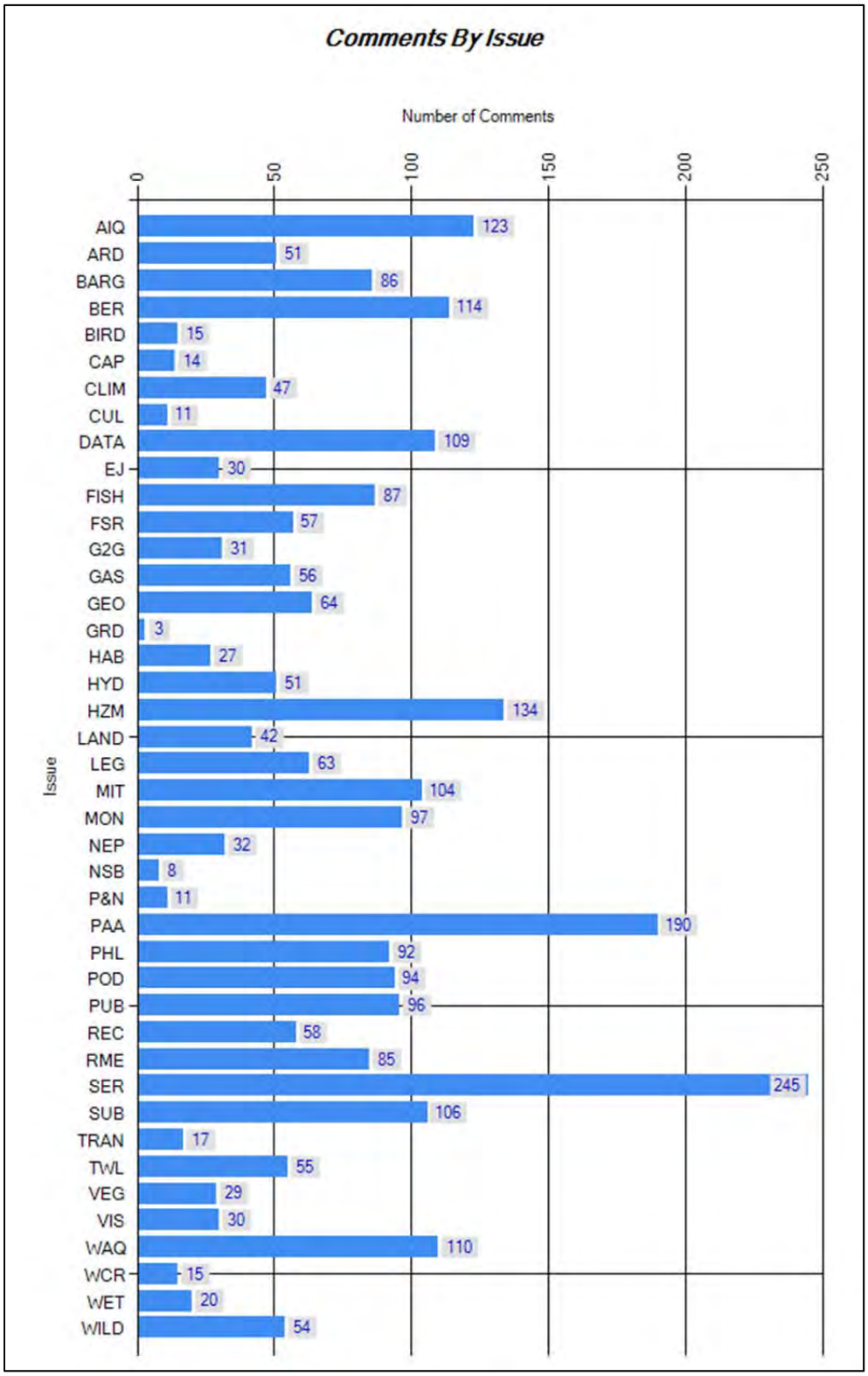
Group	Issue Category	Issue Code
Affected Environment: Comments about each resource, and Environmental Consequences: Potential direct, indirect and cumulative impacts	**PHYSICAL continued**	
	Geology	GEO
	Groundwater Impacts	GRD
	Hazardous Materials	HZM
	Hydrology (surface water)	HYD
	Water Quality and Quantity	WAQ
	BIOLOGICAL	
	Birds - Impacts	BIRD
	Fish - Impacts	FISH
	Habitat	HAB
	Vegetation	VEG
	Wetlands and Aquatic Communities	WET
	Wildlife Impacts	WILD
	SOCIAL	
	Archeological/Cultural Resources	CUL
	Environmental Justice	EJ
	Land Ownership, Management and Use	LAND
	Natural Gas Supply	GAS
	Public Health	PHL
	Recreation	REC
	Socioeconomic Impacts	SER
	Subsistence	SUB
	Traditional Culture and Way of Life	TWL
	Transportation	TRAN
	Visual Resources	VIS
	Wilderness Characteristics	WCR
General	Data and Available Information	DATA
	Non-Substantive Comment	NSB
	Research, Monitoring, and Evaluation Needs	RME

Among the scoping comments received, some issues were raised more frequently than others. A key purpose of scoping is to "determine the scope and the significant issues to be analyzed in depth in the environmental impact statement (40 CFR 1501.7). Significant issues can be raised by just a few comments or by many commenters. It is the significance of the issue and not the frequency of the comment that determines how it should be addressed in the EIS. Figure 2 is a bar graph that organizes the number of comments by comment category; it is just one tool to demonstrate the extent of public concern.

The EIS Team read and analyzed all submissions for substantive comments. We assigned substantive comments a single ***Issue Code*** in the Comment Analysis System database. For example, a comment would be coded "HYD" because it relates to hydrology. Each comment entered in the database also received an automatic tracking number (Comment ID) by the Comment Analysis System database. For example, a letter from Crooked Creek Traditional Council was Submission 21 and it contained a total of 25 individual comments, each of which received a Comment ID number.

This scoping period generated 2,763 coded comments, which were then sorted to cluster those comments making a common point. Similar comments were summarized into ***Statements of Concern*** (SOCs) and are included in Section 4.2. The term SOC refers to a summary statement that captures the common point of several related substantive comments. Every substantive comment was assigned to a SOC based on its content. When related comments are summarized together, a total of 444 SOCs resulted. Each SOC is represented by an issue category code followed by a number (for example, "HYD 1"). The Corps will use the SOCs to identify issues, alternatives, and mitigation measures to be analyzed in the EIS.

Figure 2: Donlin Gold EIS Scoping Comments by Issue [Revised 6/25/13]



Air Quality (AIQ)
Acid Rock Drainage (ARD)
Barge Issues (BARG)
Bonding, Escrow Restoration & Reclamation (BER)
Bird – Impacts (BIRD)
Cooperating Agencies (CAP)
Climate Change (CLIM)
Archeological/Cultural Resources (CUL)
Data & Available Information (DATA)
Environmental Justice (EJ)
Fish – Impacts (FISH)
Fuel Spill Risks/Release (FSR)
Government-to-Government (G2G)
Natural Gas Supply (GAS)
Geology (GEO)
Groundwater Impacts (GRD)
Habitat (HAB)
Hydrology (surface water) (HYD)
Hazardous Materials (HZM)
Land Ownership, Management & Use (LAND)
Legislative & Regulatory Process (LEG)
Mitigation Measures (MIT)
Monitoring (MON)
NEPA Process (NEP)
Non-Substantive Comment (NSB)
Purpose & Need (P&N)
Proposed Action & Alternatives (PAA)
Public Health (PHL)
Plan of Development (POD)
Public Involvement & Scoping (PUB)
Recreation (REC)
Research, Monitoring & Evaluation Needs (RME)
Socioeconomic Impacts (SER)
Subsistence (SUB)
Transportation (TRAN)
Traditional Culture and Way of Life (TWL)
Vegetation (VEG)
Visual Resources (VIS)
Water Quality and Quantity (WAQ)
Wilderness Characteristics (WCR)
Wetlands & Aquatic Communities (WET)
Wildlife Impacts (WILD)

Notes: Comments received on the Plan of Development (POD) by BLM were coded but are not included in the Statements of Concern.

4.2 STATEMENTS OF CONCERN

ACID ROCK DRAINAGE (ARD)

Comments regarding risks of acid rock drainage from mine project components, including the waste rock facility. Composition of the contaminants, drainage, leaching, and pathways for acid rock drainage. Acid rock drainage is a potential source of impact on many resources, such as water quality, wetlands, fish, and subsistence food resources. Additional discussion is found under these resources.

Category Code	Description
ARD 1	The Donlin Gold Project Draft EIS should fully analyze impacts resulting from acid rock drainage, waste rock, and leaching to the following: • Fish and other aquatic life; • Water quality, groundwater and surface water; • Subsistence resources and activities; and • Public health.
ARD 2	The Draft EIS should describe in detail how acid rock drainage, the tailings, and metals leaching would be treated post-closure and in perpetuity. Specifically, how would water be prevented from entering the tailings? Commenters suggest alternative engineering plans that eliminate the need for water treatment beyond a ten year post-reclamation period. "The Draft EIS should analyze scenarios where site water is not treated prior to discharge, model how far downstream acid mine drainage and metal impacts would extend, and evaluate severity of potential impacts on the environment."
ARD 3	The Draft EIS should describe the treatment of waste rock and contaminated water, and how it would be prevented from leaching into nearby waterbodies. Specifically, commenters have the following questions, concerns, and suggestions: • What is the blending technique for waste rock to neutralize acid generation? What are the requirements and how would they be met over time? • How many liners would be used in the tailings pond, and how long do they last? • During post-reclamation, what happens if the tailings pond overflows due to heavy precipitation? • One commenter suggests that acid producing waste rock and tailings should be made into a solid mixed with cement and layered with clays. • "Evaluate and model potential rates and volumes of infiltration/seepage from mining facilities into groundwater and surface waters" and describe how these releases would affect surface and groundwater quality.
ARD 4	The following monitoring plans and mitigation measures are suggested: • Develop acid rock drainage and metal leaching testing plans, including a schedule and timeframe; these should be conducted during trenching also; • Test open pit mine lithologies regularly during the life of the mine, and during closure and reclamation; • Consider "adding a thicker, denser impoundment cap to the tailings pit to reduce oxygen flux, slow down oxidation of the tailings, and reduce hydraulic conductivity and water movement down through the tailings";

Category Code	Description
	• To reduce the potential of acid rock drainage and metal leaching, evaluate possibility of mixing amendments to the tailings; • To minimize infiltration/seepage, consider the use of a geo-membrane liner for the waste rock facility; • Consider putting liners on tailings storage facilities as a mitigation measure to prevent leaching of contaminants into water systems during construction; and • Monitoring plans should be implemented to regularly test groundwater and surface waters for acid rock drainage and metal leaching.
ARD 5	The Draft EIS should describe what would be done with waste rock resulting from pipeline construction. Also, analysis should be conducted along the right-of-way (ROW) to determine whether trenching could result in acid rock drainage or metal leaching into nearby surface and groundwater.
ARD 6	Commenters are concerned about containment of the tailings during earthquakes.
ARD 7	Commenters request that the Draft EIS provide information that is easily accessible to readers without subject matter expertise, particularly sections regarding acid rock drainage.
ARD 8	Commenters note the Waste Rock Management Plan lacks sufficient detail regarding the samples used to conduct the analysis. The Draft EIS should describe how these samples were selected and evaluate their effectiveness. Equal emphasis should be given to identifying hazardous materials as profitable materials. As such, the geology and geochemistry of the mine site should be fully characterized, as well as the pipeline ROW. The Draft EIS should include a characterization of the ore and waste rock and mine tailings for potential acid rock drainage and metal leaching. This should be conducted prior to construction and operations, throughout the life of the mine, and during mine closure and reclamation.
ARD 9	With regards to acid rock drainage and metal leaching, the Draft EIS should discuss regional mineralization and existing gold deposits and mine projects in Alaska as site analogs for evaluating and comparing the proposed project. This includes historic and present gold mining projects. For example, compare the ore, waste rock, and tailings characterization of the proposed project to other existing gold mines in Alaska such as Fort Knox, Pogo, Nixon Fork or Kensington.
ARD 10	Commenters referencing the Waste Rock Management Plan believe that categorizing the waste rock as “Potentially Acid Generating” or “Non Acid Generating” was done incorrectly and request that this topic be revisited. They suggest agencies should review this determination to insure that the determination between the potentially- and non-acid generating waste rock is conservative and would not constitute a potential long-term risk of the rock going acid.

AIR QUALITY (AIQ)

Comments and concerns regarding impacts to air quality from construction, fugitive dust emissions, vehicle equipment emissions and mining activities (mercury dust). This includes concern for effects on climate change.

Category Code	Description
AIQ 1	Air quality is a major concern among commenters. The Donlin Gold Project Draft EIS should fully analyze the impacts from changes in air quality resulting from project construction, operations, maintenance, and reclamation/closure. The direct, indirect, and cumulative impacts on the environment and human health should be discussed. The Draft EIS should include an air quality assessment for comparing the existing baseline air quality conditions with the air quality during the project, at all phases, including all equipment, and considering of winter and summer conditions. Any pollutants not considered in the analysis should be discussed, including the reason for their omission and why they are not expected to contribute to impacts. More specifically, this analysis should include: • Current air quality conditions and data in the proposed project area; • Discussion of how the air quality data would meet the Environmental Protection Agency's (EPAs) Prevention of Significant Deterioration collection requirement for new major sources of air pollution; Prevention of Significant Deterioration requires installation of the best available control technology, an air quality analysis, and additional impacts analysis, and public involvement; • Surrounding topography, pollutant transport and dispersion, and secondary formation of air pollutants; • Local knowledge regarding wind patterns that could affect air quality; • Impacts to natural resources, ecosystems and human communities, including critical habitats, wildlife refuges, sensitive wetlands and waterbodies, water resources, archeological or cultural resources, and threatened and endangered species; • Estimated emissions from barge activity; • Evaluation of whether air quality data used for background levels is truly representative; and • Detailed mitigation and monitoring plans to reduce impacts from emissions.
AIQ 2	The air quality analysis in the Draft EIS should include maps, diagrams and other visuals. Commenters suggest the following: • Map illustrating baseline air quality data, including all locations and elevations of past and present air quality data collection stations; • Flow diagram showing location of control technologies and where mercury monitoring would occur, amount of mercury captured, and how much mercury would be released from the mill exhaust stack; • Map showing the spatial or airshed boundaries of the project definition of ambient air; • Facility layout showing the ambient air boundary, location of all emission sources, buildings, and structures; include a north arrow and scale; • Graphics/isopleths to display locations of predicted emissions concentrations; also provide tables summarizing data and model results; and • Map illustrating air quality modeling domain (ambient air boundary, near field, far field, sensitive receptor locations, etc.).

Category Code	Description
AIQ 3	The Draft EIS should summarize existing air quality classifications and background concentrations (including those in Cook Inlet) and evaluate whether the proposed project would have adverse effects on Class I Areas identified under the Clean Air Act, and develop mitigation measures to minimize impacts. Also, the Draft EIS should discuss the proposed project's air quality designations, if any (i.e. attainment, non-attainment or unclassified), and describe the implications of the current Class II designation for the project area. Proximity to the Beluga Gas Field and Tuxedni Wilderness Area is a Class I Area, as well as any sensitive federal lands near the construction corridor for the pipeline. The Draft EIS should clarify the status of existing permitted sources of air pollution, such as AQ0934ORL01 for the Donlin Gold project.
AIQ 4	The Draft EIS should include an air emissions inventory to account for all sources and quantities of air pollutant emissions from all phases and aspects of the project including construction, operation, maintenance, and reclamation/closure. Emission sources should include all support activities, and specific geographic areas for certain timeframes. Schematics and diagrams should be part of the analysis. Sources analyzed should be both stationary and mobile (e.g. diesel engines, turbines, aircraft, marine vessels and barges, pipeline, and fugitive road dust). Sources of potential gas flaring should be identified and the system for gas flaring for the pipeline should be discussed. Air emissions associated with the source of gas flaring should be evaluated. Furthermore, the receptors for air emissions should be identified (i.e. nearby schools, hospitals, etc.) and discussed, including the various pathways of exposure. All air emission inventory data should meet the National Ambient Air Quality Standards and/or state standards. Applicable air quality laws, regulations and permits should be discussed, and monitoring data that indicates any air quality violation should be recorded.
AIQ 5	Air quality modeling should be conducted to determine if the proposed project would have adverse impacts on the environment. The type of modeling should be discussed, along with associated calculation methodologies and assumptions of emission rates (including operating hours, fuels, heat input, etc.). The Draft EIS should provide stack parameters for point sources (height, temperature, exit velocity, and diameter), and conduct and provide a Good Engineering Practice stack height analysis. Commenters also suggest the following: • Identify representative meteorological data that would be used with the Environmental Protection Agency (EPA) guideline or non-guideline model; this would help with predicting project compliance with air standards and project concentration impacts during all phases of the project; • Consistent with the Bureau of Land Management (BLM) requirements, conduct an Air Quality Related Value analysis; • Address secondary formation of ozone and PM2.5 (i.e., sulfates, nitrates and volatile organic compounds); and • Discuss pathways for mercury air emissions from the mine, including mercury speciation; identify mitigation and monitoring techniques.
AIQ 6	A detailed air quality assessment should be included in the Draft EIS, and made public before the comment period begins for the Draft EIS. It should include the following: • A list of project specific Hazardous Air Pollutants emitted, including estimated quantity, and the mobile and stationary sources; • A comparison of project emissions to the National Emissions Standards for Hazardous

Category Code	Description
	Air Pollutants; • National Ambient Air Quality Standards and estimates of PM2.5 and PM10 (particulate matter) during all phases of the proposed project; • Fugitive dust emissions and impacts on human health, including sensitive populations such as children and elders; • Emissions resulting from pipeline construction and equipment, and associated impacts to people in local communities and construction camps; • Potential for plumes; • Separate analysis of releases and emissions; • Prevailing winds and potential for emissions to spread; and • Detailed mitigation and monitoring plans, and closure plans if hazards become too high.
AIQ 7	Environmental and human impacts need to be discussed with regards to fugitive dust. Commenters suggest analyzing the following: • Impacts to subsistence resources including fish, moose, caribou, berries and greens; • An estimate of number of vehicles and miles traveled; • How far dust would travel; • Impacts to water quality, particularly that of the Kuskokwim River; • Public health impacts; and • Climate change and resulting effects on snow pack.
AIQ 8	Impacts from mercury contamination are of great concern to commenters. The Draft EIS should fully analyze impacts from mercury throughout the life of the project, including construction, operation, maintenance and reclamation/closure. The amount and physical/chemical form of mercury captured should be discussed. The analysis should include all environmental and human impacts. Commenters suggest including the following: • Quantification of baseline mercury emissions from natural landscape; • Discussion of how the proposed project would meet National Emission Standards for Hazardous Air Pollutants, including mercury air emission limits and monitoring requirements; • Characterization of the amount of mercury in the ore; • Description of proposed mercury abatement process and control technologies; include discussion of how new mercury air emission limits would be met; • Efficiency of the proposed mercury capture system and amount of air emissions from the mill exhaust stack; • Predicted timing of mercury emissions; • Amount of mercury and risk of fugitive mercury emissions in tailings storage facilities, waste rock storage facilities, as well as non-thermal sources; • Storage and transportation of mercury; identify authorized mercury recyclers; • Assessment based on identified and quantified point and nonpoint sources of mercury emissions; also identify and quantify receptors; • Wind erosion of mercury-enriched particles; • Evaporation and precipitation and impacts to surrounding resources; • Impacts to subsistence resources including fish, moose, caribou, berries and greens;

Category Code	Description
	• Public health impacts; • Prevailing winds; • Potential for emissions to spread; and • Detailed mitigation and monitoring plans to reduce mercury release and contamination, and closure plans if mercury levels become too high.
AIQ 9	Construction camp incinerators should be used in accordance with Best Management Practices (BMPs) and according to standard operating procedures to minimize emissions.
AIQ 10	The Draft EIS should describe the process of evaporation and condensation with regards to mine facilities and materials. Impacts to environmental resources need to be discussed, such as impacts to berries and plant life resulting from contaminated precipitation.
AIQ 11	The pipeline would significantly reduce toxic emissions and provide cleaner-burning fuel.

ARCHEOLOGICAL/CULTURAL RESOURCES (CUL)

Impacts to archeological and cultural resources subject to Section 106 of the National Historic Preservation Act as a result of construction, operation, and closure of the project components of the mine site, transportation infrastructure, and pipeline.

Category Code	Description
CUL 1	During construction, it is important to be mindful of burial grounds or objects of cultural patrimony as they are significant and of interest to the affected Alaska tribes. This also includes historic trails and access routes, traditional hunting and fishing campsites, and food cache sites. Discovery of archaeological and cultural resources are to be included in Section 106 tribal consultations with affected tribes.
CUL 2	As part of the Donlin Gold Project Draft EIS process, the responsibility of Donlin Gold, LLC to avoid adverse impacts on cultural resources and local cultures should be considered, including their past work record during the exploration and baseline study phases.
CUL 3	The Draft EIS should include detailed analysis of impacts to cultural and historic resources resulting from the development of material sites.
CUL 4	The Draft EIS should evaluate the Alaskan historical and traditional significance of the project area. As such, the Alaska State Historic Preservation Officer should be consulted regarding use of archeological and cultural resources in the proposed project area. This includes resources used for subsistence fishing, hunting, trapping and harvesting, cultural activities and migration routes. Direct, indirect, and cumulative impacts to these resources should be addressed.
CUL 5	The pipeline route should avoid known archaeological and cultural resources. For example, the proposed pipeline route could contribute to solar thaw which impacts historic trails.
CUL 6	The Draft EIS should analyze the potential impacts to cultural sites along the Kuskokwim River due to erosion resulting from increased barge traffic.

BARGE ISSUES (BARG)

Comments related to concerns about the effects of increased barge traffic from all project components and phases. Impacts include erosion of riverbanks from barge traffic; effects on habitat and fish and wildlife; and impacts on subsistence and commercial fishing, as examples. This category include concerns about the feasibility of the proposed barging activity, in light of current variation in water levels, as well as those changes projected to result from climate change.

Category Code	Description
BARG 1	The Donlin Gold Project Draft EIS should include or address the following barge issues and concerns raised during scoping: • Provide a detailed transportation route for barge activity; • Include the number of barge trips that would occur daily, and how much of an increase this would cause to current traffic on the river; • Potential for navigational issues through narrow or shallow parts of the river; • Dredging that may occur (including locations) and associated impacts; a dredging plan should also be developed; • Details about how barges would adjust to varying water levels and the need to dredge the Kuskokwim River to maintain navigability; • Details about barge speed and wake; • Baseline condition of riverbanks; • Alternative means of transportation when the river would not allow for barges; • Specify the size, weight, and draft limits for the barges, as well as the minimum clearance to the river bottom required for the barges; and • Length and width of each barge tow.
BARG 2	Barge impacts should be mitigated (i.e., avoided and minimized) to prevent harm to the environment. Commenters suggest using new or newer barges, as there have been accidents with older barges in the past in Alaska. Also, residents along the river request that barges pass on the opposite side of the river to prevent erosion where they have fish camps, as well as damage that can occur to boats anchored in the river. Commenters noted that it is important to have boats anchored in the river in case of emergency, and that barge traffic often pushes boats against the shoreline, causing damage.
BARG 3	The Draft EIS should analyze direct, indirect, and cumulative effects on fish, wildlife, habitat, and subsistence as a result of the following physical impacts resulting from increased barge and port activity: • Water flow and turbidity, river bank erosion, and erosion of soils caused by barge traffic and dredging; • Aquatic habitat, currents, circulation patterns, and tides throughout the fuel and cargo transport zones to determine areas of potential impacts on other resources; • Impacts from the construction and operation of the barge landing; • Effects of potential ice breaking associated with ship traffic in winter and spring; • Climate change may increase the rate of thaw of permafrost thereby increasing rates of erosion.

Category Code	Description
BARG 4	The Draft EIS should analyze and discuss biological impacts to the following as a result of barge activity (including the potential for increased sedimentation due to dredging and construction of ports): • Fish and other wildlife habitat and migration, particularly salmon and spawning beds; • Vegetation along the river; • Marine mammals, marine life, resources and uses; and • Migratory birds.
BARG 5	The Draft EIS should analyze and discuss social impacts to the following as a result of increased barge activity: • Subsistence and commercial fishing, • Other subsistence resources and activities; • Visual impacts resulting from barge traffic on the river; • Cultural and archaeological sites along the river (natural processes of erosion are already damaging some sites); and • Potential for local residents needing to relocate due to physical impacts, and funding of such scenarios.
BARG 6	Commenters request information related to Emergency Response Plans. Specifically, local residents wanted information regarding whether Donlin Gold, LLC would provide funding to local communities along the river to help assist with potential barge impacts, such as grounding, hull breaches or sinking of barges.
BARG 7	Accidents and spills related to barge activity should be addressed in the Draft EIS including the potential harm to the environment as a result of a barge accident or spill and potential effects to the way of life for local Alaska Natives, such as subsistence activities. A detailed plan to prevent these accidents and spills, and measures taken to clean up such scenarios, should be included in the Draft EIS.

BIRDS - IMPACTS (BIRD)

Comments related to potential impacts to migratory birds and waterfowl populations, abundance, diversity, migratory patterns and potential for displacement from project components. Attraction of birds to tailing ponds.

Category Code	Description
BIRD 1	The Donlin Gold Project Draft EIS should address the effect of the project on birds that are used for subsistence, including ptarmigan and migratory waterfowl. It should describe whether contaminants from the proposed mine could be picked up by birds. The Draft EIS should address impacts to nesting birds, such as waterfowl potentially affected by riverbank erosion from the barge traffic and tundra nesting birds along the proposed pipeline route. The Draft EIS should describe the potential for migratory waterfowl to distribute contaminants off site from the holding pond and any plan for prevention of vectors.
BIRD 2	The Draft EIS should analyze the potential risk of bird strikes with wind turbines, towers, transmissionlines, or other above ground infrastructure. Such structures should be evaluated for potential bird collisions during spring and fall migration when larger numbers of birds are at risk.
BIRD 3	The Draft EIS should identify the presence of bald or golden eagles or their nests in the proposed project area (including the natural gas pipeline ROW) and analyze potential impacts of the proposed project on both species. Determine if the proposed project would result in removal of nests, loss of habitat, or disturbance of birds which may require an Eagle Take Permit under the Bald and Golden Eagle Protection Act administered by the U.S. Fish and Wildlife Service.
BIRD 4	The Draft EIS should address the potential impacts on birds from the following project elements: • Impacts of water quality in impoundments on migratory birds; poor water quality could negatively impact migrating waterbirds, especially if impoundments attract birds and are used as roosting or staging sites. • Impacts of the project on the 12 bird species of conservation concern known to use the proposed project facility area (mine site) (Table 1 [attached to USFWS comments submitted during scoping for this Draft EIS]). Consider that whimbrel and olive-sided flycatcher breed at higher densities near the mine site compared to other areas in Alaska and that the proposed mine site and the surrounding area may be of regional importance in supporting populations of these species. • Impacts of the proposed project on the 26 bird species of conservation concern that are found in the project planning area (transportation corridor) (Table 1 [attached to USFWS comments submitted during scoping for this Draft EIS]). Consider that many birds breed at high densities or occur in large migratory concentrations down river of the mine facility, often in concentrations of regional or global significance. Thus, downstream impacts of contamination from mine activities or transport of fuel could have significant impacts on regional or globally important bird habitat. These impacts have the potential to influence migratory bird subsistence resources of the area, which have an important role in the culture of the region. • Impacts of blasting and explosive use, particularly during the breeding season; describe the magnitude and timing of explosives use, and analyze avoidance and minimization measures such as seasonal timing restrictions.

Category Code	Description
	• Potential effects from increases in mercury and other toxic chemicals from mine activities considering the following information from the USFWS: Mercury levels are already elevated in fish in the middle Kuskokwim River (Matz 2012). Northern wetlands are hotspots for converting mercury into toxic methyl mercury. Many bird species found in the area are prone to toxic mercury exposures through methylation and bio-magnification of mercury in wetland systems. Bird species such as bald eagles, loons, swallows, and even rusty blackbirds have been found to be exposed to high levels of methyl mercury in other parts of their range either from atmospheric deposition or point sources (Evers et al. 2005, Edmonds et al. 2010). Thus, even small to modest increases in mercury in the area from the mine may increase mercury exposures in birds to levels which reduce survival and reproductive success. • Potential impacts associated with organic waste. Describe how organic waste would be managed to reduce attracting scavengers. • Potential impacts from shipping disturbance and potential fuel contaminants considering that the proposed route from Dutch Harbor through Bristol Bay to the Jungjuk port site has the potential for fuel spills that could have significant impacts to migratory birds. The Draft EIS should report that large numbers of sea ducks, particularly black scoters, long-tailed ducks, and common eiders, use Kuskokwim Shoals. In the fall, mudflats are used by godwits and other shorebirds, as well as thousands of foraging northern pintails. The coastal area from the mouth of the Kuskokwim River to the south side of Nelson Island is the most important area for fall staging shorebirds on the west coast of North America. It supports hundreds of thousands, if not millions, of shorebirds, including virtually the entire North American-breeding population of bar-tailed godwits that stage there before flying non-stop to New Zealand and Australia.
BIRD 5	Incorporate vegetation-clearing timing windows in the Draft EIS to minimize the project and effects on migratory birds. This website should be reviewed in preparation of the Draft EIS: (http://alaska.fws.gov/fisheries/fieldoffice/ anchorage/pdf/vegetation clearing. pdf)

BONDING, ESCROW, RESTORATION AND RECLAMATION (BER)

Comments related to reclamation activities, bonding, and setting up escrow fund for restoration. Mechanisms for treatment in perpetuity post closure (i.e., plan for permanent water treatment, the entity that would pay post closure costs – secure financing in perpetuity).

Category Code	Description
BER 1	The Donlin Gold Project Draft EIS should provide a complete description and analysis of financial assurances for post-closure, reclamation, and long-term water management. Bonds need to be adequate to ensure successful reclamation and closure, therefore detailed cost estimates need to be identified. The costs associated with implementing the closure and reclamation need to be fully disclosed so the public, tribes and decision-makers are aware of the financial risk. The following are suggestions for inclusion in the analysis: • Clarification of the entity responsible for post-closure clean-up activities and costs; • List of assumptions that costs are based on; • An itemized cost estimate spreadsheet; • Narrative description for financial assurance cost categories; • Direct, indirect, and cumulative costs; • Cost estimates based on reasonable spill or failure scenarios; • Variable to calculate value of future expenses, and discussion of changes in the economy; • Management fees, tax rates, timing of payments, and any other mechanisms associated with financial assurances; • Reasonably foreseeable outcomes, including changes in climate and precipitation and associated costs; • Appropriate engineering techniques for stabilizing contaminated material and reclaiming facilities, including Best Management Practices (BMPs); • Goals and criteria for determining success of reclamation activities; • Schedule and time period to complete long-term treatment, monitoring and maintenance; and • Commitment to reevaluate financial assurance plans every 3-5 years or whenever a major change to mine operations has occurred.
BER 2	Commenters request details regarding bonding of the mine, and what bonds would cover.
BER 3	The Draft EIS should identify what entity would be responsible for cleaning up facilities and contamination after mine closure. Once Donlin Gold leaves, who would be responsible? One hundred years after mine closure, who is responsible? The Draft EIS should provide a legal review of liable parties for all scenarios, well into the future. If the bond proves to be insufficient, the Draft EIS should identify the entity responsible for covering costs.

Category Code	Description
BER 4	Commenters would like to know what the plan is for water treatment in perpetuity, including time frame for treatment in perpetuity and for monitoring of water quality after mine closure. Acid rock drainage should also be covered in this analysis in the Draft EIS which should also provide a detailed analysis of long-term water treatment costs. Some commenters believe the Draft EIS should identify alternative water treatment plans that do not require treatment beyond 10 years post-reclamation.
BER 5	Commenters proposed that an account be set aside for environmental restoration, controlled by the tribes, the state, and the federal government. The fund would be used to restore any damages to fisheries, wildlife, wetlands, water, and habitats.
BER 6	The effects of pipeline activities would require future maintenance and monitoring after mine closure and pipeline abandonment. Bonds need to be established to cover these costs, and the rationale for each cost should be described in the Draft EIS. Specifically, comments received during scoping noted that the Draft EIS should explain: • If the pipeline would remain in place after the life of the mine; • How the funds generated by bonding would be applied to monitoring work for evaluating the long-term impacts to waterbody crossings, permafrost, vegetation, habitat and erosion would be monitored post-closure; • A system to be implemented that will assure that all reclamation and restoration work is adequately completed; • Who will be the responsible entity if efforts of reclamation and monitoring fail; and • Specific criteria and thresholds for success.
BER 7	Commenters request detailed information for bonds that would cover damage from potential tailings failures in perpetuity, and the time frame for when bonds can be used (5, 10, 15 years after closure?). Bonds should cover capping and prevention of pond and rainwater into the tailings, and entities responsible for maintenance should be identified. If failures occur, the entity responsible for clean-up should be identified. Commenters are particularly concerned with impacts to fish and subsistence resources resulting from a tailings failure. The Draft EIS should include a range of alternatives in which the mine pit does not become a lake that requires water treatment in perpetuity. To minimize the amount of financial assurance, commenters request removal of tailings material off-site.
BER 8	In relation to closure and reclamation, commenters believe it is unreasonable to permit a project that would require increasingly more expensive pollution control technology beyond closure of the mine. The Draft EIS should discuss the realities of changing energy costs and economies beyond closure of the mine, up to 100 years, and how bonds would adequately cover costs in an ever-changing economy.
BER 9	The mine should only be permitted if it can be built with sufficiently effective closure and reclamation to avoid compromising the long-term viability of resources such as fish, water and air, and the environment in general. Impacts would be seen beyond the 27 year mine life. The Draft EIS should conduct rigorous scientific research for all mine processes and materials and the associated post-closure impacts to the environment and human health.

Category Code	Description
BER 10	Waste rock should be managed in perpetuity. The process and methods for managing waste rock and tailing storage facilities in perpetuity should be described and discussed in the Draft EIS.
BER 11	Costs associated with long-term, in-perpetuity impacts to subsistence, wildlife and water resources need to be discussed in the Draft EIS.
BER 12	The process for revegetation post closure should be discussed. This includes any land treatments, such as grading or recontouring, to reduce erosion, slope stability and sedimentation in surface waters. The type and methods for revegetation should be analyzed in the Draft EIS. All areas should be restored as closely as possible to natural conditions.
BER 13	Commenters request details regarding facilities, materials and infrastructure post-closure. Specifically, what would be done with remaining materials after mine closure? Would infrastructure built for the mine remain?
BER 14	Other mine sites should be researched and analyzed to predict post-closure scenarios. This would help determine appropriate mitigation and monitoring plans.
BER 15	The Draft EIS should provide more detail regarding the spoils reclamation process for the pipeline right-of-way. Specifically, when would spoils reclamation take place? Commenters note that the spoil side must be wide and low to prevent snow from drifting on the right-of-way or into the trench.

CLIMATE CHANGE (CLIM)

Comments and concerns about the impacts of climate change such as increased glacial discharges, less snow pack, reduced water levels in the river systems, and the way in which these trends may interact with effects of the proposed project. The interaction may include climate change induced risks to the proposed project, or additive effects of the project to stresses on resources due to climate change. This category also includes the potential effects to the proposed project to climate change through the emission of greenhouse gases.

Category Code	Description
CLIM 1	The Donlin Gold Project Draft EIS should fully analyze climate change impacts on the following as a result of, and in conjunction with effects from the proposed project (including the natural gas pipeline ROW): • Vegetation, habitat and plant life; • Ice caps, snow pack, and potential for increased melting and overflow, including effects of lower snowpack and warmer temperature (document summer temperature trends); • Lakes and other bodies of water in the proposed project area; • Weather changes such as increased storm activity, flooding, and changing moisture regimes; • Impacts to fish, wildlife, and their habitats; • Alaska Native communities and their traditional way of life; • Permafrost and the pipeline trench; • Stream flow and hydrologic regime on the Kuskokwim River on planned barge traffic; • Need for dredging, water management, and water treatment; • Subsistence; • Public health; • Cumulative impacts and reasonably foreseeable activities further affecting climate change; and • Commenters suggest that an analysis similar to the Chuitna Integrated Hydrologic Effects Model be developed for this project.
CLIM 2	The EIS should include analysis of changes in environmental conditions over time, changes in surrounding habitat during the reclamation and restoration phase of the project, and adaptive management in response to changes of temperature and precipitation. Mitigation measures and monitoring techniques need to be described in the Draft EIS and implemented to reduce impacts associated with climate change. These should be analyzed throughout the life of the project. If the project proceeds, monitoring activities should include a future Health Impact Assessment (HIA) to provide a detailed analysis of climate change impacts on human health.
CLIM 3	The Draft EIS should describe how dust emissions would potentially affect the local climate.

Category Code	Description
CLIM 4	The Draft EIS should fully analyze changes in greenhouse gas (GHG) emissions as a result of the proposed project and all alternatives, disclosing the differences between each. This includes GHG emissions and climate change effects resulting from all phases of development, and all components such as mine facilities, the pipeline, marine and river, air, and ground cargo/fuel transportation. CEQ guidance should be reviewed for information on quantifying GHG emissions. Commenters also suggested including the following: • GHG emission inventory that includes baseline emissions, direct and indirect project related emissions, and emissions from reasonably foreseeable activities; • Annual and cumulative emissions resulting from the project using C02-equivalent as a metric for comparing different types of GHG emitted over the life of the project, including reclamation and closure; • Evaluation future needs and capacities of the open pit mine, ancillary facilities, and pipeline to adapt to project climate change effects; • Reasonable spatial and temporal boundaries for GHG and climate change analysis; • Describe the link between GHG and climate change, as well as the potential impacts of climate change on the structural integrity of the proposed project and facilities; • Estimate the extent that melting permafrost associated with the proposed project would contribute to GHG emissions; • Changes in the carbon cycle due to manipulation of natural carbon sinks and sources; and • Climate-related biological changes over time.
CLIM 5	The Corps should keep Donlin Gold, LLC informed of any update on the issuance of CEQ final guidance on how to evaluate climate change impacts.
CLIM 6	The proposed pipeline should not be placed within tundra upland warming habitats. The Draft EIS should fully analyze alternatives that would help reduce impacts resulting from climate change, particularly with regards to the pipeline. Much of the route between MP 150 and 194 is exposed to solar thaw. Commenters suggest moving the route two and a half miles west where it is much more spruce-covered, with an accompanying ground-insulating mat maintaining permafrost at lower temperatures.
CLIM 7	The Draft EIS should analyze climate change impacts on the project, including: • The structural integrity of impoundments and containment structures; • Changes in requirement for maintenance of tailings impoundments and treating water in perpetuity; and • Pipeline structural and slope integrity in areas with changing permafrost.

COOPERATING AGENCIES (CAP)

Who should serve as a cooperating agency? Roles and functions of the cooperating agencies.

Category Code	Description
CAP 1	Concerns were expressed regarding which agencies are cooperators and which are not. List the cooperating agencies, and explain how they were determined and what their roles are. Specifically: • The U.S. Fish & Wildlife Service should be represented because of concerns with impacts to subsistence resources; • Clarify the role of the BLM and timing of the submittals of the plan for cooperation, and wildlife avoidance and human encounters/interaction plan; and • Clarify the role of the U.S. Coast Guard regarding their navigation management on the river if the proposed project goes forward.
CAP 2	Concerns were expressed that too few villages (five at the time of the comment, six at present) are involved as cooperating tribal governments because of the amount of time and effort necessary. Clarify whether or not other villages can still become involved as cooperating tribal governments.
CAP 3	The Draft EIS should describe the distinction between a cooperating agency and a participating agency, and the difference in level of effort involved. Commenters expressed concern that there are no cooperating agencies that represent the marine environment such as the U.S. Coast Guard or the National Marine Fisheries Service or NOAA, despite the proposed use of the Bering Sea as a transportation corridor for the project and potential impacts to marine waters from activities on the river.
CAP 4	All agencies involved in permitting, Donlin Gold, LLC, and all of their consultants should pool their contact databases to create a master stakeholder database, including but not limited to anyone who was involved with the scoping process or has been involved in other environmental or social correspondence regarding the project.

DATA AND AVAILABLE INFORMATION (DATA)

Comments about the adequacy of data and requests to incorporate specific studies into the analysis. [Note to readers: these comments retain the formatting of the submitter. When used in the Draft EIS, all references will be cited in a consistent format].

Category Code	Description
DATA 1	The Corps should review these additional references in preparation of the Donlin Gold Project Draft EIS regarding air quality and mercury emissions: A recent paper by Mathieu Miller and released by the Air and Waste Management Association indicated that non-point sources at open pit gold mines can be between 14-56 percent of the total mercury emissions from a mine. [EPA review comments on the Draft Scoping Report draw a different conclusion from this paper: 14-45 percent of the total mercury emissions from a mine (representing releases of 17-84 kg/year)]. Unfortunately, EPA does not regulate non-point sources under its 2010 ruling: National Emissions Standards for Hazardous Air Pollutants for Gold Ore Processing and Production Facilities. However, the rule notes that fugitive emissions may be occurring at these facilities from large non-point sources such as tailings ponds, leach fields, and waste rock piles. See Miller, et al., Testing and modeling the influence of reclamation and control methods for reducing non-point mercury emissions associated with industrial open pit gold mines. Journal of the Air and Waste Management Association, December 2012, p. 4. (6) https://www.federalregister.gov/articles/2010/04/28/2010-9363/national-emission-standards-for-hazardous-air-pollutants-gold-mine-ore-processing-and-production. Research conducted by Mae Gustin at the University of Nevada, Reno found that mercury air emissions from mining disturbances were approximately 20 percent of the total mercury emitted at the two gold mines studied, with total nonpoint emissions at the Twin Creeks Mine of 105 kg/year (231 pounds/year) and 19 kg/year (41 pounds/year) at the Cortez Mine. In fugitive emissions alone, these two mines combined produced 3.8 times the amount of known mercury air releases in all of Alaska, from all sources, according to the 2010 EPA Toxics Release Inventory. Eckley et al., Measurement of surface mercury fluxes at active industrial gold mines in Nevada (USA), Science of the Total Environment, 409 (2011) p. 514-522. [EPA review comments on the Draft Scoping Report draw a different conclusion from the paper: 14-56 percent of the total mercury emitted at the two gold mines studied]. Nevada Department of Environmental Protection, Stakeholder Meeting, October 7, 2009. Nevada Department of Environmental Protection, Notice of Findings and Order No. 2008-13. Regarding the Jerritt Canyon mine that failed to operate and maintain pollution control devices for a significant period of time, resulting in excess emissions and failure to report those excess emissions. This problem was not confirmed until the annual emissions testing event occurred at least a full year later. On December 6, 2010, the EPA promulgated National Emissions Standards for Hazardous Air Pollutants for gold are processing and production facilities to regulate mercury air emissions, which is the seventh largest source of mercury emissions in the United States. The final rule establishes mercury emission limits for four types of processes found at gold production facilities: ore-pretreatment processes (primarily heating processes used to prepare are for gold extraction); carbon processes with mercury retorts; carbon processes without mercury retorts; and non-carbon

Category Code	Description
	concentrate processes. Table 1 (attached to EPA comments submitted during scoping for this Draft EIS) identifies the final mercury air emission limits for new sources. The final rule also establishes requirements for monitoring, which include annual mercury emissions tests at all emissions stacks. https://www.federalregister.gov/articles/2010/04/28/2010-9363/national-emission-standards-for-hazardous-air-pollutants-gold-mine-ore-processing-and-production Draft EIS mine scenario alternatives need to consider that mine technology evolves over time, and allow for the inclusion of, but not sole reliance on, evolving science in contaminant monitoring, water management, and waste management. Innovative technologies including but not limited to the following should be assessed in mine alternatives in the Draft EIS: • CO_2 capture with tailings. Donlin Gold, LLC has shown an interest in innovative technology (e.g. use of the untested Octolig columns for selenium removal; application of UNR reagents for removal of mercury from tailings stream) and has also shown an interest in reducing carbon emissions through the use of natural gas and wind power instead of coal. • The latest research into capturing CO_2 in mine tailings, and particularly the chemical and mechanical details. [Footnote: Nevada Bureau of Mines and Geology, Report 52: *Assessment of the Potential for Carbon Dioxide Sequestration by Reactions with Rocks in Nevada*, Daniel M. Sturmer, Daphne D. LaPointe, Jonathan G. Price, Ronald H. Hess, 2007; and *Accelerated Carbonation of Brucite in Mine Tailings for Carbon Sequestration*, Anna L. Harrison, Ian M. Power, and Gregory M. Dipple, Environmental Science & Technology, 2013. Download this report at: http://www.nbmg.unr.edu/dox/dox.htm • Economic scenarios (e.g. carbon tax), that make the technology potentially feasible or not feasible at the Donlin ore body. If the idea is feasible, Donlin Gold, LLC should begin lab scale testing with site rock, or engage in a partnership with researchers currently studying CO_2 capture. If it is not feasible, a detailed explanation of why it is not should be provided in the Draft EIS.
DATA 2	The Draft EIS should address presence and potential impacts of the project on all birds protected under the Migratory Bird Treaty Act and especially to birds of conservation concern and bird concentrations. The USFWS has several datasets on waterfowl that may be applicable to evaluation of the proposed project. The USFWS has conducted aerial waterbird surveys of wetlands around Alaska for many years. These surveys provide abundance, distribution, and trend information for many waterbird species. Resulting data are available in geographic information system (GIS) databases and should be examined. These include: • A series of spring aerial surveys of breeding waterbirds conducted on the Yukon Delta National Wildlife Refuge (Platte and Butler 1993), Tanana/Kuskokwim area (Platte 2003), and Kenai/Susitna area (Platte et al. 2012), all of which are regionally located near project components; • Trumpeter swan census data collected every 5 years with population size, trend, and distribution data; the last latest occurring in 2005 (Conant et al. 2007) (Beginning in 2010, survey designs were changed to sample habitat. Locations of trumpeter swans observed during the 2005 census are shown on Map 2 provided in comments by the USFWS during the scoping period for this proposed project); and • The Southwest Alaska Spring Steller's eider aerial survey, conducted annually, in mid-May, from 1992-2012 (except 1995, 1996, 1999, 2006; Larned 2001). This survey monitors distribution and abundance of waterbirds in the nearshore marine

Category Code	Description
	environment from the mouth of the Kuskokwim River to Cold Bay. The Draft EIS should examine the attachments to comments provided by the USFWS during the scoping period for this proposed project that include maps and tables: Map 2 -*Service Generated Data on Waterbirds*; Table 1- *Non-game birds of conservation concern detected within the planning area of the Donlin Gold Project Draft EIS*; and Table 2 - *Average number of birds counted per survey stop along 8 Breeding Bird Survey routes along the Kuskokwim River, Alaska* (Harwood 2000, 2002) for consideration in wildlife sections analysis of the Draft EIS. Data is also available at this website: htt://www.waterfowladvisories.utah.gov/
DATA 3	The Corps should review these additional references in preparation of the Draft EIS regarding climate change resources: In addition to economic uncertainties, there are also serious questions regarding the future climate and precipitation trends at mine sites, further complicating the ability to predict future costs and needs: http://www.mtech.edu/mwtp/conference/2012_presentations/Dave%20Williams.pdf Williams, David R. 2012. *Climate Change - Extreme Conditions: Do Plans of Operations Need to Include an Ark?* 20th Annual Mine Design, Operations & Closure Conference April 29-May 3, 2012. PowerPoint http://www.epa.gov/climatechange/Downloads/endangerment/Endangerment_TSD.pdf U.S. EPA, Climate Change Division, Office of Atmospheric Programs. 2009. *Endangerment and Cause or Contribute findings for Greenhouse Gases under Section 202(a) of the Clean Air Act* http://www.epa.gov/climatechange/Downloads/endangerment/Endangerment_TSD.pdf
DATA 4	The Corps should consult with Association of Village Council Presidents in the Y-K Region as this association has a department that focuses on protection and mitigation of impacts to cultural sites and may be able to provide additional data.
DATA 5	The Corps should consider these additional references regarding environmental justice: There are a number of technical reports and other Environmental Impact Statements that have been completed throughout Alaska which consider impacts from resource extraction projects on Alaska Native communities. These resources should be reviewed and included, as appropriate, as references for considering the full range of impacts to Alaska Native communities and their way of life. These references are provided to assist with evaluating impacts on socio-cultural resources and environmental justice: Ballard I, and Barks, C. and G. (2003). *Resource Wars; The Anthropology of Mining*. Annual Review of Anthropology 32: 287:313. Braund, Stephen R. & Associates (2009). *lmpacts of Oil and Gas Development to Barrow, Nuiqsut, Wainwright, and Atqasuk Harvesters*. Report prepared for the North Slope Borough, Department of Wildlife Management. Braund, S.R. and J. Kruse (ed.) (2009). *Synthesis: Three Decades of Research on Socioeconomic Effects Related to Offshore Petroleum Development in Coastal Alaska*. Minerals Management Service, Outer Continental Shelf Study 2009-006. National Research Council (2003). *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope*. Washington D.C.: The National Academies Press.

Category Code	Description
	Palinkas, L.A., M.A. Downs, J. S. Petterson, and J. Russell (1993). *Social, Cultural, and Psychological Impacts of the Exxon Valdez Oil Spill*. Human Organization 52(1): 1-12. Storey, K. and L.C. Hamilton (2004). *Planning for the Impacts of Mega projects: Two North American Examples*. Pp. 281 -302 in R.O. Rasmussen and N.E. Korolcva (eds.) *Social and Economic Impacts in the North*. Dordrecht, Netherlands: Kluwer Academic Publishers. Tetra Tech (2009). *Red Dog Mine Extension Aqqaluk Project Final Environmental Impact Statement,* October 2009, for the U.S. Environmental Protection Agency, Region 10. Duhaime, Gerard and Bernard, Nick, editors (2008). *Arctic Food Security*. Canadian Circumpolar Institute (CCI) Press, University of Alberta and Centre inter-universitaire d'etudes et de recherches autochtones (CIERA), Universite' Laval. Executive Order (EO) 12898. Title 3. 59 FR 32. *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. (Feb. 16, 1994). And Memorandum. *Good Neighbor Agreement Between Stillwater Mining Company and Northern Plains Resource Council*, Cottonwood Resource Council, Stillwater Protective Association. http://www.northernplains.org/the-issues/good-neighbor-agreement/ EPA website: *Environmental Justice Considerations in the NEPA Process* http://www.epa.gov/compliance/nepa/nepaej/index.html
DATA 6	The Corps should review these additional references in preparation of the Draft EIS regarding fish resources: http://www.blm.gov/ak/st/en/prog/fisheries/rdm_fish.html Mahaffey, KR. 2004. *Methylmercury: Epidemiology Update*. Presentation at the National Forum on Contaminants in Fish, San Diego, January 28.
DATA 7	The Corps should review this additional reference regarding energy sources: LePain, D.L., 2012, *Summary of fossil fuel and geothermal resource potential in the Lower Yukon-Kuskokwim energy region*, in Swenson, R.F., Wartes, M.A., LePain, D.L., and Clough, J.G., *Fossil fuel and geothermal energy sources for local use in Alaska: Summary of available information: Alaska Division of Geological & Geophysical Surveys Special Report 66G*, p. 63-72. 2
DATA 8	The Corps should review these additional references in preparation of the Draft EIS regarding mercury and contamination: Past correspondence from the Donlin Gold Working Group (DGWG) to the Alaska Department of Environmental Conservation (ADEC), the Alaska Department of Natural Resources (ADNR), and the U.S Environmental Protection Agency (EPA) regarding mercury. The correspondence is also available on the DGWG website: https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxkb25saW5jcmVla3dvcmtpbmdncm91cHxneDoyMjA1ODM2ZDNmYjM4OGI5, https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxkb25saW5jcmVla3dvcmtpbmdncm91cHxneDoxNmQ3NmFiNWI4NTliOWQw, and https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxkb25saW5jcmVla3dvcmtpbmdncm91cHxneDoyN2JlMDVlYmFkZjZjNjU2.] The Corps s should review a 2001 draft report prepared for EPA, by the contractor Booz, Allen and Hamilton, Inc., that evaluated the range of possible mercury loading

Category Code	Description
	and partitioning for each process involved in gold ore processing. The report demonstrated that a mass balance approach is feasible, as it identified emissions factors and mass balance evaluations based on source testing data, process engineering information on mercury concentrations and behavior in the processes and control technologies, and estimates derived from mercury emissions and controls from other industrial processes with similar emission types. The report also flagged the need for site-specific assessments, observing that individual site evaluations should include mass balance evaluations that measure mercury concentrations in the solid phases (process input and output streams) and treatment residuals (adsorption media and scrubber solutions). Booz, Allen and Hamilton Inc., *Draft Mercury Mass Balance and Emissions Factor Estimates for Gold Ore Processing Facilities* (2001). U.S. EPA Toxic Release Inventory, 2008. http://www.jmc.army.mil/Images/Hawthorne/HWAD%20Mercury%20Consolidation%20Project%20Fact%20Sheet.pdf http://mercurystorageeis.com/Elementalmercurystorage%20Interim%20Guidance%20%28dated%202009-11-13%29.pdf http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/7508188dd3c99a2a8825742600743735/2380a6ecf1b1731f88257007005e9424!OpenDocument *Alaska Community Action on Toxics & Reducing Environmental Destruction on Indigenous Lands, Mining and Toxic Metals: A case study of the proposed Donlin Creek Mine*, February 2009, citing Alaska Department of Fish and Game, Division of Subsistence, 2001, Alaska Subsistence Fisheries 1999 Annual Report at page 154. http://www.blm.gov/ak/st/en/fo/ado/hazardous_materials/red_devil_mine/rdm_cercla_remedial.html U.S. EPA. Technical Factsheet on: MERCURY. Eckley et al., *Measurement of surface mercury fluxes at active industrial gold mines in Nevada (USA)*, Science of the Total Environment, 409 (2011) p. 514-522. U.S. Mine Safety and Health Administration (MSHA). *Controlling Mercury Hazards in Gold Mining: A Best Practices Toolbox*. Draft, September 1997. Mazt, Angela. 2012. *Mercury, Arsenic, and Antimony in Aquatic biota from the Middle Kuskokwim River Region, Alaska, 2010-2011*. U.S. Department of Energy. 2009. *Interim Guidance on Packaging, Transportation, Receipt, Management, and Long-Term Storage of Elemental Mercury*.
DATA 9	The Corps should review and incorporate the findings, conclusions and resource data included in the 1986 Iditarod National Historic Trail management plan, including high value segments and sites along the Trail, and the supporting 1982 Resource Inventory, which also provides a comprehensive evaluation of the scenic quality of the Trail.
DATA 10	The Corps should review these additional references in preparation of the Draft EIS regarding Health Risk or Impact Analysis Screening Analysis: When conducting a screening, it was recommended to use: Bhatia et al. *Minimum Elements and Practice Standards for Health Impact Assessment*, Version 2 (North American HIA Practice Standards Working Group, 2010), 3 - 4. Guides for conducting HIA are available from various sources. The following references are additional resources on HIA:

Category Code	Description
	World Health Organization; *Health Impact Assessment Short Guides International Finance Corporation - Introduction to Health impact Assessment* (2009) http://who.intfhialabout/guideslen/. CDC; *Healthy Places, Health Impact Assessment* Centers for Disease Control and Prevention; *Healthy Places Health Impact Assessment*; http:/{www.cdc.gov/healthyplaccS/hia.htm Human Impact Partners; *Health Impact Assessment Tool kit: A Handbook for Conducting HIA*; Oakland. CA (2011) Rajiv Bhatia; *Health Impact Assessment: A Guide for Practice*. Oakland. CA (2011). http:/www.humanimpact.org
DATA 11	The Corps should review these background materials in preparation of the Draft EIS regarding past socioeconomic impacts: Concerns and written articles to the Delta Discovery newspaper by N. Leedy of Nome (March 3, 2009) that describe his personal experiences in the proposed project area with Nova Gold. The *Narrative Description for Financial Assurance Cost Categories* and *Financial Assurance Cost Estimates* provided in comments submitted by the EPA during the scoping process for this project. The document titled *Planning for your Future: Jobs with Donlin Gold* as an example of the applicant's local efforts in this area.
DATA 12	The Corps should review the following reference in preparation of the Draft EIS regarding subsistence resources: ADFG. Fall, J.A. et al. *Alaska Subsistence Fisheries 1999 Annual Report*. Technical Paper 300 The Draft EIS should consider the annual consumption quantities of locally harvested subsistence foods when assessing risk of contamination for communities on the Yukon and Kuskokwim rivers. Lower 48 EPA fish consumption guidelines are not relevant to Alaska subsistence foods consumption levels and should not be used; rather guidance from the Alaska Division of Public Health should be used. Bioaccumulation in long-lived fish consumed for subsistence is of particular concern. Whitefish is eaten year round by people in all Kuskokwim communities. Both broad and humpback whitefish are quite long-lived bottom feeders with one broad whitefish aged at approximately 40 years. Burbot and burbot liver are also eaten frequently on the Kuskokwim and test results have indicated elevated levels of mercury. Northern pike, also a long-lived resident fish, is known to bio-accumulate toxins due to its location on the food chain. People in many communities on the Kuskokwim eat dried pike, which concentrates bioaccumulative chemicals and is eaten in larger quantities than fresh fish. The USFWS and the Alaska Division of Public Health have collaborated to provide site-specific pike consumption guidelines to some Kuskokwim River villages based on how subsistence foods are eaten (fresh vs. dried and typical quantities eaten) (see www.epi.alaska.gov/eh/fish). The U.S. Fish and Wildlife Service, Office of Subsistence Management, has provided additional research in submitted comments that may be useful in the analysis of the Draft EIS. The following is a list of subsistence uses of fish and wildlife resources. The list includes villages located in Kuskokwim Bay and the lower and middle Kuskokwim River. This information was collected as part of a strategic planning process at the Fisheries Resource Monitoring Program at the Office of Subsistence Management, USFWS, in Anchorage, Alaska. Many of the following reports are available at the

Category Code	Description
	Fisheries Resource Monitoring Program website http://alaska.fws.gov/asm/fis.cfml or at the ADFG Division of Subsistence website http://www.adfg.alaska.gov/sf/publications/ 2001-2003 study years. Nonsalmon fish subsistence harvest surveys-Bethel. Whitefish species are lumped, no use area mapping, no local knowledge. Simon, Jim, Tracie Krauthoefer, David Koster, Michael Coffing, and David Caylor; 2007; *Bethel subsistence fishing harvest monitoring report, Kuskokwim Fisheries Management Area, Alaska, 2001-2003*; ADFG Division of Subsistence, Technical Paper No. 330. OSM 01-024. 2001-2003 study years: Nonsalmon fish subsistence harvest surveys-Aniak and Chuathbaluk. Whitefish species are lumped, use areas mapped but timeframe unknown, no local knowledge. Krauthoefer, T., T. Simon, M. Coffing, M. Kerlin, and W. Morgan; 2006; *The harvest of nonsalmon fish by residents of Aniak and Chuathbaluk, Alaska, 2001-2003*; ADFG Division of Subsistence Technical Paper No. 299; OSM 01-112, Juneau. 2005-2006 study years: Salmon and nonsalmon fish local knowledge - Quinhagak, Goodnews Bay, and Platinum. LaVine, R., M.J. Lisac and P. Coiley-Kenner; 2007; *Traditional ecological knowledge of 20th century ecosystems and fish populations in the Kuskokwim Bay Region*; U.S. Fish and Wildlife Service, Office of Subsistence Management, Fisheries Resource Monitoring Program; Final Report for OSM 04-351, Anchorage. 2005-2009 study years: Nonsalmon fish harvest surveys and local knowledge - Eek, Tuntutuliak, and Nunapitchuk Whitefish species are lumped, use area mapping but time frame unknown, emphasis on local knowledge. Ray, L., C. Brown, A. Russell, T. Krauthoefer, C. Wassillie, and J. Hooper; 2010; *Local knowledge and harvest monitoring of nonsalmon fisheries in the Lower Kuskokwim River Region, Alaska 2005-2009*; ADFG Division of Subsistence Technical Paper No. 356; OSM 06-351, Juneau. 2006 study year: Salmon and nonsalmon fish harvest surveys and local knowledge. Mekoryuk Drozda, R. M; 2010; *Nunivak Island subsistence cod, red salmon and grayling fisheries-past and present*; U.S. Fish and Wildlife Service, Office of Subsistence Management, Fisheries Resource Monitoring Program, Final Report for OSM 05-353; Anchorage. 2006-2007 study years: Local knowledge of climate change-Toksook Bay, Tununak, Nightmute, and Newtok. Fienup-Riordan, Ann; 2010; *Yup'ik perspectives on climate change: "The world is following its people;"* Etudes Inuit Studies 34(1):55-70; Quebec. Fienup-Riordan, A., and A. Reardon; 2012; *Ellavut/Our Yup'ik world and weather: continuity and change on the Bering Sea coast*; University of Washington Press, Seattle. 2007 study year: Comprehensive subsistence harvest surveys-Lime Village. Whitefish described by species, use area mapping for 2007 study year, no local knowledge. Holen, Davin, Terri Lemons; 2010; *Subsistence harvests and uses of wild resources in Lime Village, Alaska, 2007*; ADFG Division of Subsistence Technical Paper No. 355. 2009 study year: Comprehensive subsistence harvest surveys Donlin Project Phase 1-

Category Code	Description
	Aniak, Chuathbaluk, Crooked Creek, Lower Kalskag, Red Devil, Sleetmute, Stony River, and Upper Kalskag. Whitefish described by species, use area mapping for 2009 study year and lifetime, no local knowledge. Brown, C.L., J.S. Magdanz, D.S. Koster; 2012; *Subsistence harvests in 8 communities in the central Kuskokwim River drainage, 2009*; ADFG Division of Subsistence, Technical Paper No. 365, Juneau. 2011 study year: Comprehensive subsistence harvest surveys Donlin Creek Mine Project Phase 2-Akiak, Georgetown, Kwethluk, Napaimute, Oscarville, Tuluksak with Galena, Marshall, Mountain Village, Nulato, Ruby being investigated as possible indexes of subsistence harvests for the region. Whitefish described by species, use area mapping for 2011 study year, no local knowledge. ADFG Division of Subsistence Report *in preparation*. 2011 study year: Salmon harvest survey and local knowledge-Chefornak, Kipnuk, Mekoryuk, Newtok, Nightmute, Toksook Bay, and Tununak. Wolfe, R.J., C. Stockdale, and C. Scott; 2011; *Salmon harvests in coastal communities of the Kuskokwim Area, southwest Alaska*; AYK-SSI; Anchorage. 2011 study year: Comprehensive subsistence harvest surveys Donlin Creek Mine Project Phase 3-Napakiak, Napaskiak, McGrath, Takotna, Nikolai, Russian Mission, Anvik, and Galena. Whitefish described by species, use area mapping for 2011 study year, no local knowledge. ADFG Division of Subsistence Report *in preparation*. 2012 study year: Nonsalmon fish subsistence harvest surveys and local knowledge-Lime Village and Nikolai ADFG Division of Subsistence OSM 12-352 Research underway. 2013 upcoming: Donlin Creek Mine Project Comprehensive subsistence harvest survey-Bethel. Whitefish described by species, use area mapping for 2012 study year, no local knowledge. ADF &G Division of Subsistence Research to begin in 2013.
DATA 13	The Corps should review these additional references in preparation of the Draft EIS regarding water quality: USEPA Technical Factsheet on Mercury http://www.epa.gov/safewater/dwh/t-ioc/mercury.html A position on perpetual water treatment written by the Center for Science in Public Participation as part of our scoping comments. See: David M. Chambers, Ph.D., Center for Science in Public Participation, *A Position Paper on Perpetual Water Treatment for Mines* (June 2007).]Available online at: www.csp2.org The Clean Water Act §303(d) which requires states to identify water bodies that do not meet water quality standards and to develop water quality restoration plans to meet established water quality criteria and associated beneficial uses. The list of Alaska's impaired waters (2010) can be obtained online at: http://www.dec.state,iak.us/water/wqsar/Docs/2010impaired waterbodies.pdf Impaired waterbodies listed in the project area include the Kuskokwim River and the Red Devil Creek (at the confluence of the two rivers), which are both Category 5 and therefore, require the development of a Total Maximum Daily Load. The Kuskokwim River (AK ID No. 30501-002) and the Red Devil Creek (AK ID No. 3050 1-002) are listed

Category Code	Description
	for exceeding water quality standards for antimony, arsenic, and mercury associated with mining activities, including the Red Devil Mine. 40 CFR § 440.104(b)(1) 47 Fed. Reg. 54,598, 54,602 (Dec. 3, 1982) See: *Water Resources Management Plan at ES 2* (there is no design intent to discharge waste rock contact water or process solution into waters of the State of Alaska, or the U.S) See: 33 CFR § 328.3(a)(8).
DATA 14	The Corps should review the map depicting the ranges of species protected under the Endangered Species Act as provided by the USFWS (Map 1) in scoping comments on proposed project in consideration of impacts to wildlife during development of the Draft EIS.
DATA 15	Donlin Gold developed a Yup'ik Project description booklet that has been provided at meetings and on the company website. This document has been vetted by Yup'ik speakers and effectively used in the region. Donlin Gold recommends the use of this booklet by the Corps since it is critical that the descriptions of the proposed project and activities are fact-based and unbiased; and that the translation is consistent from location to location (within the region) and throughout the process from scoping through the Draft and Final Draft EIS stages. Donlin Gold strongly believes that using a consistent and vetted vocabulary for presentations in Yup'ik is critical to ensuring an effective public participation process.
DATA 16	It is important to acknowledge, up-front, appropriate tribal protocols for how Traditional Ecological Knowledge and Wisdom (TEKW) information may be used and how to ensure that sensitive information is protected. The Alaska Native Science Commission has principles that were developed in regards to appropriately working with TEKW: http://nativescience.org/issues/tk.htm
DATA 17	The Corps should review these additional references and court cases: Coalition for Responsible Regulation, Inc. v. EPA, 684 F.3d 102 (D.C. Cir. 2012). Executive Order 12898 and accompanying Presidential Memorandum. The order is also available at 59 Fed. Reg. 7,629 (Feb. 16, 1994). CEQ, *Environmental Justice: Guidance under the National Environmental Policy Act* (1997) State Department of Natural Res. v. Greenpeace, Inc., 96 P.3d 1056, 1064 (citing Baker v. City of Fairbanks, 471 P.2d 386, 401â€"02 (Alaska 1970)). The Alaska Constitution also provides that no person shall be deprived of life, liberty or property without due process of law. ALASKA CONST. part I, (alteration added). State v. Greenpeace, Inc., 96 P.3d 1056, 1062 (finding the DNR violated an organization's due process rights when it lifted a stay of a temporary water use permit with only a one-day notice). Illinois Cent. Co. v. State of Illinois; City of Chicago v. Illinois Cent. Co.; State of Illinois v. Illinois Cent., 146 U.S. 387, 465 (1892). Owsichek v. State, Guide Licensing and Control Bd., 763 P.2d 488, 491 (Alaska,1988). Metlakatla Indian Cmty., Annette Island Reserve v. Egan, 362 P.2d 901, 913 (Alaska 1961). http://www.alaskaminers.org/2008SocialLicense.pdf is a link to the Alaska Miners Association guidelines to social license to do business in Alaska.

Category Code	Description
	76 Federal Register 9,450, 9,457-58 (Feb. 17, 2011). Federal Register, 40 CFR Parts 9 and 63. Environmental Protection Agency. Federal Register, 47 FR 54598-01 Rules and Regulations, Environmental Protection Agency. 40 CFR Part 440; *Ore Mining and Dressing Point Source Category Effluent Limitations Guidelines and New Source Performance Standards*; 1982. Nevada Department of Environmental Protection, Stakeholder Meeting, October 7, 2009. Nevada Department of Environmental Protection, Notice of Findings and Order No. 2008-13. Nevada Department of Environmental Protection, Notice of Findings and Order No. 2008-13, March 10, 2008. Finding # 3, page 2. Concerns and written articles submitted and published in the Delta Discovery newspaper regarding previous comments from 2001, 2002, 2003, and articles about NEPA and the EPA regarding protection of land and food.
DATA 18	The Corps should review these additional references in preparation of the Draft EIS regarding water management: http://dnr.alaska.gov/mlw/water/wrfact.cfm. See, 11 AAC 93.035(a) and (b) Alaska DNR Case Abstract TWUP A2012-024 (March 2, 2012). http://dnr.alaska.gov/projects/las/Case_Abstract.cfm?FileType=TWUP&FileNumber=A2012-128&LandFlag=y
DATA 19	The Corps should review these references for example of other mining operations: *Rock Creek Mine Problems* report by Center for Science in Public Participation, April 2012. BLM, March 2012; *Draft Remedial Investigation Report*; Red Devil Mine, Alaska; USDOI.
DATA 20	The Corps should review these additional references in preparation of the Draft EIS regarding environmental damage due to mining: *Dirty Metals: Mining, Communities and the Environment*; A report by Earthworks and Oxfam America, 2004. *Alaska Miners Association guidelines to social license to do business in Alaska*. http://www.alaskaminers.org/2008SocialLicense.pdf
DATA 21	The Draft EIS should make use of the Calista Elders Council's new regional database for Traditional Cultural Properties.

ENVIRONMENTAL JUSTICE (EJ)

Comments related to disproportionate, adverse impacts to low income and minority communities as result of the proposed project.

Category Code	Description
EJ 1	As per Executive Order 12898, the Corps should analyze and mitigate adverse environmental consequences for minorities and populations of lower socioeconomic status. This includes impacts to the following: • Public health, including psychological aspects; • Economic and social effects; • Snow fall, river flows, permafrost degradation, bank erosion, tree encroachment, and wildlife responses to warmer temperatures; • Climate change; • The Kuskokwim River; • Changes to subsistence resources as a result of climate change; and • Cultural identity and traditional practices.
EJ 2	The Corps should follow CEQ guidelines for considering environmental justice under NEPA to ensure a rigorous analysis of relevant public health and industry data concerning environmental hazards in the affected population. If geographic and demographic data is missing relevant to the project area, it should be gathered. This includes interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed action. Cumulative effects should be included in the analysis. Part of this process should also include active community involvement early on. When seeking community involvement, agencies should endeavor to have complete representation of the community as a whole.
EJ 3	As part of the CEQ guidance for agencies on how to address environmental justice under NEPA, the Corps should seek tribal representation in a manner that is consistent with the government-to-government relationship between the United States and tribal governments, the federal government's trust responsibility to federally recognized tribes, and any treaty rights.
EJ 4	Measures for avoidance or minimization of environmental justice impacts should be considered before resorting to mitigation measures, wherever possible. When avoidance or minimization is not possible, appropriate mitigation measures should be developed through direct collaboration with affected communities. The Donlin Gold Project Draft EIS should include an Environmental Justice determination explaining whether impacts have been appropriately avoided, minimized, and/or mitigated.
EJ 5	The Draft EIS should consider a number of technical reports and other EIS documents completed throughout Alaska that consider the impacts of resource projects on Alaska Native communities. These Alaskan reports (see DATA 5) are references for considering the full range of impacts to Alaska Native communities and their way of life.

FISH – IMPACTS (FISH)

Comments related to potential impacts to fish (salmon, sheefish) populations, abundance, diversity, migratory patterns, and potential for displacement from project components.

Category Code	Description
FISH 1	Commenters are concerned about the effect of the project on salmon given that numbers have been declining. The Donlin Gold Project Draft EIS should: • Describe the current state of salmon populations on the Kuskokwim, Yukon, and Georges rivers. • Describe the potential causes of recent low salmon numbers, including water temperatures. • Analyze the potential effects of the proposed project on salmon of western Alaska given that the king salmon return was so low last year they had to close it to subsistence fishing.
FISH 2	Commenters are concerned about the effect of increased barge traffic on fish in the Kuskokwim River, including salmon, sheefish, humpback whitefish, broad whitefish, round whitefish, Bering cisco, least cisco, and smelt. The Draft EIS should address: • The effect of increased barge traffic on salmon, whitefish, lingcod, and grayling in the Kuskokwim River; • The potential damages caused by barges colliding with boats or nets due to more concentrated fishing because of limited openings/closures; • The potential for barges to cause erosion of the river banks, and the effect of that on fish; • The potential disturbance of fish and wildlife from increased barge traffic; • Clarify the exact number of barges planned per day, and whether or not there have been studies done to determine the impact on salmon; • The potential impact of a fuel spill from a barge accident; • The effect that past similar mines/barge traffic have had on fish; • The effect of increased use of boat motors on salmon spawning and rearing habitat; • The effect of increased noise on salmon productivity; • The effect of increased barge traffic on salmon migration and spawning; • The potential for increased turbidity, and its effect on salmon; • The potential for increased barge traffic to cause wave action that could harm the fry on their way to the ocean; • The potential for fish to avoid the area around the barges and not come back to the area; • The effect of increased barge traffic on the migration of salmon, sheefish, humpback whitefish, broad whitefish, round whitefish, Bering cisco, least cisco - consider the information regarding timing of these runs provided by the commenter; • The effect of the wakes/waves from the barges on migrating fish that rest and feed close to the shore- evaluate the impact of the waves on the shoreline habitat; and • The risk and effect of barge traffic introducing invasive species from the ballast water.

Category Code	Description
FISH 3	Commenters are concerned about the potential for fish to become contaminated from mining chemicals or fuel spills. The Draft EIS should address: • How best available technology would be used to capture the toxins that inhibit fish production and whether any contaminants would be released into the water; • The potential effect of residue coming from the mine once it is constructed and the effect of any contaminants on fish; • The cumulative effect of contaminants, when added to discharge into the river from the Red Devil Mine; • Whether grayling are currently absent from the river because of naturally occurring heavy metals; • The effect of contamination on salmon and smolts in the river and downstream to the ocean bays; • The potential impact of contamination from a fuel spill on the haul road that traverses into the headwaters of the Iditarod River that leads into the Innoko National Wildlife Refuge, and the Innoko River that drains into the Yukon River. Also the potential impact of contamination from airport drainage in the same area; • The potential effect of exposure to cyanide on salmon which may already be stressed from adapting to the higher rates of mercury. Describe whether the effect would be cumulative to a population already in decline; • The potential risk and impact of a mercury spill on the Kuskokwim River. The Draft EIS should fully disclose plans for mercury transport, make export manifests publicly available, and provide detailed information for emergency response procedures. The Draft EIS should also analyze the potential impacts associated with a mercury spill during transport; and • The potential risk and impact of a fuel spill or other contamination of the environment on salmon spawning tributaries along the Kuskokwim River.
FISH 4	Commenters are concerned that the project would adversely affect fish (and other wildlife including microorganisms) in the same way that the NYAC Mine has affected fish in the Tuluksak River and its drainages. The Draft EIS should describe the potential risk and consequences of contaminated water releases from the mine.
FISH 5	Commenters are concerned about the impact on salmon habitat. The Draft EIS should address: • The effect on salmon habitat in the five headwater streams of the Kuskokwim River; • The effect on the Yukon River watershed, given the proposed road system corridor between the Kuskokwim and Yukon rivers; • The effect of turbidity and silt in spawning areas; • Whether the melting of permafrost is currently affecting salmon spawning areas by producing more sediment that covers spawning gravel; • Whether existing placer mining on the Takotna River and Nixon Fork adversely affected fish spawning gravel; • The potential risk and effect of increased erosion and turbidity on salmon migration and spawning habitat. Analyze the effect on declining Chinook runs and the consequences for future runs; • The potential for increased sediment and silt in spawning tributaries from erosion as well as from the increased dust associated with mining and associated vehicle traffic. Describe the effect on the survival of the salmon runs historically providing food for

Category Code	Description
	local residents; and • The effect of increased erosion in the spring on the returning king salmon run in the main river.
FISH 6	Commenters are concerned about the potential effects of the stream crossings for the proposed natural gas pipeline and roads. The Draft EIS should address: • The methods used for the pipeline stream crossings and the potential effects on fish in the streams crossed; • How the underground pipeline would affect the rivers and fish and wildlife around them; • The effects of the road from the Jungjuk Creek port facility that crosses numerous fish bearing streams, most notably Getmuna, which is the most productive tributary of Crooked Creek; • The impacts of each of the stream crossings and gravel pits along the pipeline. Describe how flood data for each crossing would be developed to ensure that they are properly engineered, and that the risks to fisheries (and public safety) are correctly assessed; • The potential risk (and impact) of releases of drilling muds, cuttings, and additives used for horizontal directional drilling for pipeline waterbody crossings into adjacent wetlands and waterbodies; • The direct, indirect, and cumulative environmental impacts associated with the discharge of hydrostatic test water used to test the pipeline into adjacent lands, wetlands, and waterbodies containing resident and/or anadromous fish; • The potential effects on fish and habitat from temperature changes related to cold pipeline crossings of streams. Evaluate whether the cold pipe may produce aufeis and create fish passage issues; • The potential effect of diverting streams to dewater crossing sites, including impacts on vegetation, water quality, habitat damage, loss of habitat for macro-invertebrates, and possible fish isolation and loss; • How the stream crossing methods were selected and designed, including the evaluation criteria and the definition of important fishery resources and whether cost is considered. Explain how the slope and size are determined and how impacts to fish habitat are minimized. Commenter recommends using horizontal directional drilling (HDD) for all fish-bearing streams; • Consider the use of HDD on a case-by-case basis when trenching stream crossings at all anadromous streams. Consider the timing windows under the authority of the Alaska Department of Fish and Game that may be required for trenching anadromous fish streams in order to minimize the impacts to aquatic resources. Suggestion is to develop conceptual plans for stream crossings and then apply on a site-specific basis; • The risk and potential effect of stormwater runoff, thaw settlement, and thermal erosion, erosion of riparian areas and turbidity input from the pipeline. Explain whether streams would be monitored for this effect during the life of the pipeline, and whether bonding for any restoration is included in the bonding cost estimates; and • The potential long-term impact to stream and fisheries resources from pipe shifts after abandonment.

Category Code	Description
FISH 7	The Draft EIS should address: • Potential impacts to Bering cisco, known to spawn 20 miles upriver from Nikolai. One commenter was concerned about the potential cumulative effect of opening a commercial fishery on this species in the Bering Sea; • Potential impacts to sheefish spawning in the Telida River on the headwaters of the north fork; • Potential impacts to a unique strain of chum salmon that migrate up the Kuskokwim every year and spawn in the upper regions of the Windy Fork of the Middle Fork of the Kuskokwim River. Consider gravel borrow site alternatives to avoid the fish spawning habitat immediately below the proposed gravel site on the Windy Fork just below Rick Halford's homestead on the east side, on the west side about 1/2 mile below the proposed gravel site, near the Windy Fork BLM cabin; and • Potential impacts to Coho salmon and resident fish species at Jungjuk Creek in relation to the proposed Jungjuk Port site that would be located near the confluence of the Kuskokwim River and Jungjuk Creek. The EIS should evaluate the effects of port construction and maintenance on river morphology, sediment disposition, and seasonal ice movement with regard to impacts to fish habitat.
FISH 8	Commenters are concerned about protecting the salmon. The analysis in the Draft EIS should keep in mind that the Kuskokwim River serves as a supermarket, providing food to the residents and that most could people would not live in the area without it. A dollar value cannot be put on the fish and wildlife in the area, as they have kept residents alive for thousands of years and the residents would like to continue that lifestyle. Commenters encourage putting as much protection for fish and wildlife as possible into the project plans.
FISH 9	One commenter was concerned about sedimentation affecting migrating salmon. The Draft EIS should describe the timing of each salmon run, and which runs are most critical to protect from sedimentation. The Draft EIS should use information provided by local residents from the farthest reaches of the Upper Kuskokwim to determine this, as the farthest tributaries have the least documentation in public records as to the timing of the runs. The Draft EIS should consider that run timing varies from year to year.
FISH 10	Commenters were concerned about the effect of gravel pits close to streams, and about a proposed fish habitat enhancement project at material sites, including those associated with road construction. Specifically, the Draft EIS should: • Evaluate the effect on the local hydrology, and thus fisheries, of multiple gravel pits proximate to streams and rivers. Describe the necessity and location of each proposed gravel pit, including whether it is in a floodplain. • Describe the effect of the proposed fish habitat enhancement proposed at the material sites in the Getmuna Creek drainage on fish. Evaluate whether the mitigation could reverse any negative impacts from the disturbance of over 200 acres of land, including 35 acres of wetlands.

Category Code	Description
FISH 11	Commenters are concerned about the effects of water withdrawals on fish. The Draft EIS should: • Identify any mitigation measures/commitments, such as establishing water withdrawal rates, timing for water withdrawal, and screening to avoid impacts to fish; and • Identify monitoring activities to ensure that fisheries resources are protected.
FISH 12	Commenters are concerned that all fish species and habitats in the project area should be identified. The Draft EIS should: • Evaluate the types of resident and anadromous fish resources in American and Anaconda creeks; • Identify streams, lakes, and other aquatic habitats that support anadromous or resident fish that may be affected by the proposed project; • Identify streams crossed by the pipeline that support anadromous or resident fish species; and • Describe whether the kettle lakes have been surveyed for fish, as they are potential water sources.
FISH 13	The Draft EIS should fully evaluate mine, pipeline, and transporatation infrastructure related disturbances to hydrology that influence water storage capacity and groundwater infiltration rates would affect various species of fish. The sources of disturbance include surface hardening and soil compaction from roads, construction pads, storage areas, airstrip, overall facility footprint, overburden removal, permafrost disturbance. Seasonal migration of various species of fish may be disrupted and channel-forming flows may be altered by the project, which could result in indirect loss of habitat complexity. Baseflow during winter provides critical refugia and incubation for juvenile salmon and other fish in the lower reaches of Crooked Creek; changes in baseflow could have a direct impact on survival of these fish. Changes in timing, magnitude, and duration of discharge, as well as changes that alter physical (temperature, chemical, or geomorphological) components of streams could have detrimental effects on aquatic and riparian biological communities, and may affect communities farther downstream in the Kuskokwim River. Some of these affects have been observed on the Tuluksak River as a result of past mining. As noted by the Alaska Department of Fish and Game in scoping comments, the proposed dams and movements of water throughout the mine site would rely on diversions and pumping systems. The EIS should evaluate the surface water impacts at Crevice Creek and Anaconda Creek in terms of increased and decreased baseflow and the resulting impacts to fish and fish habitat during all phases of the proposed project.

FUEL SPILL RISKS/RELEASE (FSR)

Concerns about potential for fuel and oil spills or accidental releases, response capacity to clean up spills in various conditions, and potential impacts to resources or environment from spills or release. This is fuel spill risk, not hazardous materials.

Category Code	Description
FSR 1	The Donlin Gold Project Draft EIS should describe how spills from the mine site would be prevented, and what mitigation measures would be taken and response measures if a spill occurred.
FSR 2	Commenters are concerned about the risk of fuel and oil spills and if there would be adequate response, given the potential for harmful effects on many resources, including traditional ways of life. The Draft EIS should address the following questions raised during scoping: • What is the emergency response plan and who would be responsible for responding to pipeline leaks? Where would they be located and how would they respond in a timely manner, if they are not located in the area? Commenters suggest an emergency response team be located in the proposed project area; • What kind of training would the emergency response team have? • How soon can leaks or ruptures in the pipeline be detected? • What standards for cleanup would be in place? • What would be done with the spilled fuel, oil or gas? • How would traditional ways of life will be protected in the response plans?
FSR 3	With regards to spills resulting from barge activity, the Draft EIS should include or evaluate the following risks of fuel spills: • Impacts to the Kuskokwim river, including habitat, fish and marine life, and subsistence activities, as a result of a barge-related spill, and whether spills may require evacuation or permanent relocation; • A more detailed emergency response plan for a barge spill, including spills at the Jungjuk Creek port; • Potential for spills from fuel transfer and storage points at Dutch Harbor, Bethel and Jungjuk port sites; and • Amount of barge traffic corresponding to increased potential for spill risk.
FSR 4	Commenters are concerned about fuel and oil spills as a result of the proposed project. The project description should provide details on how fuel, oil and gas would be used, transported, stored and contained in ways that would prevent or minimize the risk of spills. Commenters request detailed emergency response plans, as well as community outreach strategies to inform the local community of emergencies, and about what to do if a spill occurs. Locals should be trained in emergency response skills. Additional recommendations include the following in the Draft EIS: • Implementation of Spill Prevention Control and Countermeasure Plans and Facility Response Plans; these plans should be made available to the public and agencies for review and include discussions of where fuel and fuel/water mix would be temporarily stored until disposal; • Fueling should be done at least 100 ft (30 m) from water bodies;

Category Code	Description
	• Methane is an explosion hazard. Handling of methane in the case of a pipeline leak should be discussed in the Draft EIS; • Allow the Alaska Department of Environmental Conservation to review and examine tank and facility plans to ensure regulatory requirements are met; and • Contingency Plans for the proposed project noted that the barge operators would transport fuel from Dutch Harbor to Bethel and then from Bethel to the proposed Jungjuk Barge Terminal. Comments received during scoping noted that if the barge operator would be transiting to both locations then it would be necessary to apply to operate in multiple regions of operations.
FSR 5	Detailed mitigation measures need to be described in the Draft EIS pertaining to fuel and oil spills and how they would be cleaned up. Moreover, spills need to be prevented, not just mitigated after they occur. Every precaution should be taken to ensure spills or leaks do not occur. Severe impacts to local food sources could occur as a result of a spill.
FSR 6	The Draft EIS should describe how the proposed pipeline would withstand earthquakes without leaking or ruptures. What is the remaining risk of a leak? If a leak does occur, what mechanisms would be in place to detect it, and how soon? Impacts to wildlife, rivers and streams, subsistence resources, soils and surrounding land resulting from a pipeline leak need to be described in detail in the Draft EIS. In addition, mitigation measures need to be described that reduce these impacts to resources.
FSR 7	The Draft EIS should analyze spill and leak risks associated with the HDD techniques in rivers and waterbody crossings. Specifically, the Draft EIS should describe the construction technique for the pipeline beneath rivers and streams, and what precautions would be put in place to prevent leaks.
FSR 8	If a spill or leak occurs that greatly affects the food source for locals, the EIS should include a contingency plan for compensating locals who rely on subsistence. Many of the local people cannot afford to buy food as it is very expensive, and there are not enough income-producing jobs in the local area to offset a disruption in the subsistence lifestyle and subsistence activities.

GEOLOGY (GEO)

Comments related to seismic risks, soils stability, permafrost, fault lines and earthquakes.

Category Code	Description
GEO 1	Major faults occur in the proposed project area. For this reason, the Donlin Gold Project Draft EIS should include detailed information about seismically active areas, geological faults and tectonic activity, including the Denali Fault system and the Boss River segment of this system. The Draft EIS should describe the following seismic risks: • Risks and potential impacts associated with earthquakes and other geological activities in the proposed project area (especially the tailing storage facility dam, buried pipeline and fuel storage tanks); • Historical information regarding earthquakes in the proposed project area, including evidence that the mine can survive a high magnitude earthquake without causing severe environmental impacts; • Seismic hazard study for the proposed project area; and • Avalanche hazard analysis, particularly as associated with seismic risk.
GEO 2	Commenters requested that the Draft EIS incorporate visual depictions to display risk information, including the following: • Permafrost and vegetation mapping analysis; • Map depicting seismically active areas, geological faults tectonic activity, etc.; and • Terrain mapping used to identify areas of geological, landslide, and avalanche hazards, glacial terrains, soil stability, erosion problems, slope instability, erosion, ground freezing, and thawing of permafrost etc. Mapping should also be used to identify, classify, and locate soil, rock, and geomorphic and seismic features. This mapping should be used to analyze the proposed pipeline route.
GEO 3	Regarding the natural gas pipeline, the Draft EIS should describe and evaluate the following design features in relation to seismic and other geologic risks: • How the pipeline would withstand earthquakes, especially where the route intersects with major fault zones, and what monitoring techniques would be in place to detect potential leaks; • Construction techniques that would be used through massive ice lenses between MP 205 and MP 188; and • Handling of equipment crossings during construction, especially in the summer. Include information about whether equipment would be permanent or temporary, and if all equipment would fit in the ROW. • Slope stability issues along the pipeline route that are said to occur infrequently in the Plan of Development; and • Risks of avalanches, including potential that some pipeline features may need to be buried in avalanche-prone areas.
GEO 4	The Denali Fault has numerous cross cutting dikes and smaller fault zones that carry mineral and associated surface exposures which are important to wildlife. Several of these are located near the proposed project area. The Draft EIS should analyze impacts to wildlife from restricted access to essential minerals as a result of the project, and implement mitigation measures to ensure continued use of these areas by wildlife.

Category Code	Description
GEO 5	Permafrost and ice-rich conditions occur in the proposed project area. The Draft EIS should identify and describe these areas along the pipeline route, and how the pipeline would be built and function in areas with permafrost, erodible, and unstable soils. Commenters suggest including soil profiles on a corridor of 0.5 mile (0.8 km) width along the pipeline route. The Draft EIS also should describe how pipeline leaks would be detected below ground.
GEO 6	Mitigation measures need to be identified to minimize impacts from seismic activities and effects on soils, such as permafrost and impacts from HDD across streams, rivers and other water-bodies. Scoping comments noted that HDD muds have been known to propagate into a watercourse (frac-out) as a result of excessive drilling pressures and site specific geology. It was recommended that a HDD drilling mud management plan should be developed to minimize the potential of a frac-out as well as to have a plan in place to both detect drilling muds entering water courses and to trigger an appropriate course of action. It was also recommended that sections of the proposed pipeline that are HDD should undergo pressure/hydrostatic testing prior to installation. Long-term monitoring of soils may be needed. These need to be explained in detail in the Draft EIS. The Draft EIS should describe how seismically active areas would be monitored and what actions would be taken when seismic activity causes structural damage to facilities.
GEO 7	The Draft EIS should describe how the proposed project may affect existing permafrost, and specifically, how thawing permafrost may destabilize the ground that supports roads, pipelines, and other facilities as a result of removing vegetation and placement of gravel for permanent and temporary access roads, pads, work areas, airstrips, mine facilities, etc. The ambient temperature charged gas pipeline may affect affects soils and permafrost, since portions of the ambient temperatures of the gas may be above freezing as they enter areas of permafrost and may be below freezing as they exit areas of permafrost.
GEO 8	The Draft EIS should clearly describe project construction soil use and associated impacts, including removal and replacement, and impacts to soils from metal and acid release from mining activities. Impacts to soils, erosion, aquatic habitat, river sedimentation and permafrost thawing as a result of the pipeline, particularly near waterbody crossings should be fully discussed in the Draft EIS. Stabilization of backfill trench should be continually monitored as permafrost may melt in areas that are not adequately addressed.

GOVERNMENT TO GOVERNMENT (G2G)

Consultation and coordination with tribal governments. This includes comments on formal consultation and coordination under Executive Order 13175, participation as cooperating agencies, and activities to promote tribal participation in the EIS.

Category Code	Description
G2G 1	CEQ Guidance requires the Corps to seek tribal representation in the EIS process in a manner that is consistent with the government-to-government relationship between the United States and tribal governments, the Federal Government's trust responsibility to federally-recognized tribes, and any treaty rights. Tribal governments, whose members or traditional resources may be affected, either directly and indirectly, by this proposed project, should be invited to open and meaningful consultation on a government-to-government basis consistent with E.O. 13175. The Draft EIS should document these consultation activities, as well as any actions taken to address the concerns identified by the tribal governments. Recommendations: • Encourage meaningful engagement and participation by communicating in the regional native Yup'ik language; • Scheduling of meetings, milestones, and decision points in the Draft EIS process should avoid conflicts with subsistence, cultural, religious, and other traditional activities, whenever possible; • Provide more frequent opportunities to involve the tribal governments and the public (between the Scoping and the Draft EIS stage); • Maintain a transparent Draft EIS and G2G process for tribes and the public to follow, with clear information about key decision points and milestones; • Conduct educational workshops on various subjects that would bring in the Traditional Ecological Knowledge and Wisdom (TEKW) and local knowledge of the people of the region (e.g., information to help shape the NHPA Section 106 process, the emergency response planning, characterizing impacts from potential failure scenarios, impacts to subsistence resources, and timing of the subsistence calendar and any special habitat areas for wildlife); • Prepare and disseminate fact sheets on technical aspects of the project; • The consultation and coordination process should be used as an opportunity to provide educational outreach and technical exchange of information regarding the project. Fact sheets and workshops (either in person, teleconference, or webinar) should be provided to tribes throughout the NEPA process; • The tribal consultation and coordination process should be used as an opportunity to gather TEKW from the local tribal members who may be affected by this project; and • The Draft EIS should document the tribal consultation and coordination process by providing a chronology with the dates and locations of meetings with tribal governments, and results of each meeting.
G2G 2	The EPA scoping comments offered to assist the Corps in fulfilling tribal consultation and coordination responsibilities for this project. The EPA's special expertise includes the Region 10 Tribal Consultation and Coordination Procedures, which can be found here: http://www.epa.gov/region10/pdf/tribal/consultation/rl0_tribal_consultation_and_coordination_ procedures.pdf

Category Code	Description
G2G 3	The Corps should develop a formal Tribal G2G Consultation Plan which would outline the process for working effectively with tribal governments during the Draft EIS development process. The G2G Plan should: • Include a schedule with agreed upon timelines and milestones for consultation, meetings, and decision points, based on the best timing for conducting the consultation meetings which would avoid conflict with Alaska Native Village subsistence, cultural, and religious seasons, which varies within each community; • Explain the role of each participant (government, tribe, or interested party) and whether it involves voting, permitting, or engagement in the Draft EIS; and • Be developed in collaboration with the affected and/or interested tribal governments. Tribes should have the opportunity to review and provide comments and concurrence with the G2G Plan.
G2G 4	The Corps should decide how tribal government concerns and issues raised during government-to-government consultation meetings will be recorded. The Corps should discuss with each tribe, whether the tribe wishes that information to be made publicly available and whether the tribe wants an opportunity to correct any information prior to it being included in the record.
G2G 5	The Draft EIS should discuss how tribal government comments were addressed through changes in the project design, evaluation of alternatives and impacts, and development of mitigation measures. In addressing potential adverse impacts, measures for avoidance or minimization of those impacts should be considered before resorting to mitigation measures. Where avoidance or minimization is not possible, develop appropriate mitigation measures and agreements. These should be developed with input from the affected population in a consensus-based process.
G2G 6	The Draft EIS should explain the coordination process between the Corps and the cooperating agencies, and the Corps with the tribes. The Corps should ensure successful G2G coordination with the tribes regarding activities near other federal lands. Tribes would like clarification of inter-agency communication: • The project is adjacent to two large refuges, Yukon Delta and Togiak, so the Federal Subsistence Regional Advisory Councils are discussing this project. • Tribal residents would like to understand whether the Alaska Department of Natural Resources and USFWS (cooperating agencies) are collaborating with the Office of Subsistence Management or the Subsistence Division and which agency is coordinating the traditional knowledge effort.
G2G 7	The Corps should consider the concerns of tribes that have not yet signed-up as cooperators or who have not yet held coordination meetings. It should not be too late to participate.
G2G 8	There should be a wide net cast for tribal consultation along the proposed pipeline corridor. There were some errors in the list of tribes in the Pipeline Plan of Development, including the omission of Aniak, Chuathbaluk, and Napaimute. Louden Tribal Council is not the federally recognized tribe for Galena, but Galena is probably too far away to be included in the proposed pipeline project area.

Category Code	Description
G2G 9	The tribes desire to be fully engaged in the Draft EIS process and in project development and long-term operations and management so that they can assist in the environmental stewardship of the project. The tribes seek to exercise an appropriate level of authority and resources as a government agency to ensure ecological and natural resource information is used to review siting and construction of the pipeline in order to avoid or minimize habitat impacts.
G2G 10	The 1992 amendments to the National Historic Preservation Act (NHPA) placed major emphasis on consultation with tribal governments. Consultation should respect tribal sovereignty and the government-to-government relationship between the Federal and tribal governments. Tribal governments must be consulted about actions on or affecting their lands or resources on the same basis, and in addition to the State Historic Preservation Office (SHPO). Potential impacts to resources of concern to the tribes may include, but are not limited to, impacts to cultural resource areas, archaeological sites, traditional cultural properties of landscape, sacred sites, and environments with cultural resource significance. The tribal government(s) must be specifically engaged and consulted with in accordance with Section 106 of the NHPA.
G2G 11	The perspectives of tribal governments should be considered when determining whether the area of potential effect would be eligible for the National Register of Historic Places. Tribes would have input and considerations about significant events that may have taken place in the past (historic tribal warfare sites, establishment of trade routes, etc.).
G2G 12	There are political reasons that may inhibit the ability of regional tribal organizations from commenting on the Draft EIS. This is one reason that ongoing consultation with the tribes is so important.
G2G 13	As part of government to government consultation process, The Village of Crooked Creek has requested information on the water quality studies performed to date by Donlin Gold, LLC. These studies are requested by the Village of Crooked Creek so that they may determine missing links of the environmental baseline studies. As stated to the Corps, "Crooked Creek Traditional Council wants to understand all completed technical studies and evaluations of the Donlin Gold permitting process. We [Crooked Creek Traditional Council] understand there are numerous environmental, hydrological and socio economic issues and how they will be used to ultimately obtain permits, and environmental authorizations to initiate of the Donlin Gold Project. A gap analysis of existing water quality data in the headwaters of the Crooked Creek Stream will be presented, with interpretation of current data and identification of further data needs. There will be recommendations provided for future water quality monitoring in the region and we want to understand all impacts. The study area was defined as the Donlin Project watershed upstream of our community. There are numerous studies identified with information about Donlin Gold in this area. Individual study reliability will be assessed, and study data will be complied to assess conditions in comparison to water quality guidelines any spatial or temporal trends. Both water chemistry and bioassessment studies will be assessed. What are the major gaps in existing information: a) Are there insufficient baseline/ reference information? b) Are there gaps with insufficient information on impacts from contaminants other than metals, insufficient coverage of streams not directly impacted by the Donlin Gold project?

Category Code	Description
	c) What is the quality and reliability of data, coordination/continuity between studies done to date? d) Cyanide concentration will be used and we want to understand all impacts. e) What will be the metals concentrations will be elevated throughout the study area? We want to understand all water quality conditions with regards to other parameters (e.g. dissolved oxygen, temperature, pesticides and bacteria) and bioassessment data. Existing monitoring in the area should be explained to the Crooked Creek Traditional Council."

GROUNDWATER IMPACTS (GRD)

Impacts to groundwater systems and aquifers from tailings, transportation of groundwater, and how it moves underground.

Category Code	Description
GRD 1	Concern was expressed regarding the potential for contamination of groundwater resources by the proposed project. Some communities get their drinking water from groundwater wells. The Donlin Gold Project Draft EIS should fully analyze measures to safeguard groundwater from contamination by the overburden stockpile and other components of the proposed project.
GRD 2	The Draft EIS should discuss the treatment of mercury in perpetuity. Specifically, the Draft EIS should describe how mercury would be prevented from releasing into surface or groundwater from the waste rock storage facility. Effectiveness of treatment should be included, as well as where the mercury would be transported.

HABITAT (HAB)

Comments associated with terrestrial habitat requirements, or potential habitat impacts from project components and operation. Comment focus is ecology/habitat, not animals.

Category Code	Description
HAB 1	The Donlin Gold Project Draft EIS should fully analyze the potential direct, indirect, and cumulative effects of all components and all phases (including reclamation and restoration) of the proposed project on terrestrial, marine, and freshwater ecosystems. The analysis should consider how changes in habitat quality, quantity, or character could affect the organisms that use those habitats (including fish, wildlife, and subsistence uses of these resources). Source of cumulative effects on habitat may include trends and consequence of climate change. Concerns were expressed that the proposed project would continue to affect habitats for hundreds of years after the mine closes.
HAB 2	Concern was expressed during scoping that this project would set a precedent for future resource development in the Yukon-Kuskokwim Region and elsewhere in the state that could affect habitats.
HAB 3	The Draft EIS should fully analyze the risk for invasive (non-native) species introduction as a direct or indirect result of the proposed project. This analysis should include the potential impacts of invasive species to ecosystems, native populations, and human activities. The Draft EIS should identify the vectors for invasive species introduction as well as preventative measures that would reduce the risk of introduction.
HAB 4	Barge ballast water was singled out as a vector for invasive species introduction. Barges and tankers associated with the proposed project have the potential to transport and introduce non-indigenous species to the Kuskokwim River as well as marine and intertidal habitats. The Draft EIS should: • Consider the risk of invasive species introduction by marine and river barges; • Include a ballast water management program as per The National Invasive Species Act of 1966; and • Include a commitment to use only vessels that operate with a ballast water management plan and have onboard ballast water treatment systems.
HAB 5	Habitat between MP 150 and MP 194 of the proposed pipeline route is reported to be important moose and Dall sheep habitat, particularly during periods of high nutritional stress. The Draft EIS should consider the potential effects of pipeline development on habitat as well as habitat utilization and access in this area. The Draft EIS should also consider alternative pipeline routes that would avoid this habitat.
HAB 6	The Draft EIS should fully evaluate potential effects by the proposed project on the lands and waters within and surrounding the Yukon Delta National Wildlife Refuge. The following points should be investigated and analyzed in the Draft EIS: • The interconnected nature of this low-lying delta ecosystem makes it more vulnerable to disturbance and contamination; • Tidal influences reach farther than 100 km inland; and • The geographic extent of coastal impacts has been increasing with the frequency and intensity of storm surges;

Category Code	Description
	• The Yukon Delta National Wildlife Refuge contains internationally significant coastal and shallow water habitats for fish, birds, and marine mammals that may be at a higher risk for visual and noise disturbance as well as contamination as a result of the proposed project; • Disturbance and fuel spills may affect coastal resources; and • Streams and wetland habitats used by fish and other aquatic organisms may be affected by changes in water quality and increased barge traffic associated with the proposed project.
HAB 7	The Draft EIS should evaluate the potential effects of natural gas-related infrastructure and activities on Cook Inlet marine habitats.
HAB 8	Concern was expressed that the proposed project could affect habitats associated with rivers in the project area, particularly the Kuskokwim River. The Draft EIS should: • Assess the impacts of a potential large-scale mishap on fish migration and spawning, waterfowl, moose, caribou, and other animals; • Analyze any potential long-term and short-term effects on Kuskokwim River habitats; • Investigate the effects barge-related riverbank erosion could have on riparian habitat; • Consider the impacts increased barge traffic could have on habitat utilization by fish and wildlife; and • Consider the impact construction, maintenance, and abandonment of the proposed pipeline and ROW could have on riparian habitat. Mitigation measures should be identified.
HAB 9	Concern was expressed that the pipeline corridor and related infrastructure could change habitat access. Habitat fragmentation could occur as a result of the pipeline corridor. Some species may be reluctant to cross the cleared pipeline ROW where they could be more vulnerable to predation. The pipeline corridor could also facilitate the movement of other species, including non-native species.
HAB 10	The village of Crooked Creek requested that the Corps evaluate impacts of the proposed project to benthic invertebrate habitat in Crooked Creek as part of the Draft EIS. Benthic invertebrate communities in the rivers are the basis for the food chain in this area and the Village of Crooked Creek urges the Corps to fill in data gaps on this resource.
HAB 11	The EIS should analyze changes in surrounding habitat during the reclamation and restoration phase of the project, including changes due to climate change, changes in environmental conditions over time, and adaptive management in response to changes of temperature and precipitation.

HAZARDOUS MATERIALS (HZM)

Concerns about the potential for hazardous material storage, spills, and impacts to resources or the environment. Chemicals associated with mine process and storage of materials (cyanide, mercury, arsenic, acids). Comments include references to materials identified as hazardous by the commenter, rather than a regulatory definition.

Category Code	Description
HZM 1	The type of geology found in the area of the Kuskokwim Region contains high concentrations of mercury and has been referred to as the "mercury belt." Concerns were expressed during scoping that Donlin Gold would claim that the levels of mercury generated in the proposed mining process are natural. There should be a mass balance analysis for mercury and other toxic materials in the mine. Full, ongoing accountability for the flow of mercury is a feasible and appropriate requirement, and should be incorporated into the Donlin Gold Project Draft EIS analysis. A mass balance approach would provide detailed information on mercury throughout the process and allow mill engineers, regulators, and the Donlin Gold environmental team, to better understand how mercury may go unaccounted for- allowing for a faster and more informed mitigation response in the event of unexpected problems with contamination. The information gathered should be publicly accessible online, at any time, and independently reviewed by third-party inspectors. During the scoping period there were questions raised about historic mining in the region and baseline contamination. The Draft EIS should address the following: • Mercury concentrations in the overburden rock at the mine site; • The Central Kuskokwim area already has one superfund site environmental clean-up and does not need a second. How is the leaching that would occur at the proposed Donlin Gold Mine similar to the leaching of mercury from Red Devil? There is contamination of fish (mercury and arsenic) in the fish studies between McGrath and Crooked Creek. Did the Red Devil mine have anything to do with that? • If cyanide binds with mercury and there are already higher levels of mercury in the YK region, what about with the potential additive impact on people given the Red Devil Mine cleanup and concerns about chemicals from that site? What about the bioaccumulation to fish and from eating fish? • A Donlin Gold newsletter noted that there were mines upriver that released mercury and lead. What is the result of that now? What is the effect on fish like pike that may have high mercury content in their livers that people in the Bethel area then consume? Would the Donlin Project double the quantity of chemicals? People in Tuluksak noted that once the NYAC mine started, fish left the river. Local residents noted that cancer rates could and may have increased as a result. Residents noted that the proposed Donlin Gold could affect the entire river system.

Category Code	Description
HZM 2	A major issue expressed during scoping with the mine proposal is that the cyanide and mercury released into the watershed would damage the environment, people, animals and fish (particularly wildlife consumed for subsistence). It is considered not a question of "if" pollution would occur, but "when" and "how much." Seemingly small amounts of mercury can result in exponential rates of bioaccumulation. These chemicals can affect everything from cellular function to oxygen levels in water. The project plans do not list all of the hazardous chemicals that might be emitted from the smokestacks. It is not understood or known yet how hazardous materials would affect resources for residents outside the mine in places like Quinhagak. Can acids float in the air and affect distant villages? How does mercury travel and how would it affect people? What are the fate and pathways for human and wildlife exposure to cyanide? These issues concern local residents because pregnant women in the area are already told to avoid some fish. Most of people in the region hunt and fish and in particular for ducks and geese.
HZM 3	The Draft EIS should include detailed information and a mercury risk assessment about the use of mercury from cradle to grave including its entire transportation route. Even captured mercury remains a contamination risk as it becomes part of the river barge traffic, joining diesel spills as a threat to all that depend on the Kuskokwim River. Details in this research/study should include: • In what forms would mercury be transported? • How would each form of mercury be transported? • Where does it go and how often? • How would mercury transportation infrastructure be designed to address the risk of spill? • This discussion must include the communities at Dutch Harbor and wherever else they might be transferring product; • Where is the federally regulated facility located that would contain the solid mercury? Is it military or civilian? • What impacts may occur as a result of a spill during storage and transportation? Specifically, pure elemental mercury? The Draft EIS should fully disclose plans for mercury transport, make export manifests publicly available, and provide detailed information about the emergency response procedures and plans.
HZM 4	The Draft EIS should evaluate reasonably foreseeable mine failure scenarios within the scope of NEPA analysis. There are inherent environmental and human health risks associated with the development of a new mine project that may not be anticipated or expected during the early project planning stages. Accidental fuel and chemical releases as well as spills occur despite precautions to manage for those risks. For example, the Fort Knox Gold Mine north of Fairbanks had spill releases of 300,000 gallons of cyanide containing water (May 2010) and 45,000 gallons as a result of a bulldozer breaching the supply line (August 2012). There should be an evaluation of the environmental effects resulting from the failure of the mine facilities, such as the tailing storage facility dam and liners and the transportation of materials for permanent or temporary storage off-site. There was concern expressed during scoping that the tailing storage facility may not be a reliable containment storage device of the contaminated waters. The Draft EIS

Category Code	Description
	should explain if the liners are tested and reliable and there should be testing for the containment first before use in operations. Additionally it was noted that this is same principle as how a beaver dam holds back water. It works until spring when snow and ice produce water overflow but once the beaver leaves the area, the dam is subject to erosion and other forces of nature over time until it is no longer a dam. At present one map on the project plan shows seepage below the dam into a containment pool that suggests that seepage of contaminated waters is expected into Crooked Creek and therefore into the Kuskokwim River.
HZM 5	The Draft EIS should describe the presence of mercury in the Donlin Gold ore and the fate and transport of mercury through mineral processing. It also would be important to disclose the presence of existing sources of mercury in the region in terms of both the baseline discussion and cumulative impacts sections of the Draft EIS. For example, there are existing sources of mercury that contribute to mercury loading in the Kuskokwim River and its tributaries from natural mercury mineral occurrences and from historic mining practices that mined or used mercury. The Draft EIS must clearly differentiate between the mercury loading from existing sources and anticipated contributions from the proposed project.
HZM 6	The Draft EIS should include analysis of potential effects of contaminants and toxins in the airshed on the ecosystem, drinking water supply, and subsistence resources. Many villages get their water directly from adjacent rivers. The potential for aerial contaminants, either allowed or accidental, poses additional issues for aquatic and terrestrial habitats, and would extend the scope of concern to include many other resources, such as berry harvest areas, lichen and upland tundra, and inland forest resources. The Draft EIS should identify the amount of mercury emissions Donlin Gold would be permitted to release in order to compare the total quantities released in the entire state to date (examples bulleted below). The Draft EIS should be very clear about mercury management and potential exposure pathways it presents: • The Donlin Gold mine would produce 640,000 oz. of mercury a year and the analysis should address where it would go; • The new EPA rule allows for 84 pounds of mercury to be released to the air per one million tons of ore. That means Donlin Gold would be legally allowed to release into the air 1,806 pounds of mercury per year; • In 2010, the mercury toxic release inventory for the whole state of Alaska was 43 pounds from all mines, power plant, etc. into the air; • The EPA rules would allow Donlin to release into the surrounding tundra, streams, and countryside a quantity 42 times the whole state of Alaska's mercury emissions in 2010; and • The most recent toxic release inventory for the State of Alaska had less than 100 pounds of known mercury emissions throughout the State of Alaska, but Donlin Gold is going to be able to legally emit about 1,100 pounds of mercury per year, and there is going to be something to the tune of 300 to 500 tons of mercury moving through that mill during the 30-year mine life. Commenters noted that they believe it is important to put that in context and to provide transparent information about how that issue is going to be dealt with in the Draft EIS.
HZM 7	The proposed mine should not be allowed to dump captured mercury into the tailings pond; rather, it should export all captured mercury to a federally approved permanent

Category Code	Description
	storage facility, following the transport protocol used by the Department of Defense (Department of Defense, Joint Munitions Command, HWAD Mercury Consolidation Project Information Sheet (July 29, 2010)) and guidelines provided by the Department of Energy (Department of Energy, Interim Guidance on Packaging, Transportation, Receipt, Management, and Long-Term Storage of Elemental Mercury (November 13, 2009)) - A multiple container approach with several redundant systems for safety. If Donlin Gold operators intend to use a different storage and management system than the one the Department of Defense uses, the Draft EIS should describe how it improves these Department of Defense methods.
HZM 8	Entities unfamiliar with the proposed project could overstate the potential for impacts from mercury. The Draft EIS must describe, in an understandable manner to residents of the region, the nature of the potential impacts that mercury from the proposed project could have on human health and the environment and the effectiveness of mercury control technologies.
HZM 9	The Draft EIS should address the potential consequences and major public concerns over a containment structure failure. The tailings pond would be a large bowl of mercury and other mineral wastes, so a release would be an environmental disaster. The Draft EIS should describe what would be the time required for these contaminants to degrade to a lesser degree of danger. There would always be a risk, for seven generations into the future. It is impossible to ensure that the Kuskokwim River would not be fouled. When a dam broke in Europe, they were shoveling up dead fish with a wheelbarrow; it killed all the fish in the river. Mercury is so dangerous it can take one drop per million gallons to contaminate the water. If salmon smell that, then they wouldn't go back to that spawning area. Other than the typical concerns for potentially treating water leaving the pit forever, the Draft EIS should evaluate what happens far into the future if the pit totally fills up with chemically stable sludge resulting from the High Density Sludge Process. As much as it rains, the pond is eventually going to overflow. The Draft EIS should describe how mercury and other heavy metals would be kept out of the watershed during the life of the mine, and particularly when the mine is abandoned? It is not technically feasible or realistic to assume runoff water from the tailing waste and the open pit would be treated or pumped into the pit into perpetuity. Runoff would be acidic and toxic to fish and down river inhabitants. The Draft EIS should explain how runoff would be kept out of the Kuskokwim River, and what the impacts to the river are if it is not.

Category Code	Description
HZM 10	The impact of mercury on aquatic systems may be dependent on the amount that is methylated. Mercury methylation requires inorganic mercury and methylating bacteria. The predominant (though not exclusive) methylators of mercury are sulfate-reducing bacteria, which require anoxic conditions, sulfate, and an organic carbon source. Therefore, any landscape alterations that affect the activity of sulfate-reducing bacteria can have a large effect on methylmercury concentrations in aquatic biota. As such, in evaluating the impacts of the proposed mine, it is not adequate to look at just releases of inorganic mercury. The Draft EIS should discuss how the mining activity influences the methylation potential of mercury. The pathways for environmental and human exposure to methylmercury should also be described. Recommendations for analysis in the Draft EIS should consider the following: • In 2007, measurements of methylmercury were added to the mercury baseline study. These measurements focused on stream/river sediments. While measuring sediments may have the benefit of being less temporally variable than water; the water measurements may be more representative of the methylmercury available for accumulation in the food web. It is likely that mercury methylation in the area is mainly occurring in wetlands. The export of methylmercury from these wetlands is likely in the dissolved phase. Therefore, it may be the case that sediment methylmercury concentrations are not representative of water methylmercury concentrations. The export of methylmercury from wetlands is likely highly temporally variable and would be dependent on hydrological connectivity between the wetlands and streams. An efficient way to identify the baseline methylation potential of the ecosystem is to collect measurements directly from the wetlands; • Numerous studies have shown that methylmercury concentrations in water have large seasonal variability—with the highest concentrations in the late summer/early fall. Over the winter, methylmercury typically decreases, resulting in lower spring time concentrations. As such, to understand the maximum amount of methylmercury being produced, measurements should be made in the late summer or early fall; • The Draft EIS should discuss the potential for methylation to occur downstream from the mine site and the role that export of dissolved organic carbon, sulfate, and inorganic mercury may have on facilitating downstream methylation; • Releases of mercury or methylmercury associated with the mine need to be contextualized with the releases from Red Devil and other mines upstream, and naturally occurring background levels to understand any cumulative impacts of releases; and • Discuss the potential pathways for environmental and human exposure to methylmercury, and the potential for methylmercury to bioaccumulate in fish and other subsistence foods relied upon by the local communities.
HZM 11	The Draft EIS should consider a full range of alternatives that would preclude placing mercury-contaminated tailings solution in the tailings impoundment, where the mercury can be released into the environment from liner seepage, leakage or failure, and off-gassing air emissions. There are ample examples of tailings impoundments that leach contaminants due to liner failures.

Category Code	Description
HZM 12	The Draft EIS should also evaluate the impacts of the tailings pond containing potentially unstable forms of mercury in the event of a tailings dam failure. The neutral-alkaline pH of High-Density Sludge would precipitate metals such as iron, manganese, copper, cadmium, and zinc, and is essential in the Tailing Storage Facility (TSF) to keep cyanide from off-gassing as toxic hydrogen cyanide. However, the metalloids arsenic, antimony, molybdenum, and selenium do not precipitate, they mobilize. Additionally, cyanide in the TSF would keep mercury and selenium dissolved. The scoping documents address the complex mix. Ferric sulfate is added to precipitate arsenic, Octolig resin columns are to assist in removal of selenium, and UNR reagent 829 is to assist with mercury removal. However, with regards to selenium, iron co-precipitation is not sufficient to treat it to the low levels required for disposal into a creek, and the proposed Octolig columns appear to be completely untested. Additional information regarding this is found in materials by Sandy and DiSante. 2010. Review of available technologies for the removal of selenium from water for North American Metals Council. CH2M Hill. http://www.namc.org/docs/00062756.PDF. With regards to mercury, the UNR reagent seems to have not performed well on TSF water, although it performed better with filtrate. There is no mention of treatment for ammonia.
HZM 13	The use of explosives, such as dynamite should be analyzed in the Draft EIS.
HZM 14	Cumulative levels of mercury in biota from all sources should be addressed in the Draft EIS. Bioaccumulation of methylmercury has already reached a level of public health concern in some predatory fish species in the Kuskokwim River drainage (Matz 2012). Current state public health guidelines recommend that women of childbearing age limit their consumption of some fish species in this drainage, to avoid potential health impacts to the developing fetus (see www.epi.alaska.gov/ehlfish). Mercury inputs and methylation rates in Alaskan rivers are expected to increase with climate change (Schuster et al 2011). While project-related levels of mercury input may or may not have significant effects when considered alone, both allowed and accidental inputs of additional mercury must be evaluated in the context of the existing environment. Project-related increases of mercury in fish have the potential to affect local human welfare, given the critical role subsistence fisheries play in this area. Fear or loss of confidence in the safety of subsistence foods could result in a shift away from subsistence toward market foods, resulting in decreased status (Murphy 1997). This effect may not be limited to the project area, but could extend downstream for a currently undetermined geographic extent.
HZM 15	Barrick Gold's operations in other countries should be studied and examined as part of the Draft EIS process. The U.S. has stronger environmental and health protection laws than other countries where this company operates, but the proposed project area should be an area where responsible mining could occur. One commenter noted that they had participated in superfund cleanups in Wyoming, Nevada, Montana, and Alaska that did not go through the due diligence of a Draft EIS and that more recent projects are better engineered, managed, and monitored, and it is inaccurate and unfair for some groups to compare this proposed project to previous projects.

Category Code	Description
HZM 16	The Draft EIS should provide documentation about the forthcoming mercury management plan (as part of the Integrated Waste Management Plan) which should include disposal plans, handling, monitoring, mercury abatement controls, and all applicable regulations. Otherwise it is difficult to understand the ramifications and deleterious effects of the abatement process and the management of co-product mercury and mercury-containing materials. Specifically: • Discussion of cleaning supplies and mops and broom disposal in the Integrated Waste Management Plan was covered but this is not an adequate discussion; • The Draft EIS should include information on how control devices capture mercury in liquid and gaseous form as well as mercury captured from the tailings slurry pipeline; and • The Draft EIS should evaluate alternative methods for managing waste liquid flows from the carbon-in-leach tank and other mill processes to the tailings pond. Are there pollution control measures that can be used to reduce the mercury in the carbon-in-leach tailings solution before it gets mixed with the detoxified tails?
HZM 17	Although Barrick Gold has developed certain techniques to reduce the mercury emissions generated through the milling processes, it is possible that fugitive emissions wafting off the waste rock and tailings may contribute substantial amounts to the environment. Currently the state only requires mine operators to address the mercury emanating from the milling operation where it is released from the autoclave, carbon kiln, gold furnaces, and retort facilities when the ore is subjected to high levels of heat. The Draft EIS should analyze how such off-gassing of mercury could potentially wind up miles away in the environment, possibly contaminating subsistence resources and harming area residents. Off-gassed mercury emissions from the tailings pond could be prevented or at least reduced by using superior control technology during ore processing and through certain reclamation and control methods.
HZM 18	Comments received during scoping noted that a mine of this scope and the history of mercury pollution in this area require safeguards beyond present day regulations and beyond the political arena. The Draft EIS should examine future plans for this mine detailing better health, safety, and environmental testing and monitoring. There should be acknowledgement of any federal, state, or tribal ordinances related to cyanide, beyond the recognition and assurance that the mine would follow the international standards set for cyanide and gold mining.
HZM 19	The Draft EIS should include an analysis of the potential for spills of contaminants. The project plan states that there would be spill response equipment at Bethel and Jungjuk ports, but what about in between? A spill response plan should be developed for each village along the barge route to ensure the fastest and most effective response time possible. The Draft EIS should include plausible accident scenarios. Fuel storage, equipment refueling, and equipment maintenance operations should occur at least 100 ft (30 m) from surface waters in order to prevent spills.

Category Code	Description
HZM 20	Over the lifetime of the proposed project, large quantities of hazardous and solid waste material would be generated during construction, operation, maintenance, closure, and reclamation. The Draft EIS should address the potential direct, indirect, and cumulative environmental impacts of hazardous and solid waste from the proposed project. A hazardous and solid waste material handling, storage, management, and disposal plan should be developed and incorporated into the Draft EIS. Recommendations include: • Identify the sources, types, and volumes of hazardous and solid waste material; • Discuss how the hazardous and solid waste material would be properly handled, stored, and disposed at the camp and/or mine sites or at an offsite facility; • Identify whether an on-site lined solid waste landfill would be constructed to dispose of solid waste material from the camp and mine activities. Specify whether on site burning of solid waste would be proposed; • For clean solid waste material, develop and implement a recycling and/or composting program. Consider backhauling recyclable material offsite and incorporating the composting material on site; • For hazardous waste materials, identify any facilities where the material would be properly disposed. The facility should be approved and certified to accept hazardous waste material; • As an alternative to disposing of hazardous waste offsite, an onsite underground injection control well should be considered to handle hazardous waste material disposal; and • Identify other hazardous material sites within the adjacent project area and determine the potential cumulative impacts from the proposed project (e.g. the Red Devil Mine and other abandoned or historical mines).
HZM 21	The Kuskokwim Region has one of the largest Chinook salmon subsistence fisheries in the state. If there was a spill, the river could be contaminated forever, similar to what has happened at the Carson River in Nevada which is currently a superfund site due to mining-related impacts.
HZM 22	The Plan of Operations for the proposed project indicates that mercury precipitation reagents would be used to convert soluble mercury to a stable form of mercury that is mercury sulfide (HgS) in the leach tailings filtrate (Water Resources Management Plan, Donlin Gold Project Plan of Operations, Volume II at pages 4-23 [July 2012]). The Draft EIS should provide data and address key questions on the long-term effectiveness of this approach. It should address if the converted mercury would remain stable, and determine what is the long-term leachability of all forms of mercury?

Category Code	Description
HZM 23	The Draft EIS should examine the short- and long-term impacts to surface or groundwater resources associated with leachate from waste rock. The Draft EIS should evaluate how mercury would be prevented from releasing into surface or groundwater from the waste rock storage facility, particularly post closure. In addition to mercury, a number of other toxic metals such as arsenic, antimony, manganese, molybdenum, lead, copper, cadmium, cobalt, chromium, iron, nickel, barium, and selenium have been identified as likely to leach from waste rock, the open pit, and tailings. The Draft EIS should consider the impacts of ammonium nitrate, cyanide, and other toxic chemicals used in mining operations that may also threaten ecosystem and human health if they are not strictly contained.
HZM 24	Arsenic is a naturally occurring element in the earth's crust and widespread throughout Alaska. The proposed project activities would expose the aquatic environment to arsenic and potentially result in subsequent exposure to humans by drinking contaminated water and/or eating contaminated foods. The Draft EIS should include an arsenic assessment and determine potential impacts to human health. This would include: • Identifying the sources and the amounts of arsenic potentially released from this project. Identifying the receptors of arsenic in the environment. Describing the potential pathways for human exposure and providing the toxic exposure limits for arsenic to humans and wildlife. • An examination of the mobility and toxicity of arsenic depending on the form (e.g. arsenite, arsenate) that is heavily influenced by oxidation/reduction conditions. The Draft EIS should include a discussion of predicted arsenic speciation in the context of potential changing redox conditions and how this influences the potential environmental transport and impacts. • Identifying any control technologies that would be implemented to detoxify, remediate, remove and/or treat arsenic from the mining process effluent. For any arsenic removed, identifying the proper disposal facility. Providing an estimate of the amount of arsenic in the tailings effluent stream and tailing storage facility, and including an arsenic management plan.
HZM 25	The proposed natural gas pipeline would require hydrostatic testing to ensure pipeline integrity during construction. Hydrostatic testing may require large volumes of water, which may be heat treated and/or augmented with freeze depressants if construction is during the winter season. The Draft EIS should provide information to evaluate the direct, indirect, and cumulative environmental impacts associated with the discharge of hydrostatic test water into adjacent lands, wetlands, and waterbodies containing resident and/or anadromous fish. A pipeline hydrostatic test water plan should be developed and incorporated into the Draft EIS. Recommendations received during scoping included: • Describe the location of water sources, volume of water, and withdrawal rates that would be required for hydrostatic testing of the natural gas pipeline; • Identify the discharge locations to land and/or surface waters, and discharge methods; • For winter hydrostatic testing, identify the use of any chemical additives, such as anti-freeze or freeze depressants, and how these chemicals would be treated prior to discharging; • Avoid discharging hydrostatic test water into surface waters containing resident and/or anadromous fish; and

Category Code	Description
	• Describe mitigation measures/commitment and control devices that would be implemented to minimize environmental impacts associated with discharging hydrostatic test water.
HZM 26	The Draft EIS should explain the cyanide detoxification step of the mining process, the dangers of the process, and alternatives to it. Specifically, the Draft EIS should address: • How much cyanide solution does it take to process one ton of ore? The mine life is going to be 27.5 years, and the quantity of cyanide solution should be described. • Where does the cyanide come from? How would it be managed and/or contained? • Regarding metal in the solution what regulations would ensure that toxins in solution are going to be precipitated out and dealt with instead of dumping solution into a pond or dumped into the aquifer? • Does this process use any other chemicals of concern? • What happens when cyanide binds with other naturally occurring and introduced elements such as mercury? In the Y-K Region there is already a higher level of exposure to mercury than is typical. • What components of milling could be done off-site to reduce exposure to contaminants at the project site?
HZM 27	The Draft EIS should include a cyanide management plan and a discussion of the environmental and human health impacts associated with cyanide exposure and strategies aimed at reducing exposure to residents and migratory wildlife. Recent studies have shown that residual cyanide in mine tailings can cause persistent release of toxic metals (e.g., mercury) into groundwater and surface waters. Potential steps should be considered to detoxify, remediate, and remove cyanide from the tailings effluent. The Draft EIS should evaluate control technologies and additives to detoxify, remediate and remove cyanide from the mining process effluent. Any cyanide removed should be properly disposed at an approved faculty. The Draft EIS should describe spill contingencies and potential impacts if cyanide were released on land or into the Kuskokwim River.
HZM 28	Commenters noted that Donlin Gold's proposed use of cyanide at the proposed mine site should be approved. It is a common and well-regulated process for which Donlin Gold would have safeguards in place. The comments the Corps receives on this topic should be carefully considered, but evaluated from the prospective of the proposed plan of operation.

Category Code	Description
HZM 29	The Draft EIS should quantify the amount of cyanide that could be released on land and in water. The transportation, storage, and disposal of cyanide presents potential risks and many opportunities for accidental spills and releases of cyanide to land and water. As proposed, cyanide would be transported to the mine site using marine cargo vessels, river tug/barges, and trucks on a gravel road. In transit, the cyanide would be stored at the Bethel and Jungjuk ports. Considerations should be made to minimize transportation and multiple transfer points for cyanide. Questions that were rainsed include: • How would the cyanide be stored and contained safely during transport to the Donlin Gold mine? • How would they ensure there are no spills or damage from cyanide transport? • How would they respond to accidental releases? This should be accounted for into the spill contingency plan. • What is the safest way to transport it? Identify opportunities to minimize transit times and multiple transfer points. An alternative should include the use of air cargo to transport cyanide directly to the mine site. • How much cyanide would be included in the tailing effluent stream and be stored in the tailing storage facility?

HYDROLOGY (SURFACE WATER) (HYD)

Impacts to streams, local waterbodies, and disruption in local water patterns. This includes riverine systems, wave impacts to shore banks and surface waters, and lower water levels.

Category Code	Description
HYD 1	The Donlin Gold Project Draft EIS should fully analyze the effects of the proposed project and the associated barge traffic could have on riverbank, beach, and riverbed erosion along the Kuskokwim River. The Draft EIS should: • Include a geomorphology study of the Kuskokwim River, containing historic riverbank erosion rates and a quantification of riverbank loss between Bethel and the proposed Jungjuk Port; • Include a boat wake study using modeling techniques to evaluate the magnitude in which boat traffic (including vessel speed) and wakes contribute to bank erosion along the Kuskokwim River; • Consider the potential for increased erosion in areas where the river is shallow; • Develop methods for erosion control and protocol for promptly dealing with breaks in erosion control. Erosion control should be particularly robust when it comes to protecting villages; • Analyze potential impacts to cultural tradition as a result of the loss of land and homes caused by erosion; • Consider the cumulative effects of historic riverine erosion, current and projected weather patterns, current and projected boat traffic, and traffic associated with the proposed project; • Analyze the effects increased erosion could have on sediment deposition rates and patterns in the Kuskokwim River. Concern was expressed that increased deposition could create more sandbars, decrease river depth, and interfere with fishing infrastructure; • Analyze the effects from the movement of barges including changes in dissolved oxygen, temperature, total suspended solids, total dissolved solids, and pH levels. These parameters are all of vital importance to aquatic life, and should be monitored all along the Kuskokwim and its tributaries for the life of the mine and reclamation process. • Analyze the potential effect of the Bethel terminal expansion on the river current; • Specifically address erosion near Akiak, which lost 200 ft (61 m) of land to erosion last summer; and • Specifically address erosion near Kwethluk, a community on the Kwethluk River. Erosion is already a problem in the Kwethluk area and concern was expressed that it would be exacerbated by the proposed project. A mile (1.6 km) upstream from Kwethluk there is a small shortcut that connects the Kuskokuak Slough portion of the Kuskokwim River to the Kwethluk River. The mouth of this shortcut is being eroded by the Kuskokwim River and wake created by increased barge traffic could speed this process. Over time this could increase the volume of water that flows into the Kwethluk River thereby increasing the rate of erosion along the community of Kwethluk. It was noted that several houses along the Kwethluk River had to be relocated last fall for protection against loss and damage.

Category Code	Description
HYD 2	The Draft EIS should fully analyze the potential impacts that high, low, or fluctuating water levels in the Kuskokwim River could have on barge traffic associated with the proposed project. The Draft EIS should also consider the cumulative impacts that barge traffic associated with the proposed project and high, low, or fluctuating water levels could have on Kuskokwim River hydrology, habitats and the fish and wildlife that depend upon them, and subsistence activities.
HYD 3	Concern was expressed regarding pathways for water-borne pollutants that may be released as a result of the proposed project. The Draft EIS should: • Determine which rivers, stream lines, watersheds, and water bodies (both fresh and marine) are downslope from and could be affected by any component or phase of the proposed project including unanticipated events such as storage pond dam failure or liner leak; • Specify which watersheds and water bodies could be affected by which pollutants and analyze the impacts those pollutants could have on those watersheds or water bodies; • Specifically address the Innoko, Iditarod, Yukon, and Kuskokwim drainages; and • Specifically address the possibility of pollutants flowing out of the Kuskokwim River and being carried by the current up the coast to the Yukon Delta.
HYD 4	The Draft EIS should incorporate historical hydrology studies and fully analyze how extreme or seasonal flooding events could affect the proposed project and surrounding villages. The Draft EIS should specifically address how flooding events may affect channel erosion and pipeline stream crossings.
HYD 5	Concern was expressed that the proposed natural gas pipeline could impact stream hydrology and vice versa. The Draft EIS should: • Consider the possibility that streams as large as the Big River may not be frozen solid during the winter. Sub-ice flow and streambed flow should be managed or diverted during pipeline installation; • Consider the possibility that many of the streams the proposed pipeline must cross would be frozen solid and have no surface flow during February. Surveys should be conducted in advance to identify the best crossing site; • Assess the effects ice dams and associated flooding and streambed scour could have on proposed pipeline stream crossings, particularly the Kuskokwim River crossing; • Analyze the effects proposed pipeline stream crossings could have on sub-streambed flow and continuity; • Consider the possibility that channel diversion would have to take place during construction of proposed pipeline stream crossings, especially on wide, braided rivers where heavy equipment operators may need more room to maneuver. • Evaluate potential impacts of channel diversion on hydrology and; and • Describe impacts associated with the open cut method. Much of the construction of the pipeline on BLM lands (the western portion of the proposed pipeline) would be during the summer months when the ground is exposed, banks are soft, and stream flows are higher. Using the open cut method during the summer season creates more potential for water management problems, exposes the stream channel, and threatens water quality much more than it would if construction took place during the winter, especially on bigger streams with higher gradient and higher discharge. The Draft EIS should consider an alternative in which all stream related construction crossings and pipeline installation would be made during the winter when there is less flow and potential water quality issues and the ground/bank is frozen and stable.

Category Code	Description
HYD 6	Residents posed questions about whether and how surface water (creeks) would be diverted near the proposed mine site. Would Donlin Gold dam any creeks at the headwaters? Would Donlin Gold create any manmade creeks? Would any tributaries to Crooked Creek be dammed? Would the project create manmade ponds?
HYD 7	Although the Donlin Gold permit application explains BMPs during construction and operations (e.g. silt fences and other protective devices) to limit the amount of sediment runoff into adjacent wetlands, residents are concerned sediment would enter Getmuna Creek and eventually Crooked Creek, thereby degrading the spawning and rearing habitat (e.g., interstitial spaces) prior to any mitigation. The permit application states, "within the Crooked Creek drainage, several of the smaller tributaries can freeze to the stream bottom during winter (Northern Ecological Services and HDR Alaska Inc. 1999). In addition, the underlying geology of the area causes siltation in the Crooked Creek drainage, which leads to a highly armored (or embedded) stream bottom. Heavy silt loads fill the interstitial spaces in the gravel, which limits the available habitat for macro invertebrates (Waters 1995) and exacerbates the effects of winter freezing by limiting the amount of habitat available for colonization." Additional sediment would be of particular concern in Crooked Creek considering the anticipated reduction in water volume mentioned above. A reduction in stream flow would lessen Crooked Creek's ability to flush sediments out.
HYD 8	The Draft EIS should fully analyze the effects of and potential for creating aufeis and seeps by activities associated with the proposed project. Aufeis at proposed pipeline river-crossings could damage riparian areas downstream and should be incorporated into bonding and damage assessment. Seeps may occur on proposed graded ROWs and road cuts that expose groundwater to the surface. Seeps may freeze into large masses of ice that have the potential to disrupt construction, necessitate rerouting of the proposed pipeline corridor, and require clearing more acreage. Suggestions were made during scoping to contact Denali National Park and Preserve to learn about the challenges that glacial seeps present for winter road operations.
HYD 9	The proposed project would require large volumes (millions of gallons) of water for construction of permanent and temporary gravel roads, facility pads, hydrostatic testing of the pipeline, HDD, and other mine operations. The Draft EIS should include an evaluation of the water resources of the project area. Discussion in the Draft EIS should: • Identify and map existing and potential surface water locations where water withdrawal for project construction and operation would occur; • Describe water extraction methods and amounts; • Characterize each surface water resource and identify its surface area, maximum depths, available volume of water, volume of proposed withdrawal, and presence/absence of resident and/or anadromous fish species; • Identify the maximum water requirements for project construction and operation; • Identify any mitigation measures/commitments, such as establishing water withdrawal rates, timing of water withdrawal, and screening to avoid impacts to fish; • Identify minimum required flow needed to maintain fish habitat; and • Identify monitoring activities to ensure fisheries resources are protected. Concerns were expressed during scoping that pumping substantial groundwater would affect surface water adversely and alter the hydrology enough to effectively permanently impact or destroy rivers and streams within the local watershed. The Draft EIS should evaluate Donlin Gold's groundwater and surface water flow modeling

Category Code	Description
	predictions. Aquatic biota should be monitored throughout the life of the proposed mine because the mining operations would remove substantial quantities of surface and groundwater.
HYD 10	The proposed mine facility is located within the two adjacent watersheds – the American and Anaconda creeks. Both creeks provide source water to Crooked Creek, which drains into the Kuskokwim River. The proposed waste rock facility would permanently impact American Creek. The proposed tailing storage facility would permanently affect Anaconda Creek. The Draft EIS should evaluate the direct, indirect, and cumulative impacts to American and Anaconda creeks. The watershed characteristics of both drainages should be evaluated in detail. The Draft EIS should: • Conduct a watershed characterization of American and Anaconda creeks; • Analyze the watershed geomorphological and other characteristics, such as basin shape, slope, vegetation cover, soil type and land use conditions; • Evaluate the seasonal water levels, flow regimes, and channel morphology (i.e., channel bed and bank erosion and sediment transport capacity), and impacts caused by stream diversions, channelization, and altered drainage patterns; • Evaluate the types of resident and anadromous fish resources; • Demonstrate how construction of the proposed mine and its associated facilities might alter runoff responses to both average and extreme precipitation events; and • Evaluate the downriver effects to Crooked Creek and the Kuskokwim River, such as reduction in seasonal and annual water flow, sediment and nutrient transport.
HYD 11	The EIS should evaluate effects of the road connecting the Jungjuk mine to the port, including the effects of bridge and culvert stream crossings and cross drainage on stream hydrology and/or morphology, including the potential for aufeis. The proposed Jungjuk road that would connect the Jungjuk Port site to the mine crosses approximately 50 streams and/or drainages including both Jungjuk and Getmuna creeks, both of which support resident and anadromous fish. Spur roads would also be constructed to access the airport and other mine facilities.

LEGISLATION AND REGULATORY PROCESS (LEG)

Compliance with Clean Water Act, Clean Air Act, Endangered Species Act, and Section 106 of the National Historic Preservation Act. Comments on compliance with other statues, laws or regulations that should be considered; coordinating with Federal, state, local agencies or organizations; permitting requirements.

Category Code	Description
LEG 1	The Donlin Gold Project Draft EIS should consider the history of mine permitting in Alaska, in particular the Red Dog Mine, Fort Knox Mine, Green Creek Mine, and the Kensington Mine. These mines have been thoroughly evaluated through the permitting process and have solid environmental and economic track records. Agencies should consider the historical context that many mines cited by opponents of mining are mines whose operations began before the advent of the National Environmental Policy Act, the Clean Air Act, or the Clean Water Act. It is important to understand and acknowledge that it took many years to establish the regulatory framework through which these laws would be implemented and that the U.S. has achieved a good track record of environmental stewardship. The Draft EIS should: • Explain how and when permitting decisions are made in relation to the EIS timeline; • Describe what happens if significant changes are made to the permitted activities following the EIS process; • Include a list and description of all permits required for the proposed action including international, federal, state, and local; and • Describe the roles and relationships of all the permitting agencies.
LEG 2	The Draft EIS should describe how the project would comply with Section 106 of the National Historic Preservation Act (NHPA). Specifically: • Clarify that Section 106 is not part of the NEPA process, it is a separate law; • In the analysis of Traditional Cultural Properties, note the distinction that these are not limited to properties important to Alaska Natives. The properties of traditional religious and cultural importance to Alaska Native tribes may not be the same as Traditional Cultural Properties identified on the basis of historic importance to other communities. • Note that the Corps is the lead federal agency that ensures compliance with this law under the National Historic Preservation Act, but that the statute also requires consultation with other permitting agencies, tribes, SHPO, local government representatives, and the Advisory Council on Historic Preservation (ACHP); • Ensure that NEPA/NHPA consultation and scoping is coordinated and concurrent where possible to save resources; • Complete the Section 106 process prior to issuing the Record of Decision (ROD), which would provide for the implementation of the Programmatic Agreement terms; • Analyze impacts to the Iditarod National Historic Trail; and • Clarify that any mitigation measures to impacts to the Iditarod National Historic Trail would be agreed to as a part of the Section 106 compliance process and outlined in a Programmatic Agreement.

Category Code	Description
LEG 3	The Draft EIS should explain the extent of interdisciplinary work between the state and federal agencies working together with scientists and with indigenous knowledge in order to make comment periods more meaningful. One commenter encouraged many departments to work together to address and analyze current problems.
LEG 4	The Draft EIS should describe how the project would comply with the Clean Water Act. It was suggested that the CWA Section 404(b) (1) analysis alternatives development be integrated into the Draft EIS to ensure that the environmental review and permitting processes are concurrent, efficient, and consistent. The Draft EIS should fully disclose the precise legal mechanism by which the proposed discharges to the mine pit would occur, so that affected members of the public may comment on it. Specifically: • The Draft EIS should address the perceived loopholes in the Clean Water Act and how they affect the tailings impoundment facility that does not have to comply with discharge standards if considered a waste treatment facility; • Describe how the potential closure of the two main Clean Water Act loopholes would affect the design and placement of the tailings; • Consider how litigation with the Clean Water Act would affect the mine engineering plans; • Explain if American Creek and the other waters within the pit would be deemed a waste treatment facility; • Describe how the project would comply with New Source Performance Standards regarding the discharge of wastewater into American Creek; • Explain whether the scope of water quality analysis would include anti-degradation provisions of the Clean Water Act. • Describe the locations of affected wetlands and how Section 404 requirements and compliance would be met; and • Include a draft CWA §404(b)(1) compliance determination for the preferred alternative as an Appendix to the Draft EIS.
LEG 5	Explain whether the Corps has in its statutes the ability to stop the clock to acquire more information and data that might be needed for areas of the Draft EIS that are essential for decision-making.
LEG 6	Commenters expressed concern about the history of past mines leaving pollution and poison behind and want information regarding consequences of permit violations. The Draft EIS should clarify whether or not there are any guarantees from the Corps or other permit issuing agencies. Describe the violation process and potential punishments and whether or not the proposed mine could be shut down until the violations are addressed. The Draft EIS should explain how ownership and responsibility would be determined and disclose any past permit violations committed by the project proponents.
LEG 7	Explain how the North American Free Trade Agreement would affect the ability of the state and federal government to regulate this proposed mine. Describe whether the answer is a legal opinion or established law upheld by the courts.

Category Code	Description
LEG 8	One commenter encouraged the Corps and cooperating agencies to follow the integrated NEPA and permitting approach utilized by federal and state agencies on past mine development projects in Alaska, including the Pogo Mine, the Red Dog Aqqaluk Extension, and Kensington. It was suggested that the Corps evaluate the CWA §404 permit application concurrently with the NEPA process and the National Historic Preservation Act Section 106 coordination process.
LEG 9	Clarify whether the Draft EIS would include a full analysis of the cumulative impacts of the proposed project natural gas pipeline, including an analysis of greenhouse gas emissions as pollutants under the Clean Air Act as a result of recent court rulings.
LEG 10	Describe the ANILCA 810 subsistence evaluation process for the proposed project. Ensure that Draft EIS and, if needed, ANILCA 810 subsistence hearings are coordinated whenever possible, and give advanced notice so that elders and other community members can participate.
LEG 11	Commenters expressed concern about the Temporary Water Use Permits (TWUPs) issued to Donlin Gold by the Alaska Department of Natural Resources (DNR) in March 2012. There were specific concerns raised during scoping that the issuance of several permits is contrary to the public interest and is likely in violation of the Alaska State Water Use Code. The Corps should consider approval of these permits in the Draft EIS.
LEG 12	Alaska Department of Fish and Game Title 16 Fish Habitat permits would be required for water withdrawal and for several other aspects of the proposed project associated with fish streams including pipeline crossings (ditching, boring, streambed and streambank rehabilitation), equipment crossings, material sites and port construction.
LEG 13	In accordance with 11 AAC 93.17, the Draft EIS should include consideration of the hazard potential of classification of the project's several substantial water dams and the large dam for whole mill tailings slurry. This should include summary of the required feasibility study and site study that justifies the location, type, and configuration of the proposed dam over other alternative locations, types, and configurations.

LAND OWNERSHIP, MANAGEMENT AND USE (LAND)

Public and private land use, ownership, and management objectives. Loss/degradation of wilderness values – but not traditional land use, which is address elsewhere.

Category Code	Description
LAND 1	The Donlin Gold Project Draft EIS should analyze the Iditarod National Historic Trail under NEPA proceedings in a separate section that tracks throughout the document as a special designation or Congressional Designation.
LAND 2	The Draft EIS should review and address the Kuskokwim Area Management Plan that is currently in place, in the proposed project area.
LAND 3	The following land management goals must be accounted for in the Draft EIS: • Ensure protection of natural and cultural resources from Off Road Vehicle (ORV) impacts; • Provide ORV access consistent with the provisions of ANILCA Section 811; and • Describe and analyze state-managed public access on the state-managed Susitna Flats Game Refuge and BLM-managed access on the BLM-granted right-of-way (in the context of subsistence use and needs).
LAND 4	The Draft EIS should analyze potential impacts on a BLM commercial-occupancy site near MP 168, where a leaseholder provides BLM-approved commercial big game hunting guide-outfitting operations, with ORV or All-Terrain Vehicles (ATV) and fixed-wing aircraft access, within the surrounding area.
LAND 5	The Draft EIS should evaluate the loss of wildlife habitat on lands in the proposed project area.
LAND 6	The Draft EIS should evaluate Lands with Wilderness Characteristics along the pipeline corridor as required under BLM management guidance.
LAND 7	The Draft EIS should evaluate impacts to private and public lands resulting from the reclamation of the natural gas pipeline, and ensure that adequate bonding is in place.
LAND 8	The Draft EIS should evaluate impacts of increased public access along the pipeline corridor with regard to the following issues raised during scoping: • Possible use of the pipeline ROW as a route for snow machines and other ORV/ATV's; • Impacts of the ROW to placer mine operators who move their equipment during winter months, would ROW impact that; • Consider that the proposed pipeline corridor may open a long, newly developed trail from Anchorage/Wasilla directly to the proposed project area; and • Determine if the proposed pipeline corridor would be managed with any restrictions on public access in relation to risks to the integrity of the pipeline system.

Category Code	Description
LAND 9	The Draft EIS should analyze the impacts the proposed pipeline corridor may have by increasing public access on lands including: • Increased access from Southcentral Alaska to the proposed project area; • Impacts to National Register of Historic Places (NRHP) sites and trails; • Increased risks for oil spills along new access routes and appropriate reporting requirements; and • Disposition of over-burden along the ROW that may impair wildlife movement patterns.
LAND 10	The Draft EIS should identify public trails, sectionline easements, 17(b) easements, and RS2477 trails in the proposed project area and address potential impacts to and from these trails.
LAND 11	The Draft EIS should analyze the land rights of private landowners and the effects of the proposed project including: • Traditional users' loss of access to ANCSA lands leased for the proposed project area; • Public access to the proposed pipeline corridor if a road is built with public funds; and • Rights of ANCSA landowners to avoid unreasonable delays, which might constitute a taking.
LAND 12	The Draft EIS should analyze the impacts to private lands and landowners for the proposed project area including: • Alaska Native corporation lands received pursuant to the Alaska Native Claims Settlement Act; • Restricted Indian lands received under the Alaska Native Allotment Act of 1906 and, • Including maps in the EIS to depict on a useful scale the proposed pipeline routes through subdivisions so that people can see where the proposed pipeline may cross their lots. Lot lines should also be depicted on such mapping efforts in the EIS.
LAND 13	The Draft EIS should analyze the impacts of the loss of traditional land use and subsistence use areas by the tribes and members of the community. In particular, the Draft EIS should examine lands that are now owned and leased by Alaska Native Corporations and their relationship to the proposed project.
LAND 14	The Draft EIS should analyze the implications of the Bering Sea Western Interior Resource Management Plan for BLM management requirements of segments of the proposed pipeline.
LAND 15	The Draft EIS should analyze the effect of the Bethel barge terminal facility on the public use of the surrounding area with regards to trails and waterfront usage.

MITIGATION MEASURES (MIT)

Comments related to suggestions for, or implementation of, mitigation measures.

Category Code	Description
MIT 1	The Donlin Gold Project Draft EIS should identify mitigation measures to minimize the release of acid rock drainage/metal leaching.
MIT 2	Mitigation measures and control technologies should be identified to minimize the emission of Hazardous Air Pollutant (HAPs) and fugitive dust. Commenters suggest the following: • Use of natural gas to power heavy equipment and vehicles; and • Wetting source material, installing barriers to prevent dust from spreading, and halting operations during high wind events.
MIT 3	Barge traffic is a main concern among commenters. Mitigation measures should be clearly stated and described in the Draft EIS to reduce impacts associated with barge activity. Commenters suggest the following: • Reduce or eliminate barge traffic during Chinook (king) salmon openings and other key annual subsistence activities; • Include mitigation to protect marine resources from barge traffic; • Include mitigation for noise caused by barges that may affect local fisherman; • Place unused rock from the mine site along the river bank to reduce bank erosion; • Establish and enforce maximum tug/boat speed and load limits; • Reconfigure barges to minimize wakes; and • Evaluate (monitor) annual river-bank loss.
MIT 4	Local residents drink water from the Kuskokwim River, and it is the habitat for many species of fish and aquatic life. Mitigation measures should protect the water quality of the river and include the treatment of contaminated water. Commenters suggested using alternative techniques to completely remove chemicals from water before discharging and using dry stacks instead of slurries.
MIT 5	The Draft EIS should explain how the noise disturbance from blasting, which results in wildlife displacement, would be mitigated (commenters suggest blasting locations be included on a summary map). Helicopters, airplanes, and machine noise could drive away game species during hunting season. Commenters suggest an alternative of seasonal restrictions on mine operations such as cessation of construction and noise-producing activity during hunting season.
MIT 6	The Draft EIS should include a detailed mitigation plan for each stage of the proposed project including pre-construction, construction, operations, maintenance, rehabilitation and closure. This approach would help assess mitigation needs and identify mitigation measures and best management practices that should be implemented. The limitations, uncertainties, effectiveness, and risks associated with implementation of mitigations should be fully discussed in the Draft EIS. The Draft EIS should address scenarios with catastrophic failures such as pipeline breaks, mine failures, or dam failures. It should include a discussion of adaptive management planning to respond to such unforeseen events. This analysis should include the following:

Category Code	Description
	• Timeframes for each mitigation measure, with a start and end date and duration for implementation; • Determination of whether mitigation measures would result in additional environmental impacts; • Description of corrective actions to remedy failed mitigation; • Identification of the source of funding for each mitigation and monitoring measure; disclose any lack of funding; and • Designation of the entities responsible for implementing each mitigation measure.
MIT 7	Impacts to public health need to be mitigated. Mitigation strategies should be developed and included in the Draft EIS. Commenters have the following suggestions and concerns: • Mitigation in the Health Impact Assessment (HIA) should help guide mitigation in the Draft EIS; • Use "social determinants of health" as done in the Draft EIS for the 2008 Northeast National Petroleum Reserve - Alaska; and • If there is a spill or release of hazardous materials that cause locals to relocate, analyze who would pay for these travel costs and potential medical expenses?
MIT 8	The Draft EIS should include analysis of mitigation measures to avoid and minimize impacts to fish, wildlife, public health, land, and subsistence activities. For impacts that cannot be avoided, compensatory mitigation should be included.
MIT 9	Mitigation measures should be developed and identified to protect fish and the locals who depend on them for their subsistence lifestyle. The Draft EIS should describe mitigation measures that would be used to protect fish. Commenters suggest the following: • Reduce or stop construction and mining activities during peak times of fish migration and spawning; • Identify measures to protect fish from mine discharge and mercury contamination, such as using dry stack tailings; and • Conduct fueling activity at least 100 ft from wetlands and the bank of fish streams; no fueling in riparian areas or within 500 ft of active floodplain of any fish bearing streams.
MIT 10	The proposed pipeline would affect many resources. The Draft EIS must fully address pipeline impacts and necessary mitigation measures. Commenters are concerned about impacts to the following, and suggest including mitigation measures for each: • Bird habitats affected by brushing; • Aquatic resources; • Vegetation; commenters suggest minimizing amount of vegetation removed for the ROW; • Habitat loss resulting from the exposed pipeline; • Habitat along the ROW; commenters suggest scattering chipped brush and limbs along the ROW; • Wetlands; and • Impacts resulting from grading of hillsides; trenching on hillsides should be considered to reduce visual impacts.

Category Code	Description
MIT 11	The Iditarod National Historic Trail (INHT) and other important trails should be protected. Commenters suggest choosing a ROW that intersects the trail where tall, thick native vegetation currently exists, and maintaining a 500 ft trailside vegetation buffer. Also, directional drilling methods should be used to insert the pipeline below the undisturbed trail corridor. This would also help prevent unauthorized ORV/ATV and vehicle access. If pipeline crossings at trails require a ROW, the width of the clear zone should be minimized. In areas with existing access routes, alternate access should be provided. Vehicle barriers could be installed to prevent unauthorized vehicle access, but allow for continued use of trails for winter users. Permanent service and maintenance roads should include these kinds of barrier structures also.
MIT 12	Mitigation measures should be included in the Draft EIS for potential wildfires.
MIT 13	Impacts to wetlands should be minimized. The Draft EIS should discuss wetland loss from draining and filling for roadways, including the miles of roads and the acres of wetlands affected. Restoration of existing wetland habitat could potentially be used as a compensatory mitigation credit if they can be restored to provide beneficial fish and wildlife habitat. Large surface area/low impact tires could help reduce impacts to wetlands, as well as the use of temporary platforms/holding structures during pipeline construction to ensure material can be recovered and put back into place on top of the trench. In areas where platforms are not an option, the area should be immediately replanted with native species.
MIT 14	Reclamation should be conducted immediately following construction, and may need to occur more than just one season/year after construction to account for chronic erosion or stability issues.
MIT 15	In the pipe storage yards and construction camps, commenters suggest using an alternative to gravel pads, such as non-permanent porous pavement panels. With regards to material sites, following use for temporary purposed gravel should be returned back to where it was quarried, and all material sites should be fully reclaimed.
MIT 16	Mitigation should be developed to minimize disturbance to soils. Commenters note that the Pipeline Plan of Development states that organic matter would be separated from mineral soils. They suggest the additional separation of the A and B horizons from the underlying parent material, since soil development is a very slow process. In roadside ditches sediment catchments should be installed and maintained.
MIT 17	Stream and waterbody crossing techniques and associated mitigation measures to minimize impacts should be fully analyzed in the Draft EIS. Commenters suggest considering as an alternative an elevated, rather than buried, pipeline above streams and waterbodies. During construction of the pipeline, fiber optic cables should be placed in same location as pipe installation to reduce impacts to fisheries resources. To prevent scouring of streambeds, energy-dissipation devices should be used at all locations to prevent habitat damage and increased turbidity.
MIT 18	The traditional ways of life in the proposed project area should be protected by effective mitigation measures. Commenters suggest the following: • Identify the monetary value of loss of hunting, fishing and gather activities; and • Develop and fund an Elders and Youth Council to ensure continuance of traditions and culture.

Category Code	Description
MIT 19	To prevent fuel spills, yoke stem valves should be used.
MIT 20	Equipment brought from outside the proposed project area should be thoroughly cleaned to prevent unwanted invasive species.
MIT 21	Tailings ponds should be enclosed to prevent harm to the environment. Safety systems need to be in place in the event that tailings dams leak. Captured mercury should not be dumped in the tailings pond. It should be exported to a federally approved permanent storage facility. Furthermore, the Draft EIS should include discussion of implementing the latest research and technology for capturing CO_2 in mine tailings.
MIT 22	The Corps should engage Donlin Gold, LLC in the development of mitigation measures early in the process. Donlin Gold can then apply experience to predict mitigation success, as illustrated at other mine sites. Furthermore, regarding mitigation in the Health Impact Assessment (HIA), the Corps should independently evaluate mitigation measures proposed to reduce health-related impacts.
MIT 23	Mitigation measures for temporary work camps and permanent facilities for all phases of the proposed project would need to be surrounded by electric fences to minimize human interactions with foxes, and brown and black bears that were noted to be common during similar construction activities of the Trans-Alaska Pipeline. The temporary storage and proper disposal of putrescible wastes would be an important part of minimizing human/carnivore interactions.

MONITORING (MON)

Comments related to monitoring plans for project and post closure.

Category Code	Description
MON 1	Commenters request detailed monitoring plans for all phases of the project, including construction, maintenance, operation and reclamation/closure. Monitoring plans should address all project components and include: • Defined goals and objectives; • Measurable performance standards; • List of measurement parameters, methods, and locations; • Schedule and frequency for monitoring during all phases; • Entities responsible for conducting and reporting monitoring; • Procedure for implementation and documentation; • Newest technologies and techniques, such as thermistors, lysimeters, and gas detectors; • Detailed assessment of effectiveness; • Participation of public and tribes, and development of a Citizens Advisory Board; and • A plan for monitoring the mine-site in perpetuity, including analysis of need for permanent power to accomplish monitoring.
MON 2	Monitoring of the proposed pipeline should be analyzed in detail in the Donlin Gold Project Draft EIS. In particular, commenters are concerned about identification and monitoring of pipeline leaks. The following issues need to be analyzed in the Draft EIS: • Detailed monitoring plans for the pipeline for all phases of the proposed project; • A pipeline hydrostatic test water plan; • The entity responsible for monitoring the pipeline; • Continued monitoring of erosion, permafrost, vegetation and riparian areas along the pipeline; • Monitoring and analysis of groundwater drainage patterns; • Defined schedule and frequency of monitoring; • Additional pipeline inspections after significant weather events such as heavy rain; • Monitoring for non-native invasive species by a botanist at least once per year; and • Schedule for Smart Pigging Inspections at appropriate intervals.
MON 3	Impacts to the environment and human populations need to be monitored during all phases of the project, including construction, maintenance, operation and reclamation/closure. Continued sampling should take place throughout the life of the project, both within mine facilities and the surrounding project area. Samples used for monitoring should be taken from the same locations as baseline samples. Entities responsible for monitoring should be identified in the Draft EIS. Commenters request monitoring of the following: • Fish, wildlife and subsistence resources; • Invasive species; • Geological resources, including waste rock produced by the mine; • Air quality; and

Category Code	Description
	• Water quality, including impacts to groundwater and surface water hydrology.
MON 4	Commenters support on-going monitoring to address their great concern regarding potential impacts from barge activity. The Draft EIS should fully analyze impacts to the environment and identify and implement monitoring plans accordingly. Specifically, commenters are concerned with the following: • Entity responsible for monitoring barges (would the U.S. Coast Guard be involved?); • Monitoring of barge leaks; • Invasive species introduced through barge activity; and • Impacts to fish and other subsistence resources.
MON 5	The type and method of mercury monitoring should be discussed in the Draft EIS. This should include a mass balance approach to monitor all mercury entering and leaving mine facilities, at all phases of the project. Mercury abatement units should be monitored closely, and the slurry pipe to the tailings impoundment should be monitored regularly to determine how much mercury enters the tailings pond. Commenters are particularly concerned with mercury transported by prevailing winds, and impacts to air, water and fish. Results of mercury monitoring should be publicly accessible online.
MON 6	Fugitive dust should be monitored throughout the life of the project, including construction, operation, maintenance and reclamation/closure to ensure effectiveness of mitigation measures. Commenters are particularly concerned with dust transported by prevailing winds, and the impacts to air and water quality.
MON 7	Many comments were received regarding water quality and impacts to water quality from mining activity, particularly to the Kuskokwim River. Commenters request detailed monitoring plans for all types of water, including surface and groundwater, during all phases of the project including construction, operation, maintenance and reclamation/closure. The following are suggestions for water monitoring: • Conduct baseline water quality studies to help guide monitoring plans; • Avoid discharging hydrostatic test water in waters with resident and/or anadromous fish; • Identify discharge locations and describe methods of discharge; • Consistent site sampling locations; • All port locations, and downriver from each location; • Water monitoring year-round on a monthly basis; • Whole-Effluent Testing on a quarterly basis; • Test water samples for cyanide and compare to clean water; • Identify entities responsible for monitoring; and • Make water quality reporting available to the public and local residents.
MON 8	There should be monthly testing of water, sediment and biota down-gradient of the proposed mine site in the same locations as baseline testing samples. There should also be samples taken off-site to facilitate interpretation of long-term variations due to climate change.

Category Code	Description
MON 9	Passive air monitoring should be conducted at least once a month in various locations within and surrounding the proposed mine site, both during and not during operations. Results should be compared to modeled predictions, and a mine closure plan should be implemented if emissions are greater than predicted. These monitoring reports should occur monthly, and results from monitoring should be made available to the public online.
MON 10	Chemical management processes should be described and evaluated in the Draft EIS. This should address usage, storage and transport of all toxic chemicals.
MON 11	The Draft EIS should identify and describe air emissions monitoring during mine operations and post-closure. All stacks that release to the atmosphere should be monitored frequently to determine mercury release and contamination. This includes monitoring of mercury capture controls.
MON 12	Year-round ambient air monitoring should be conducted outside the proposed project area to identify mercury impacts to air quality.
MON 13	Acid rock drainage should be monitored throughout the life of the project. As long as any water from the mine is treated, aquatic life and geological resources should be monitored for potential impacts. Commenters request kinetic test throughout all phases of the proposed project.
MON 14	Monitoring of captured mercury should include logging of when, where, and how it is stored. Shipment of mercury should be clearly tracked. No mercury should be disposed of on-site, in landfills, or in the tailing storage facility.
MON 15	The Draft EIS should identify and describe a comprehensive monitoring plan for worker health. Mine workers should receive periodic mercury screenings, particularly those working near autoclaves.
MON 16	Noise levels should be monitored and disturbance impacts to wildlife should be analyzed during construction and operation of the mine.

NATURAL GAS SUPPLY (GAS)

Lower costs of fuel in rural Alaska as result of potential new gas supply and spur/distribution systems. Impacts to gas supply in Cook Inlet.

Category Code	Description
GAS 1	Concern was expressed regarding the source of the fuel supply for the proposed project. The Donlin Gold Project Draft EIS should: • Fully disclose where the natural gas bound for the proposed project site would be extracted and how much natural gas would be consumed by the proposed project; • Disclose whether natural gas would be shipped into Cook Inlet, how it would be transported to the proposed natural gas pipeline, whether a liquefied natural gas facility would need to be constructed, if a port facility near the beginning of the proposed pipeline would need to be constructed, and what would be the potential impacts of increased shipping and infrastructure in Cook Inlet; • Address whether hydraulic fracturing would be used to extract natural gas bound for the proposed project site and what fracturing fluids would be used; and • Evaluate the potential environmental and socioeconomic impacts associated with natural gas production, delivery, and storage.
GAS 2	Concern was expressed that the supply of available natural gas in Cook Inlet may not be sufficient to provide power to the proposed project as well as electricity and heat to residents and businesses in Southcentral Alaska. The Draft EIS should: • Fully analyze the feasibility of using Cook Inlet natural gas to fuel the proposed project considering the decline in production from existing wells and projected shortfalls; • Assess the impacts to price and availability of natural gas and natural gas-fueled electricity for customers in Southcentral Alaska as a result of additional demand by the proposed project; • Evaluate the effects of Cook Inlet natural gas consumption by the proposed project on the long-term energy security of Southcentral Alaska; and • Address whether the Cook Inlet natural gas consumption could affect the availability and cost of energy elsewhere in Alaska.
GAS 3	Scoping commenters requested that the Draft EIS describe whether the proposed project could provide communities and enterprises in the region with a more efficient, inexpensive, reliable, or environmentally friendly alternative to currently available energy sources. The Draft EIS should examine the following issues: • Fully evaluate whether communities and enterprises could be allowed to tap into the proposed natural gas pipeline and/or electricity produced by the proposed power plant; • Identify the conditions, rules and regulations required for tapping into the proposed pipeline or electricity produced by the proposed power plant; • Specifically address access to the proposed natural gas pipeline by McGrath, the Vinasale Project, Doyon Limited, Bethel, Hooper Bay, Kwethluk, Nikolai, potential regional energy producing facilities, and enterprises or communities that have proposed spur lines; • Disclose whether the proposed natural gas pipeline could remain in-place post-closure to provide energy to other enterprises and communities in the region; and • Include more information on energy use by the proposed project, including the

Category Code	Description
	amounts of excess natural gas and electricity that might be produced and could be available for use by communities and enterprises in the region.
GAS 4	Comments called for assessing cumulative effects, such as the potential that the proposed natural gas pipeline ROW could facilitate further human development and mining projects in the region.
GAS 5	Concerns were expressed regarding the design and impacts of the proposed natural gas pipeline and regarding the Pipeline Plan of Development. The Draft EIS should: • Fully assess the potential environmental impacts of the proposed pipeline including habitats, noise levels, vibration levels, subsistence resources, air quality, biological resources (including wetlands, vegetation, wildlife and aquatic resources, and threatened and endangered species), cultural resources, geology, soils and other mineral resources, historical and archeological sites, paleontological resources (including geology and soils, mineral resources, paleontological resources), hazards and hazardous materials, hydrology and water quality, (including groundwater and surface water), land use and planning, noise, recreation, aesthetics, socioeconomics (including population and housing, public services, utilities and services systems), transportation, cumulative impacts including associated mine development impacts, and environmental justice; • Identify the period of time the proposed project may require natural gas via the proposed pipeline; • Disclose whether manual or remote-controlled valves are intended to be used on the proposed pipeline; • Disclose the height above ground or the depth below ground as well as the thickness of the proposed pipeline and any potential effects this may have; • Clarify whether a road would be part of the proposed pipeline corridor; and • Disclose the exact coordinates for river crossings along the proposed pipeline route.
GAS 6	The Draft EIS should fully address using an alternative energy sources beyond the proposed natural gas pipeline.

NEPA PROCESS (NEP)

Compliance with NEPA. Specific to the adequacy of Purpose and Need, scoping, technical analysis and NEPA milestones.

Category Code	Description
NEP 1	The NEPA process should be explained. Specifically: • Clarify whether the NEPA process would stop if negative concerns outweigh the positives during the Draft EIS cumulative effects analysis process; • Describe how the Draft EIS process gives stakeholders adequate time to review documents and provide input on the proposed plan; • Clarify how the amount of opposition to the project affects how the Corps considers the permit application; and • Describe how the following four objectives of NEPA would be met. (Section 101 of the National Environmental Policy Act of 1969, 42 U.S.C. Â§4331): (1) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (2) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences (3) Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice (4) Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources. • Describe the rigor of the analysis conducted by the independent contractor and how the public can confirm its adequacy.
NEP 2	Comments during scoping made very specific recommendations for making the NEPA process and Draft EIS understandable to the general public: • Provide clear, easily understood information provided in the Draft EIS, through clear diagrams and maps that the general public can easily understand; and • It was recommended that the Draft EIS use commonly understood terms and, where necessary, provides illustrations, tables, or info-graphics to summarize and communicate terminology. In contrast, the applicant's Plan of Development uses terminology that if used in the NEPA document would be confusing for the general public, and generally obscure understanding. For instance, the term workpad is used rather than construction road or construction access, or travel way.
NEP 3	Commenters would like clarification regarding the roles of the State of Alaska and BLM in the Draft EIS process, and how the Corps, as the lead agency that may issue permits allowing the proposed project to move forward, is going to address all the concerns expressed during scoping.
NEP 4	Commenters are concerned about the alternatives development process. The Draft EIS should describe the following issues expressed during scoping: • Clarify how the Corps would determine which alternatives are carried forward for analysis and which are eliminated from further detailed consideration. Describe how the cooperating agencies can participate in this process, and ensure that the BLM, and all cooperating agencies, are involved in the development of a reasonable range of alternatives for analysis in the environmental impact statement. • Coordinate the alternatives development with Donlin Gold, as the applicant understands the logistical, technical, and economic factors considered in the

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	determination of what is reasonable and practicable. • The Draft EIS must provide alternatives that eliminate or vastly reduce the risk posed by mercury contamination, acid drainage/metals leaching, greenhouse gas emissions, and the loss of wilderness values along the pipeline ROW, regardless of the cost that these alternatives may ultimately place upon the industry. • The required No Action Alternative should be subject to the same level of analysis as the other alternatives so that the benefits of existing environment conditions in water, subsistence resources, and wilderness are adequately considered and economically quantified. Studies of the No Action Alternative should include an evaluation (with meaningful local involvement) of the cultural values and community health, and an analysis of ecosystem services such as salmon and the avoided health care costs associated with potential project impacts. • The permitting agencies should ensure that every known stakeholder truly understands the risks and consequences of every alternative proposed in the Draft EIS.
NEP 5	Commenters noted that the cumulative effects analysis should consider the following: • Describe how the Draft EIS process considers cumulative effects; • Identify the geographic scope and timeframe for the cumulative effects analysis; • Describe the cumulative effects analysis methodology and explain any assumptions and models used in the analysis; • Identify the current condition of the resource as a measure of past impacts, such as the percentage of species habitat lost to date; • Identify the future condition of the resource based on an analysis of the cumulative impacts of reasonably foreseeable projects or actions added to existing conditions and current trends; • Assess the cumulative impacts contribution of the proposed alternatives to the long-term health of the resource, and provide a specific measure for the projected impact from the proposed alternatives; • Identify opportunities to avoid and minimize future cumulative impacts, including working with other federal and state agencies, Alaska Native Regional and Village Corporations, regional and health non-profit organizations, and local and tribal governments and communities; • Identify and evaluate the comparative long-term effects of existing and abandoned mining projects and mining claims in the region, such as the abandoned Kolmakof Mine (near Napaimute), placer mines north of Tuluksak, and the Red Devil Mine, an abandoned mercury mine; • Discuss the efforts of BLM and other agencies to evaluate mine impacts and potential remedial activities; • Evaluate the Nixon Fork Mine and existing operational mine near McGrath, Alaska; • Evaluate the proposed future projects, such as the Chikuminuk Lake Hydroelectric project (Nuvista Light and Electric), the road between the Yukon River and Kuskokwim rivers; Susitna Watana Hydroelectric project; Neumont Mining (exploration near Napaimute); NYAC Gold (exploration near Tuluksak); Holitna Basin natural gas (mid-Kuskokwim River exploration); • Evaluate the effect of bringing infrastructure to the area; describe whether that would allow other development, such as from Kalskag over to the Yukon, and exploration up the Aniak, the Holitna, to happen when it wouldn't otherwise; • The Draft EIS should consider the development of additional reserves and other

Category Code	Description
	mineral deposits proximate to Donlin Creek if the presence of the infrastructure it paid for makes nearby smaller mineral deposits economically viable to develop. Analyze the possibility and effects of the development of a bona fide mining district, with multiple mines, in this now remote area; and • Describe past, present, and reasonably foreseeable projects and actions in the proposed project area and consider their cumulative impacts in their entirety. Where significant cumulative impacts may exist, the Draft EIS should disclose the parties that would be responsible for avoiding, minimizing, and mitigating for those adverse impacts.
NEP 6	Commenters asked about future analysis that would be conducted if additional or other valuable mineral deposits are discovered during operation of the mine. When would future NEPA analysis be conducted? Would the Draft EIS include information about: • Whether more material and fuel would be needed? • Whether there would be more barge traffic associated with additional supplies and materials?

NON SUBSTANTIVE COMMENT (NSB)

Submissions without substantive comments.

Category Code	Description
NSB 1	Entire submission determined not to be substantive.

PROPOSED ACTION AND ALTERNATIVES (PAA)

The core design characteristics and operational plans of the proposed action in three major components (mine, pipeline and transportation infrastructure). Example – what the public wants to learn about, or the need for additional information in the formal project description. Also includes the environmentally preferred alternative, and additional alternatives that should be considered. Clarifications in the description of mine construction, operations, traffic volumes, and costs of the project, including work force development.

Category Code	Description
PAA 1	The Donlin Gold Project Draft EIS should evaluate a range of reasonable alternatives practicable in light of the overall purpose and need to identify potential impacts related to all mine activities. For each alternative analyzed in the Draft EIS, the Corps should develop a life cycle economic cost analysis. Existing analyses by Donlin Gold and agencies that evaluate alternatives for mineral processing, waste rock and tailings disposal site locations and methods, closure, power supply, and site access could be used to help identify alternatives. The Corps should develop and describe in the Draft EIS the criteria that could be used to identify the Least Environmentally Damaging Practicable Alternative, and the environmentally preferred alternatives. These criteria should be developed in coordination with cooperating agencies, tribes, and using the scoping comments and could be based on the conservation of important aquatic and terrestrial habitats, maintaining wildlife and fish passage, maintaining subsistence and socio-cultural resources, practicability, and regulatory requirements. The Draft EIS should describe the process, the rationale, and the basis for how these criteria were developed.
PAA 2	The No Action Alternative should be subject to the same level of analysis as the other alternatives so that the benefits of existing conditions in water, subsistence resources, and wilderness are adequately considered and economically quantified. Studies of the No Action Alternative should include an evaluation of the cultural values and community health, and an analysis of ecosystem services such as salmon and the avoided health care costs associated with potential project impacts on waterways and air.
PAA 3	The Draft EIS should include an agency preferred alternative, and the Least Environmentally Damaging Practicable Alternative. This would provide the public, the tribes, and the agencies with an opportunity to conduct a more detailed review and comment of the environmental consequences associated with the preferred alternative.

Category Code	Description
PAA 4	Suggestions regarding project design alternatives for airstrips include: • The Draft EIS should consider extending and using the Kiska Metals airstrip instead of the facilities slated for Rainy Pass. • Concerns were expressed that a 5,000 foot airstrip at the current Puntilla strip could negatively impact local businesses, but would be more desirable than an airstrip in the main Ptarmigan Valley. • Clarify if new constructed airstrips would also be reclaimed. The proposed Donlin Gold airstrip site is in open country above timberline and would not allow for the airstrip or scarring of the topography to be returned to a natural condition. If the airstrips would not be reclaimed, the Draft EIS should document potential impacts to various resources from additional use in the foreseeable future. • Donlin Gold should improve the Crooked Creek airfield to meet their needs. This would make a good long-term benefit to the entire area. The current plan calls for an airfield that would be of no use after the mine is closed. All infrastructure should be built for the long-term benefit of as many people as possible not for short term use. • The Draft EIS should take into account the alternative that the State of Alaska would not require removal of construction access airfields, or that the State may not require removal of other facilities.
PAA 5	Suggestions for project alternatives regarding barge issues include: • Preference should be given to alternatives that do not increase barge traffic. • Originally there were plans to have a barge station at Crow Village downstream of Aniak, and the new plan is to have a station at Jungjuk [below the village of Crooked Creek]. The Draft EIS should analyze the water depth between those two locations. • Evaluate alternative locations for the proposed port facilities. • Additional details on barge landings on the Kuskokwim are needed. Where are they located, what kind of ground disturbance is involved, life expectancy, and are roads connected to them? • At the Jungjuk Barge Landing, a single slip for the unloading of cargo barges is displayed. It appears as though the fuel barges would dock in this section and be exposed to the river current during the offloading process. An alternative would be a second slip designed in a way that would allow both the offloading of cargo and fuel. This would allow the fuel barge offload to be conducted out of the river current and containment boom to be placed across the slip opening so that in the event of a fuel spill the oil is contained in the slip. The second slip would also provide a cargo unloading backup for those occasions when two barge tows are at the landing allowing the second barge to dock and not have to wait in the river for the slip to open. • Evaluate the use of winter ice roads and snow roads for transportation of cargo and fuel to the mine site, and logistic associated with construction activities.
PAA 6	Suggestions for project alternatives regarding camp locations for workers during pipeline construction were suggested by owners of local businesses in the area of the proposed pipeline route during scoping. Suggestions were made that one alternative could be to house the workers at existing lodges in the vicinity of the pipeline route during construction. This would eliminate the potential for disruption to guide businesses in the area during construction. The use of the existing lodge or existing airstrip at Puntilla would be less of an impact as it would keep development in one area. An indirect benefit of this alternative for housing workers would also be that it could defray losses from normal business as a result of pipeline construction.

Category Code	Description
PAA 7	Suggestions for project alternatives regarding energy supply sources include: • Donlin Gold should explore the option of securing gas from the interior Holitna Basin, which would eliminate competition with gas users in Cook Inlet. Developing natural gas energy from the Holitna Basin could support several remote communities along the Kuskokwim and Holitna rivers in addition to the Donlin Gold mine. • The Draft EIS should include an alternative to run the proposed pipeline to the northeast, to Fairbanks, where it could connect to a pipeline from the North Slope. • Other regional power options include a fuel oil pipeline or road development between the more bargeable Yukon River to the Kuskokwim River, natural gas development from the Nenana Basin, and coal from known western Alaska reserves delivered via a road system connecting the Yukon and Kuskokwim rivers and communities. • The only source of gas that is feasible for the proposed project is supply through Southcentral Alaska. All of the potential sources in the Interior and from the North Slope remain speculative and have extended timeframes so that they are unlikely to be available to meet the needs of the proposed project in good time. Therefore, the scope of the Draft EIS should consider only Southcentral Alaska as a gas source for Donlin Gold. • For purposes of the Draft EIS, the various gas supply projects and the proposed project are independent from each other, so the project is not "connected" to any of the various gas supply projects being considered on parallel fronts, and there is no obligation on the part of the Corps to analyze the proposed project and any of the various gas supply projects in the same Draft EIS. • Donlin Gold could employ a pumped hydro option to store energy for base demands, and use liquefied natural gas as a supplemental fuel source instead of the primary source. • A system transmitting power by wire from Bethel to the proposed Donlin Goldmine could be less harmful to the landscape and wildlife while potentially providing power to several small communities along the route. • The power plant could be a good long-term power source for western Alaska after the mine is closed. As it is proposed the power plant is useless after mine closure. • As a comparison with Alaska energy consumption, as proposed, the required available and sustainable energy for the mine to operate once in production would be 227 megawatts. This is slightly greater than the current highest annual peak usage day (211.5 megawatts) of the whole of the Fairbanks, North Pole, Delta Junction, Nenana, Healy and Cantwell communities. The Draft EIS should clearly allow Alaska residents to understand this energy requirement for the proposed Donlin Gold mine. • The Draft EIS should include a wind power option which could eliminate the need for a gas pipeline from Cook Inlet to the mine site. The Draft EIS should also include other alternatives that substantially reduce the need for fossil fuel generation, such as solar arrays, run-of-river hydroelectric generation, geothermal heat pumps for space heating, biofuels, and efficiency measures such as LED lighting and motion detectors, reduced exterior lighting, and a goal of all buildings to be Platinum certified by the Leadership in Energy and Environmental Design Program. • The Draft EIS should explore alternative mine plans that may extend the mine life by reducing the 57,000 ton per day. This could reduce the energy demand to levels that could be generated through more localized and less impacting options.

Category Code	Description
PAA 8	Commenters requested additional design details regarding blasting and material sources in the proposed action, including the following: • The Draft EIS should identify the location of proposed blasting in the project area, and describe the blasting methods that would be used. • Because of the impacts associated with increased noise levels, a blasting management plan should be developed and incorporated into the Draft EIS. The noise levels in the project area should be quantified, and the threshold levels described as to the effects of blasting to human health, birds and wildlife. • The Draft EIS should estimate the total volume of gravel material that would be required for construction, including the mine facility, access roads, natural gas pipeline, port facilities, airplane runway, and camps. Identify the location of any existing and proposed new material source sites on a map, and summarize in a table the information regarding each material source site, such as the location, surface area impacts, quantity of material available, land ownership, and permit status. The development plans for the project should consider maximizing the distance between sites and reducing the number of sites developed, thereby reducing site reclamation requirements. Some are less than 1 mile apart. • [Re: Pipeline Plan of Development, pp. 8-26, last paragraph] "It appears that the applicant estimate of 8 gravel pits totaling 57 acres for the 58 mile segment co-located with the Iditarod Trail is an insufficient quantity (number of pits) given the scale of proposed work." • [Re: Pipeline Plan of Development, pp. 6-4] "Material sites and quantities as well as any batch/processing plant would be authorized on state and federal land under separate authorizations and not under the ROW. Any use/enlargement of material borrow sites, along with airstrip construction, etc., is a connected action and should be analyzed in this Draft EIS as part of the larger project. How would all this sand and gravel material be transported to the pipeline corridor? Would you need access roads to drive it from the borrow sites? Would it need to be flown? Are there appropriate airstrips at the borrow sites themselves?" • [Re: Pipeline Plan of Development, pp. 12-1, first bullet] "Reinvasion of gravel pads would not work. Gravel pads resemble glacial outwash materials, and therefore would take decades, if not a half century, to naturally revegetate, and then with alder only. For this reason use of gravel pads should be minimized."
PAA 9	Project alternatives suggested during scoping regarding contamination issues included the following: • The Draft EIS should provide alternatives that eliminate or reduce the risk posed by mercury contamination, acid drainage/metals leaching, greenhouse gas emissions, and the loss of wilderness values along the pipeline right-of-way, regardless of the cost that these alternatives may ultimately place upon the industry. • Cyanide, if it is used, could damage the environment, people, and wildlife. The Draft EIS should consider alternatives to such chemicals at the mine site. • The Draft EIS should explore potential alternatives to impoundment lakes, including paste tailings and dry stacking. These have a higher initial operating cost, but they typically provide negligible seepage loss from the stack, provide progressive covering and reclamation of land, safer, stable tailings mass, minimal containment requirements, and simple water management. • The Draft EIS should include an alternative in which tailings pond leachate does not report to the mine pit or any other long-term storage solution, but is instead fully treated to applicable water quality standards before discharging into natural

Category Code	Description
	waterways immediately after mine life. • The Draft EIS should include a range of alternatives in which the mine pit does not become a lake subject to perpetual water treatment. It should include an alternative for backfilling the pit to the maximum extent practicable with waste rock and overburden and reclaiming it to its original state. • Despite the risk of leaching arsenic, the four Non-Acid Generating (NAG) rock types are treated the same throughout the scoping documents. No material with a high potential to leach arsenic should be used in construction. The Draft EIS alternatives need to provide a scenario in which only NAG 1 and NAG 3 are used in construction, and provide information on the volume of NAG 2 and NAG 4 rock that would go into the waste rock facility. • A drilling mud plan should be developed and incorporated into the Draft EIS. It should describe how drilling muds and cuttings would be managed, stored, transported, and properly disposed of. It should include potential environmental impacts, proposed mitigation measures, monitoring procedures and contingency planning for accidental releases of drilling fluids, muds and cuttings during HDD construction activities. • The Draft EIS should include an alternative in which the mine does not dump captured mercury into the tailings pond and instead exports all captured mercury to a federally approved permanent storage facility, with a multiple container approach with several redundant systems for safety. The Draft EIS should evaluate the economic and environmental risks and benefits to barging the waste versus flying the waste out; flying it out could provide a much lower risk to the Kuskokwim River. • The Draft EIS "should evaluate alternative methods for managing waste liquid flows from the carbon-in-leach tank and other mill processes to the tailings pond. Are there pollution control measures that can be used to reduce the mercury in the carbon-in-leach tailings solution before it gets mixed with the detoxified tails? A full range of alternatives should be considered to preclude placing mercury contaminated tailings solution in the tailings impoundment, where the mercury can be released into the environment from liner seepage, leakage or failure, and off-gassing air emissions." • The Draft EIS should include alternatives that provide safety systems in the event of a release or dam failure. • As an alternative to disposing of hazardous waste, an onsite underground injection control well should be considered to handle hazardous waste material disposal. • It was recommended that the Draft EIS and the CWA Section 404 permit not to use the term "waste treatment facility" since it can connote an approach for waste management that is not being proposed and which has the potential to confuse the public. • The Draft EIS should provide additional detail about managing litter and trash generated at each proposed campsite [Re: Pipeline Plan of Development, pp. 8-89, 2nd paragraph, 3rd sentence]. All non-combustible solid waste must be properly disposed or recycled off-site.
PAA 10	Project alternatives suggested to be included in the Draft EIS to address air emission issues include: • Alternatives that require Donlin Gold to purchase carbon offset credits to reduce the threat to human health posed by climate change per the EPA endangerment finding. • Alternatives based on an assessment of the feasibility of enclosing any leaching processes or tailings ponds, to reduce the amount of mercury emissions. In addition, methods used in the Miller Mercury Emissions Study should be applied.

Category Code	Description
PAA 11	Commenters requested clarification of project design and suggested project alternatives regarding the natural gas pipeline, including: • The Draft EIS should include alternatives that reduce the scope and scale of the proposed pipeline, or eliminate the need for it altogether. • The project should consider the construction of above ground pipeline alternatives, as opposed to a buried pipeline design. • Concern was expressed over the loss of pressure through the pipeline, and what technologies would be used to increase pressure along the way. If there is a breakage in the pipeline, the pressure could create additional complications, so there is concern over storage areas to divert pipeline contents if this were to happen. Questions were raised about the twenty blockages [valves] for the pipeline, located before and/or after each stream crossing. • [Re: Pipeline Plan of Development, pp. 12-2] The metering station would be cut off at grade if wooden poles are placed directly in the ground. It was recommended to cut off 12 inches below grade as the H piles are to prevent potential impact from snowmachine or travelers on this route. • It has been asked that pipeline valve stations be strategically placed to avoid visual impacts to local business operations. A valve station near Rainy Pass Lodge would be advantageous to both the lodge and Kiska Metals. • [Re: Pipeline Plan of Development, pp. 8-21] Concern was expressed over whether or not all the pipe storage would be able to fit within the 100' construction area. • Questions were raised regarding whether the pipeline was secure against people damaging it. • The Draft EIS should clearly state if the pipeline is going to be common-carrier. • [Re: Pipeline Plan of Development, pp. 8-75] "It would be good to have clarification on the equipment crossings, especially in the summer (culverts, bridges), and whether they would be temporary in nature and whether they would be removed and taken out once the pipeline construction contract is complete."
PAA 12	Project alternatives suggested during scoping regarding pipeline routing include: • There may be other viable pipeline routes that have not been considered that would have lesser impacts than the current proposal. The Draft EIS should evaluate all viable pipeline routes regardless of monetary costs to construct. • Moving the pipeline route at least 2.5 miles further west towards Nikolai and away from the Alaska Range could benefit the game populations that frequent the tundra flats by reducing any potential problems that could result from other people coming in, following the pipeline route in order to hunt. There has never been anyone else hunting there in the past. The proposed route from the Windy to the Big River appears to run directly through the rolling hills and through the middle of moose habitat. If the route were to be located closer to Nikolai it would run more through the spruce and probably have less effect on the current populations of moose. Also it would open a corridor that likely would produce willow foraging habitat for the moose in the long-term, thus benefiting the moose and other game animals, rather than disturbing them in their already established home areas. In addition, a route closer to Nikolai, could make it easier for the villages to tap into the gas and reduce dependence on very expensive diesel fuel. Also, as proposed, many of the pipeline tributary crossings between MP 150 and 194 have much longer and steeper entry and exit grades than are found 2.5 miles further west. • The Draft EIS should analyze an alternative that would route the pipeline northwest at

Category Code	Description
	Old Skwentna to the Kichatna River drainage, through the Moose Creek Lake and Moose Creek pass, thereby avoiding the Denali National Park boundary, and then go west to connect with the Jones River Alternate, therefore bypassing the 58-mile co-location of the pipeline with the Iditarod National Historic Trail. Such a route would be five miles shorter than the current route, eliminate the geo-physically challenging crossing of the Happy River area, and cut the number of pipeline crossings of the Iditarod Trail to two, one at Old Skwentna and one near Egypt Mountain on the north side of the Alaska Range. • The Draft EIS should note that the first five miles of the pipeline, and potentially a compressor station are proposed to be located within the Susitna Flats State Game Refuge. Scoping comments noted that the proposed routing of the pipeline through the Susitna Flats State Game Refuge would be a potential alternative, but not the only alternative that should be considered. It could be possible to connect with existing gas distribution infrastructure without crossing this refuge and an off-refuge alternative should be considered and evaluated in the EIS. If the through-refuge route is eventually selected and approved, mitigation measures would need to be developed to mitigate impacts to the refuge and refuge users and a Special Area Permit from the Alaska Department of Fish and Game's Division of Habitat would be required. • As indicated in scoping by comments from the Alaska Department of Fish and Game, the Draft EIS should examine how a portion of the proposed pipeline route runs directly along the face of the Alaska Range and through transitional habitats between lower black spruce forest and mountain habitat. This transitional habitat is important to many species of wildlife including moose and caribou. The transitional habitat along the current proposed route is widest near the Big River. The EIS should identify these transitional habitat zones and consideration should be given to minimizing the pipeline route through these zones. In some cases, the route could avoid this important habitat by moving as few as three miles to the north of the current proposed alignment into areas more dominated by black spruce.
PAA 13	Commenters made suggestions for project alternatives regarding pipeline Right-of-Way, including: • The Draft EIS should include an alternative that reduces the initial clearing requirements for the majority of the ROW, preferably to less than 50 feet. • The Draft EIS should include an alternative that does not require clearing of vegetation every ten years, as vegetation reclamation should start as soon as the pipeline is in the ground. • The Draft EIS should include alternatives that do not require substantial grading of hillsides for the pipeline ROW. Instead, alternatives that leave no permanent surface impacts should be considered, such as trenching on hillsides with the 'minimum tool' concept commonly used in wilderness areas. • [Re: Pipeline Plan of Development, pp. 3-9, pp. 8-54] "The 1,000-foot study area should be narrowed down to a specific ROW location to better interpret potential affects to resources. 1,000 feet compared to 100 feet is a fairly large difference in area." • [Re: Pipeline Plan of Development, pp. 10-6] 'Low Ground Pressure (LGP) vehicles should be used to prevent more damage to the ROW." • There are a number of aspects of the slope breakers that suggest these features would not adequately divert water running down a ROW segment built on a grade as depicted. If design changes are not made, it is anticipated that the structures would fail, allowing for significant erosion to occur via head-cutting, running around the outside edge of the structure, etc. Therefore, it was recommend to delete this type of

Category Code	Description
	structure for the single angle water bars/grade dips. It is also recommended to use rock dissipaters in situations with significant flow box.
PAA 14	Commenters suggested project alternatives to barging, including: • The Draft EIS should fully analyze an alternative to build a railroad from the Donlin Gold Project to Bethel for transporting supplies and fuel thereby avoiding barge traffic on the river. • The Draft EIS should include an alternative to build a road from Donlin Gold Project to Bethel for transporting supplies and fuel year-round, thereby avoiding barge traffic on the river. • The Draft EIS should include alternatives that do not rely so heavily on barge traffic, such as winter snowcat routes. This could also help to mitigate the serious regional concerns about the impacts of fishing practices being incompatible with the heavy barge traffic currently proposed by Donlin. • The Draft EIS should include an alternative to build a road west to the Yukon River which could accommodate heavy traffic. This would also give access to the railroad as well as by sea. • The Draft EIS should use existing relevant information to evaluate the feasibility of building an access road overland from a barge landing site near Aniak.
PAA 15	Project alternative suggested in scoping comments to address water use and water quality issues include: • A complex system of pipelines is proposed to transport fresh water, groundwater from dewatering wells, waste rock facility leachate, tailing storage facility slurry, and process water. The Draft EIS should discuss whether reducing the length and number of pipelines would increase the risk (less redundancy to accommodate failures) or reduce the risk (fewer places to fail). An alternative that includes insulating pipes that carry contaminants should be included in the Draft EIS. • The Draft EIS should include alternative engineering plans that would eliminate the need for water treatment in perpetuity or beyond a ten-year post-reclamation horizon to meet water quality standards. • Given the risks that contamination of air and water pose in this region, Draft EIS alternatives should assess the technologies of the proposed action and identify and assess additional wastewater treatment technologies. An alternative should be provided that employs redundant and backup water management and treatment systems. The Draft EIS should discuss the currently proposed water management and treatment technologies that include redundant systems for moving, managing, and treating water. For instance, an alternative that includes two Water Treatment Plants (WTPs) so that one could be pulled online when the other undergoes maintenance or failures.
PAA 16	Adequate buffering material (i.e., limestone) to counteract the formation of acid drainage is expected to be available on site. However, there are no guarantees that sufficient limestone does exist. A contingency plan should be required that shows the likely sources of additional material. If the source was the Holitna River drainage, additional NEPA compliance, through a supplemental EA or Draft EIS would be required.
PAA 17	The Draft EIS should identify how the project design can be manipulated in the event major climatic changes occur during the life of the project. One action alternative could look at alternative water management strategies, alternative operations/maintenance strategies.

Category Code	Description
PAA 18	• Project alternatives regarding existing roads, gravel roads to the mine site, and airstrips during construction and operations include the following: • The Draft EIS should clarify from the Plan of Development references to a summer construction plan for a section in the middle of the proposed line (MP 113-MP 134) and how equipment and supplies will access this section. • Pipeline construction between MP 48 and MP 128 of the proposed route is proposed to be accessed off Oil well Road in the Petersville area. It was noted in comments that there is very little infrastructure in the Oilwell Road area. Creation of new yards, material sources, possible improvements to existing roads and bridges, and crew housing in the Oilwell Road area to facilitate construction would have impacts to area resources and users, and should be discussed within the EIS. Using this access point would require the construction of an extensive ice road and would cross several major rivers and a myriad of smaller anadromous streams. Given the transitional maritime climate of the area, wintertime ice roads may not always be passable due to periodic thaws which are possible at any time during the winter. • The Draft EIS should consider an alternative where the access road to the mine is paved, not gravel. • The Draft EIS should include alternatives that remove gravel used for airstrip construction and camp facilities and return the gravel back to the materials sites from which they were quarried, followed by full reclamation of all materials sites, airstrips, and camps.
PAA 19	The description of the proposed action in the Draft EIS should have detailed information on the mine site and mine components, using visual guides for easy comprehension. [Re: Pipeline Plan of Development, pp. 4-3] Details should include footprint of components. [Re: Pipeline Plan of Development, pp. 8-7] The Draft EIS should also disclose how the facility components would be shipped to the mine site.
PAA 20	Commenters expressed concern that the project design set forth by Donlin Gold does not demonstrate any good long-term planning, and does not meet the standards for a good clean operation. The Draft EIS should critically evaluate the proposed action and alternatives and permits should be denied unless appropriate environmental management is demonstrated.
PAA 21	The Draft EIS should specify precisely where the pipeline/fiber optic cable river and stream crossings are, what technique would be used at what time of year, the type of crossings, and what would be left in place permanently. Explain why each technique was considered at each crossing, as impacts for different techniques are different. HDD methods may be the least environmentally disruptive, particularly for fish.
PAA 22	The Draft EIS should include information on the actual footprint of the docking facility as it pertains to the Kuskokwim shore lands including species inventory, erosion/sedimentation complications, impacts to river use, etc. This is in addition to the baseline information about associated upland resources.
PAA 23	The public requested additional information about the barge terminal facility in Bethel. Dock: • Exact location (latitude and longitude); • Location above or below the floodplain; • Size of the dock (length, width, height);

Category Code	Description
	• Configuration of the dock in relationship to the shoreline and the river. For instance will it be similar to the dock proposed for Jungjuk Creek? • Construction design: open cell, closed cell, or pilings; • Beach roll-on/roll-off freight and equipment; • Dock surface; if gravel will there be steps to control the dust? • Will there be fuel transferred across the dock? Uplands/Freight Yard: • The area needed for freight, equipment and buildings; • The surface material of the yard; • Use of CFR 33 Sub Chapter H, Maritime Security; • Commodities and equipment that will be transferred and stored at the yard; • Enforcement of CFR 49, Transportation, Parts 100-185; • Will fuel and bulk petroleum products be stored on site? In what quantities? • What effects will the terminal have on city services such as water, garbage sewer, electrical utilities and roads? • Maintenance facility for equipment; • Boat and barge repairs on-site at a shipyard or dry-dock; • Facility hours (e.g. 24/7); this would affect surrounding neighbor hoods and businesses; and • Will the Tank Farm be used to transfer fuel to/from barges/vessels?

PUBLIC HEALTH (PHL)

Impacts to local communities' public health and infrastructure as a result of the project (disease, contaminants, lifestyle changes, behavior health, physical health). Health Impact Assessment and workers' safety.

Category Code	Description
PHL 1	The Donlin Gold Project Draft EIS should fully analyze the full impacts from the proposed project, both positive and negative, on the health and well-being of the local villages and mine workers. A Health Impact Assessment (HIA) should be written to evaluate the potential health impacts on individuals and communities in the region, and included as an appendix to the Draft EIS. The HIA should include a profile of existing health conditions of the region and identify the sources of this information, consider historical impacts to health, and give particular attention to vulnerable populations, such as the elderly, young children, and pregnant women. It should involve local communities and be published in a format that local residents can easily review.
PHL 2	The Draft EIS should fully discuss the potential that proposed mining operations can be associated with behavioral health impacts, such as increased use of drugs and alcohol. More disposable income in communities may increase the use of alcohol and drugs. It would be beneficial if the local law enforcement were given outside support to aid villages in addressing this potential problem. Increased income can also result in increased ownership of motorized vehicles, which often results in less physical activity.
PHL 3	The area of the proposed Donlin Mine, partially because of its remoteness, has a high suicide rate, especially among the youth. The Draft EIS should address the potential beneficial impact that having a good job has on the self-worth and pride of the people that get such jobs and may tend to reduce some of the social disruption such as suicide, alcohol abuse, and sexual and physical assault. The Donlin Gold project has already begun to change attitudes and lifestyles. People that work at the site know that they must be sober in order to retain their employment. Many people who have worked at the Donlin Gold site remarked during scoping that the camp culture is one of universal respect, team work, safety, and balance.
PHL 4	The benefits should be documented that more funding and local demand could mean that the local healthcare system would be improved to meet the need and demand. Also this project could employ hundreds of people who would receive advanced health and safety training and health insurance through their employment.
PHL 5	The Draft EIS should fully analyze the human health effects of mercury, cyanide and other contaminates and exposure pathways, both in people and their subsistence resources. Contamination is a particular concern for children, elders, newborns, pregnant women, and those with diseases or substance abuse. EPA fish consumption guidelines for other states are not relevant to Alaska subsistence foods consumption levels and should not be used; rather guidance from the Alaska Division of Public Health should be used. The Draft EIS should also discuss the potential impact to traditions with the perception that subsistence resources may contain mercury. However, the Corps should be cautious in the Draft EIS in evaluating the potential for far-reaching health effects that cannot be directly tied to the proposed project or which are not meaningful for the evaluation of alternatives.

Category Code	Description
PHL 6	The proposed project, when operational, should include baseline and yearly testing of all onsite employees, particularly those working near autoclaves, for heavy metals and other health hazards related to this type of mining. There should be a plan developed to halt mine operations until potential problems are corrected. The Draft EIS should describe how employees would be trained in the use of cyanide and the proposed safeguards that would be in place.
PHL 7	Safe drinking water is an ongoing problem in rural Alaska. Therefore, the Draft EIS should fully analyze the impact the project could have on water quality and the effects to the water supply for residents. Contamination could come from boating traffic, environmental degradation, or mining operation mishaps.
PHL 8	The Draft EIS should discuss the impacts to diet when a subsistence resource is lost or becomes unavailable. Increased consumption of processed food, for instance, can lead to adverse chronic health conditions like diabetes. Lifestyle changes could also result in increased rates of substance abuse and mental health problems, possibly including suicide, for people in the region over the long-term.
PHL 9	An influx of people could bring diseases to an area with minimal healthcare available that may not be able to handle large capacities of patients.
PHL 10	The Draft EIS should look at other communities where large mines are located to evaluate and compare impacts to public health.
PHL 11	The Draft EIS should describe the water safety issues to public health that may arise from increased barge traffic. Analyze the safety impacts to river users and boaters especially to locally used standard river skiffs. Barging and barge traffic was noted as a strong concern of the Native Village of Chuathbaluk as barge traffic creates dangerous waves in the river that can tip river skiffs. The waves created by a passing barge can last for several hours after a barge has passed as the waves continue to hit the river banks.
PHL 12	In order to appropriately evaluate human health, specific health data are required that may not be routinely collected as part of the Draft EIS scoping process. In order to ensure that the necessary data are available for this evaluation, it is important to involve public health professionals early in the NEPA process. Public health data and expertise for prospective health impact analysis or for providing input on health issues may be available from local and state health departments, tribal agencies, or federal public health agencies, such as the U.S. Centers for Disease Control and Prevention's National Center for Environmental Health, U.S. Agency for Toxic Substances and Disease Registry, or Indian Health Service. The HIA framework is a combination of procedures, methods and tools that enables systematic analysis of the potential positive or negative effects of a policy, plan, program or project on the health of a population and the distribution of those effects within the population. HIA identifies appropriate actions to manage or mitigate negative effects. HIA is currently the only widely accepted methodology or framework used to provide decision-makers with information about how a specific policy, project, or program may affect human health. The World Health Organization and the U.S. Centers for Disease Control and Prevention support the use of HIA as a tool to address health impacts when policies, programs, or projects are being developed. Many other countries have successfully used HIA for these purposes. The International Finance Corporation, a member of the World Bank Group, has adopted HIA as the standard for evaluating health and requires it of any projects for which it provides funding.

PUBLIC INVOLVEMENT AND SCOPING (PUB)

Information presented to public and scoping, outreach process to communities.

Category Code	Description
PUB 1	There is a need for agencies to address linguistic, cultural, institutional, geographic, and other barriers to meaningful participation. The Donlin Gold Project Draft EIS process should incorporate active outreach to affected groups. In particular: • Agencies should be aware of the diverse constituencies within any particular community when they seek community representation and should endeavor to invite complete representation of the community as a whole. • Agencies also should be aware that community participation must occur as early as possible if it is to be meaningful. • Due to the complexity of both the project and Draft EIS process, residents expressed the need for a translator to assist communication in the Yup'ik language during all public involvement activities. • It was suggested that some technical aspects cannot be translated due to lack of appropriate vocabulary. • It was requested that photos of the tailings ponds be provided to elders because some elders cannot read. • It was suggested that a stakeholder database be established and that all stakeholders be kept informed of key developments in the process. Several commenters asked to be kept informed and provided their contact information. The development of a contact database should be described in the Draft EIS.
PUB 2	Commenters expressed concern that there has not been enough involvement with the local villages. The Draft EIS should describe the public involvement process and how the people most affected by the project are being informed about the potential impacts it would have on their communities, what input was received from the communities, and how that input was utilized in the decisions that were made regarding the project. Because the scoping process is taking place in hub communities there is concern that smaller remote tribes are unable to participate in this process. Specific areas mentioned included Lime Village to Bethel, Stony River, Sleetmute, Red Devil, Georgetown, and the area around the mouth of the Yukon River. Many residents expressed frustration that they were not informed; there were meetings in only 13 villages in the project area. The Draft EIS process should: • Clarify whether there is way to pay for people to travel to the meetings. • Review suggestions that there be more frequent opportunities to involve the tribal governments and the public between the Scoping and the Draft EIS stage. • Conduct educational workshops on various subjects to solicit Traditional Ecological Knowledge and Wisdom and local knowledge of the people of the region.

Category Code	Description
PUB 3	Residents are concerned about a lack of information that is causing distrust in the Draft EIS process. One concern is that there is information missing from the current reports about the development process. Specifically, financial assurance information should be provided for public review and comment. It was noted that there is a need for transparency during all phases of the proposed project, including operations of the mine, if it goes forward. A suggestion to build trust was that the Draft EIS should establish a framework for citizen engagement after mine construction to ensure adequate access to decision-makers at Donlin Gold, LLC, Barrick Gold, and NovaGold, as well as regulatory compliance officers on all levels of government. Commenters suggested a "good neighbor agreement", such as has the one at the Stillwater Mine in Montana, for example. This type of agreement would allow for any private citizen to collect water, soil, and air samples from the mine site for their analysis at their discretion, and should allow for periodic meetings with mine management. The Draft EIS should make the establishment of an agreement a top priority, and help ensure that it receives adequate funding for its creation and operation. The Draft EIS should stipulate that the agreement is not written by those with any ties to the mining companies, but rather independent groups with expertise with similar agreements and environmental justice in general. Monitoring data should be published in support of the agreement by showing transparency in the aspects of the mining operations most critical to protecting human and ecosystem health.
PUB 4	There should be more cooperation between project proponents and local residents. Residents expressed frustration that The Kuskokwim Corporation and Calista Corporation have not discussed their concerns with them in person. More meetings were suggested, specifically the first week of June to August, September when there would be more people in the communities. There is also frustration regarding discussions with Donlin Gold and the lack of information given to residents. It was suggested that a better dialogue with Donlin Gold geochemists and mine engineers is necessary to better explain the mercury issue.
PUB 5	Commenters expressed concern about residents being able to understand the NEPA process, potential impacts, and technical reports without specialized expertise. It was suggested during scoping that factsheets be available to assist in explaining key points to the public. Through a strong public process, the permitting agencies should ensure that stakeholders understand every alternative proposed in the Draft EIS.
PUB 6	Commenters expressed concern about how their comments are taken into consideration. Specifically, concerns about the tailings holding facility and public meeting comments regarding subsistence and jobs. The Draft EIS should clarify the comment review process.
PUB 7	Commenters expressed concerns about follow-through on promises made, and want the public process for this Draft EIS to provide answers to their concerns and to document these concerns for the record, not just verbally at the public meetings. It was suggested that Barrick Gold visit the area to work directly with residents regarding the proposed project.

Category Code	Description
PUB 8	Suggestions were made regarding the public meetings. • There should be people at the meetings who can answer the public's questions. • Clarify the affiliation and role of each of the presenters at the meeting. • Concerns were expressed about specific development information regarding the pipeline and gravel pits, pipe storage sites, large camps, and runways, being left out of meetings hosted by Donlin Creek at Nikolai [outside of the scoping meeting process].
PUB 9	One commenter expressed the need for more communication between villages regarding the proposed project, and more information about the project before submitting comments. The commenter compared his perspective to similar action as the Alaska Native Claims Settlement Act when people are not advised of what's going on through the plan and noted that native people were hurt after the law was passed and rights to land had been abolished. The commenter noted that the time frame for learning about the proposed Dolin Gold Project was limited and that local residents cannot comment without any knowledge of the mine operations.
PUB 10	The Draft EIS should describe public outreach activities by Donlin Gold presenting information outside of the NEPA and Draft EIS process on various activities regarding environmental impacts, mining procedures, and other matters related to responsible mining activities to residents of the Yukon-Kuskokwim Delta during various community discussions. The discussion in these outreach meetings included concerns regarding: • Impacts to the watershed and the immediate environment around the mine; • Impacts to salmon stocks and resident fish species; • Impacts to various wild game species; and • Air quality in the immediate vicinity of the proposed mine as well as the region.
PUB 11	Local guides expressed frustration that Donlin Gold did not contact them directly regarding the potential impact of the proposed project on their commercial guiding camps and customary subsistence way of life, and these guides are concerned about the Donlin Gold Project resulting in project-related aircraft disrupting their hunting activities. Specific issues raised during scoping included: • Most flights could be right over the important wildlife and wildlife habitats that we are dependent upon. • Struggle and disruption has occurred each year since with many instances of conflict, primarily with aircraft associated with the proposed mine and its contractors. • Professional guides expressed concern that there is an underlying lack of respect and understanding by the applicant of how the proposed project would impact the lands, waters wildlife, wildland experience, and viewshed resources important for guide businesses. • The Draft EIS should work to allow concerns and knowledge of professional guides to be considered. • The Alaska Professional Hunters Association expressed concern that it was not notified of the scoping period for the Draft EIS and questioned the adequacy of stakeholder outreach and for notification of the Draft EIS process. • Professional guides noted that they believed there was inadequate time to fully address the many parts of the project that could impact them. The Draft EIS should take into consideration that important stakeholders were left out of the scoping notification process.

Category Code	Description
	• There should be outreach to local guides about upcoming steps in the EIS process to ensure they can participate in the project.
PUB 12	Comments received during the scoping period noted that the tribes and the public should be involved in the mitigation planning, and monitoring of the proposed project.

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PURPOSE AND NEED (P&N)

Purpose and Need of the Action; Corps of Engineers permits, LEDPA, Premature to engage NEPA.

Category Code	Description
P&N 1	Describe how agencies will respond to comments from Barrick Gold that the proposed project does not meet their criteria for investment. Clarify whether that changes the permitting process. Explain how an EIS process can proceed without more commitment from financial backers.
P&N 2	Clarify that the Corps permit application from Donlin Gold is the trigger for the NEPA EIS process.
P&N 3	Commenters suggested that the Corps accept the Purpose and Need statement contained in the permit application from Donlin Gold. *The purpose of Donlin Gold's proposed project is to profitably produce gold from ore reserves owned by Calista Corporation, an ANCSA corporation, utilizing open-pit mining methods and conventional, proven milling processes suitable for the characteristics of the ore reserves and for application in remote western Alaska.* *The need for the proposed project is to enable Calista Corporation and The Kuskokwim Corporation to maximize economic benefits for their Native shareholders, from lands selected under ANCSA for their mineral potential, by producing gold to meet world-wide demand. Gold is an established commodity with international markets.*
P&N 4	Commenters are concerned that the purpose and need statement comply with NEPA. Specifically: • The Donlin Gold Project Draft EIS should present a clear and concise statement of the underlying purpose and need for the proposed project consistent with the implementing regulations for NEPA (40 CFR 1502.13). This statement should be framed broadly enough as to allow for the analysis of a range of reasonable alternatives; • The Draft EIS should reflect not only the purpose and need of the project proponent, and the Corps, but also the broader public interest and need based on the scoping comments; and • The purpose and need statement for the Draft EIS should be developed in coordination with the cooperating tribes and agencies.

RECREATION (REC)

Impacts on recreation and tourism, recreational hunting, usage near mine, along river systems and in pipeline corridor during construction and operation. Disruption of recreational experiences of the Iditarod trails.

Category Code	Description
REC 1	The Donlin Gold Project Draft EIS should fully address the potential for increased recreation opportunities if the proposed airstrips are not reclaimed as this may increase public access to remote areas.
REC 2	The Draft EIS should clarify whether recreational access in the ROW of the proposed pipeline corridor or at private airstrips for the proposed project would be restricted. This would address the statements by the applicant that the project would not create new public access.
REC 3	The Draft EIS should address the effect of project components on recreational hunting and existing guided hunting operations. Some concerns expressed include: • Guided hunting in the area is well-managed and sustainable. Increased access along the proposed pipeline corridor could increase the number of successful hunters, decreasing wildlife to unsustainable numbers. • Placement of facilities along the proposed pipeline route, airstrip operations, and general activity of the project could have negative impact on guide operations and services; many of these are family businesses that have been operating in the project area for many years. • Explain how Donlin Gold would communicate with BLM Special Recreation Permit holders and BLM-authorized hunting guide-outfitters, within the vicinity of the proposed pipeline, who may have base or spike camps with locations that may change annually. There should be a process for making sure that permit holders have been informed of the proposed project, and if they anticipate effects to their businesses, transporters who serve them, lodge owners who house them, and villages from which they fly clients. • The Draft EIS should consider that the proposed project could spoil the natural beauty of Alaska that provides hunters a unique recreational experience. • Commenters noted that they have experienced disruptions by Donlin Gold affiliated helicopters that have disrupted wildlife and guided hunting, in the regular August and September seasons, but also late September grizzly bear hunts.
REC 4	The proposed project would bring an influx of the number of people in the Crooked Creek area that would want to recreate, sport fish and hunt, including mine employees and support industry personnel. This could result in impacts on some of the streams, particularly Holokuk, Oskawalik and the George rivers, and the Holitna River which is not too far away from the “bread basket” of salmon production in the Kuskokwim River.
REC 5	When planning for the proposed mine development, the Draft EIS must note that recreational camping in the project construction area on BLM-managed land is prohibited without authorization from the BLM.

Category Code	Description
REC 6	It is likely that winter use and summer ORV use of the proposed pipeline ROW would be established where none existed, with recreationists using river and airstrips to access the area for hunting, recreational cabins, and general recreation. These impacts should be analyzed in the Draft EIS.
REC 7	Approximately one hundred miles of the proposed pipeline route would roughly follow the Iditarod National Historic Trail (INHT). The Draft EIS should analyze the following: the diversity of climate, terrain, scenery, wildlife and recreation, relative to the entire trail system between Seward and Nome; levels of modern human modification to the landscape; the degree of connectivity to modern infrastructure and populations; and the ability to duplicate the experience and challenge of historic Iditarod Trail users. Specific concerns to be addressed in the Draft EIS include: • The Draft EIS should consider the effect on "vicarious users" of that INHT because the trail could be co-located with portions of the proposed pipeline corridor. INHT has prominence among a variety of enthusiasts outside of Alaska (vicarious users) because of the annual long-distance overland winter events that make use of the Trail. The experience of video viewers could be impacted by the pipeline construction and operation. Examples include the annual video highlights by the Iditarod Sled Dog Race and National Geographic's "Aerial America" series on the 50 states that will include a section of Trail that would be impacted by the project. • The proposed pipeline may become a source of controversy in the region from the perspective of landowners, lodge owners, casual users, and Iditarod mushers and Invitational event athletes. The Draft EIS should include alternatives that do not degrade the essential primitive characteristics of the trail in terms of widening, clearing vegetation, burying pipe underneath the trail and siting maintenance facilities or check valves near the trail. The Draft EIS should consider alternatives that ensure the trail remains fully unchanged and unimproved after construction, by using pipeline routing options and special trenching and logistical techniques near the trail. • The Draft EIS process should include consultation with permitted annual events that operate along the INHT, including the Iron Dog Snowmachine Race, the Iditarod Trail Sled Dog Race, and the Iditarod Trail Invitational. • The Draft EIS should evaluate the impacts of the project in relations to the INHT Resource Inventory (1982) geographic subunits and ratings for each according to criteria for scenic quality. Four units were identified that would be effected by the proposed pipeline ROW; of those units, approximately two-thirds of the linear distance of the units were identified as having A level scenic quality, and one-third of the distance having a B level of scenic quality. For this reason, the Draft EIS should include a visual analysis with scale viewshed digital modeling during the winter months and take into account the localized snowfall patterns that may accentuate or hide the cleared pipeline corridor. The Draft EIS analysis should recognize that there are multiple alignments of the INHT trail with various legal designations and requirements within the proposed project area. For example, the route of the Iditarod Trail between Old Skwentna and Happy River is closely paralleled by the actual alignment of the historic Iditarod Trail, established by Colonel Goodwin of the Alaska Road Commission, and is maintained by the Alaska Road Commission as the Susitna-Rainy Pass route. • Given the changes to overland access that may be created by pipeline construction roads either intersecting or collocated on the Iditarod Trail, plus the lack of spatial separation between the two linear features, and the tendency of winter trail users to choose a "path of least resistance," it is likely that winter use of the Iditarod Trail

Category Code	Description
	would migrate from the currently used alignments to the pipeline corridor. One potential impact could be that the current alignment of the Iditarod Trail between Old Skwentna and Puntilla Lake is abandoned on some segments, and eliminated by the pipeline ROW on others. Also, given that overland summer use in Alaska typically follows winter use patterns, it is likely that summer ORV use of the route would become established where none existed, with recreationists using river and airstrips to access the pipeline ROW. • The Draft EIS should consider the values related to the nature and purpose for which the INHT was established and the effect of the proposed actions on high value segments of the trail which is eligible for listing on the National Register of Historic Places.
REC 8	The analysis of Impacts to resources affecting the Iditarod National Historic Trail in the Draft EIS should be based on comparative examples of impacts to similar resources seen around Alaska. Examples include: • The Trans-Alaska Pipeline, which demonstrates the effects of a project of the magnitude of the proposed Donlin Gold pipeline. • Military maneuvers with heavy equipment document the effects of operations on a wide variety of landscapes. The U.S. Army Corps of Engineers has a soils suitability classification system which could be used as a reference to guide pipeline siting, or prediction of impacts to different soils classifications found along the route. • The Farewell Airstrip, which was built (two 5,000 foot runways near Farewell Lake), and which became an access point for ORV use on the north side of Rainy Pass. The overland ORV trails radiating from that facility are an example of the impacts that could occur after airfields are constructed along the Iditarod Trail and the proposed pipeline corridor.
REC 9	The project description for the proposed action should be clarified the Draft EIS in regard to specific design elements that would affect the undeveloped area of the Iditarod National Historic Trail, including the following: • 58 miles of pipeline would co-locate on, parallel or intersect the Trail system. A 100 ft construction ROW would be cleared and armored with either an ice road or gravel, and most construction materials and equipment for the 40 miles of the pipeline to the west would be transported by heavy equipment over this 58 mile section. • The cleared pipeline ROW would intersect the Trail 25 times. • 15 miles of the Trail would be disrupted and overlain with 15 miles pipeline construction and operating ROW. • Two new airfields with 5,000-foot runways each would be constructed on existing segments of the Trail, and a third, existing airstrip would be upgraded. • Three construction camps serving 300 persons each would be developed in proximity to the new airfields. Each camp is planned to have parking for 60 vehicles, with potential travel distances from each camp of up to 31 miles. Mobile, sledge mounted camps would also be hauled along the construction ROW, with each serving 30 persons. • Eight gravel/material sites totaling 57 acres would be excavated and moved overland to needed construction areas. • 13 pipe storage yards ranging in size from 1 to 2.5 acres. • The 50-foot wide operating ROW would be cleared every 10 years, with a trail route on the ROW for maintenance.

Category Code	Description
	• At intervals of approximately every mile, a pipe would protrude above ground as part of a corrosion-protection test station. • At every mile an aerial mileage marker would be installed on an 8-foot pipe and 8-foot pipe mounted pipeline markers would be installed at more frequent intervals. • Three block valve yards, fenced within a 25-foot by 25-foot enclosure would be installed in three locations on the 58-mile section co-located with the Iditarod Trail. • The proposed project could likely result in disqualification of 58 miles of the trail currently eligible for listing under the National Register of Historic Places.

RESEARCH, MONITORING, AND EVALUATION NEEDS (RME)

Comments on baseline research, monitoring, and evaluation needs or data gaps.

Category Code	Description
RME 1	The Donlin Gold Project Draft EIS should present a thorough analysis of the conservation impact that the proposed project and its components would have on the wildlands, wildlife and the people who are dependent upon these resources. It was suggested that a tour of the land, water and the people that live and/or operate businesses within the study area be conducted by the reviewers of the Draft EIS.
RME 2	All baseline data (including aquatic data such as fish, water quantity and quality, and benthic invertebrates) and monitoring updates should be publicly accessible in a user-friendly format online. Large files can be broken down into parts if necessary. Information about where and how to accesses the data should be distributed widely [Re: Pipeline Plan of Development, pp. 3-2]. A question was raised during scoping about whether GIS data was available to agencies, partners, and/or the public.
RME 3	The Draft EIS analysis should include sufficient baseline data to evaluate the impacts of barge traffic, including comparing other rivers that have experienced comparable growth, data relating to bank conditions and erosion simulations, water levels and seasonal changes, and remediation options.
RME 4	Adequate baseline data should be collected and used in the Draft EIS to analyze the geotechnical issues in the Kuskokwim Region, including the potential for erosion and avalanche hazard analysis. A First Order soil survey should be done along the entire pipeline alignment [Re: Pipeline Plan of Development, pp. 10-1], and a Stabilization, Rehabilitation, and Reclamation Plan should be developed.
RME 5	The Draft EIS should include sufficient baseline data on mercury and heavy metals concentrations in wildlife tissue (fish, game, and waterfowl), air, water, and sediment and detail how these resources would be monitored yearly while the mine is operational and post closure. The crushed and pulverized mill feedstock should be analyzed as well to obtain accurate numbers on the volume of mercury entering the mill. A mercury risk assessment should be conducted, particularly for subsistence resources. It was requested during scoping that the state and federal governments examine potential mercury exposure pathways and consider requiring air, water and tissue sampling to be conducted as part of the permit process.
RME 6	As a baseline for the Draft EIS, a visual inventory and interim management class designation must be completed and GIS layers created for all lands within the proposed pipeline alignment and project area.
RME 7	To be adequate or the Draft EIS, baseline data should include longitudinal analysis of social, cultural and environmental impacts of the project in a comparative analysis with other large scale mines of similar magnitude. There should be an analysis of the social impacts of mines on subsistence foods and indigenous cultures and communities using peer-reviewed literature. This analysis should also include evaluation of the impact of a mine on health markers such as substance abuse and suicide in both the short-term and long-term, and post closure. Consider looking at the Red Devil Mine during the years it was operating and after its closure.

Category Code	Description
RME 8	As a baseline for the Draft EIS analysis, an ecosystem services valuation should be conducted to accurately assess the value of the environment under a No Action Alternative. This valuation would support an Environmental Accounting to determining the ecosystem benefits provided during the life of the mine compared to the economic damage. Valuation assessments should also include scenarios with realistic carbon taxes, to provide a better sense of the boundaries of the profitability of the mine. These economic assessments should include the scenario in which the mine goes through an interim closure period due to low metal prices and/or high transport/energy prices. Bonding should similarly be assessed with and without an interim closure scenario, with a goal of maintaining contaminant treatment operations.
RME 9	Conduct a use study on the Kuskokwim River to identify the multiple user groups and estimate the number, type, frequency, and equipment use of each user group. Identify existing and historic cabins, fish camps and cultural sites. Such information may be proprietary and sensitive, so precautions should be made to ensure the confidentiality of the information.
RME 10	There should be a baseline survey for the presence of invasive species along the pipeline alignment, water bodies, airstrips, lodges, and proposed project area. If found, these areas should be properly treated with herbicides/pesticides or other means of control to best prevent the spread before project mobilization.
RME 11	Intensive studies must be conducted into the baseline water quality data and a monitoring program must be established to ensure that the proposed mine does not inflict irreversible damage to the residents of the Kuskokwim region. Water quality sampling should be taken at all points where the pipeline would cross the George River, as well as downriver where the George River meets the Kuskokwim. Water quality standards need to be established for the area [Re: Pipeline Plan of Development, pp. 9-13]. A Mitigation Sedimentation Control Plan and a Stormwater Pollution Prevention Plan for the pipeline should be developed.
RME 12	Baseline data should be gathered for all wildlife, including: • A watershed assessment of fisheries, wildlife, and culture; • Surveys of pipeline crossings of waterbodies for anadromous fish, spawning areas, and over-wintering areas; • Surveys and current state of health for the sensitive freshwater trout; • Studies during the spawning period of humpback whitefish to confirm presence in the main stem of the Kuskokwim River; • Main channel spawning data for salmon and anadromous whitefish spawning should be collected in the Kuskokwim River in order to conduct an evaluation on the effects of dredging (potentially needed for barge movement) on fish and fish habitat in the Kuskokwim River. • Information on streams in the vicinity of the project that provide suitable breeding habitat for harlequin ducks; • Surveys to assess raptor use of the project area; • Information on trumpeter swans and nesting habitat near pipeline construction; and • Presence and potential impact of the project on all birds protected under the Migratory Bird Treaty Act.

Category Code	Description
RME 13	According to the Pipeline Plan of Development, [pp. 8-84], a detailed Pressure Test Plan could be developed during final design. However, this may be needed prior to construction to allow the public opportunity to make comments on pipeline design and operational procedures.
RME 14	Baseline data for the Draft EIS should include current information available from previous EIS documents and databases regarding subsistence resources. Traditional Ecological Knowledge and Wisdom (TEKW) data gaps should be identified and TEKW studies should be conducted as necessary to clearly identify concerns and potential impacts from the proposed project.
RME 15	The applicant should develop and provide the following data and plans for use in developing the EIS and for on-going monitoring: • Pre and Post-Construction Google Streetview Photography of Iditarod National Historic Trail Plan(between Pipeline Miles 48-108); including geo-referenced streetview photography from a Google camera mounted on the back of snowmachine, taken before and after construction, in order to document changes to Trail. • Pipeline – Trail Crossing Construction Plan and BMP's; a compilation of standard construction drawings, methods, BMP's and plans for implementing and monitoring during and after construction. • Winter Trail Interruption Temporary Re-Route Plan; all trail intersections should be inventoried, and feasible alternative routes mapped using GPS and catalogued in a 'Winter Trail Interruption Temporary Re-Route Plan', approved by land management agency in advance of land clearing operations.
RME 16	Concern was expressed by the Alaska Department of Fish and Game that in addition to the known anadromous streams that are proposed to be crossed by the proposed pipeline, there are likely numerous additional streams that support anadromous fish species that have not yet been identified. In addition there are also likely numerous streams that support non-anadromous fish that would be crossed by the proposed pipeline. It was noted that an Aquatics Study Plan was developed in 2010 to identify these streams as well as collect other aquatic resource information and requested that the results of these studies should be submitted to the Alaska Department of Fish and Game and other interested resource agencies for review and incorporated into the EIS.

SOCIOECONOMIC IMPACTS (SER)

Comments on economic impacts to local communities, regional economy, and national economy. This may include changes in the social or economic environments. Analyze regional benefit of mine, economic development. Influx of construction and operational workers, employment, income, and needs for housing. Potential for out migration from communities. Boom and bust cycles.

Category Code	Description
SER 1	The following potential benefits of the proposed project should be considered and included in the Donlin Gold Project Draft EIS: • Overall economic benefit to the region, the state, and the country; • The region has one of the highest unemployment rates in the country, and the opportunity to gain employment in the region could help begin to provide a solution to that problem; • The proposed project would bring economic opportunities and well-paid jobs to the region by creating sustainable communities; • A subsistence lifestyle is hard to maintain, and jobs are necessary; • Employment could bring a better quality of life to residents; and • Having employment can encourage people to continue getting an education.
SER 2	The proposed project should be developed in such a way that it protects the natural environment, cultural traditions and subsistence resources while still providing an economic benefit to the region. If this cannot be done, it may not be worth the cost to the residents of the region.
SER 3	The Draft EIS should fully discuss the issues facing communities and the environment at the end of the mine operations. Subsistence resources could change, jobs might no longer be available, and the traditional way of life could be lost. General impacts to the sociocultural resources should be evaluated. Concern was expressed for what would be left for future generations after mine closure.
SER 4	The Donlin Gold mine could create opportunities for training, education, and jobs for the young people and future generations. The youth need these jobs because it is harder and harder to live a subsistence lifestyle, and economic opportunity is needed to live the Western lifestyle. This could begin in the classroom, letting students know what is required to develop an environmentally responsible mine, and communicating their options for education that would provide later employment.
SER 5	It may be beneficial to local residents if Donlin Gold provided training and education so that high-paying positions could be filled with people from the Kuskokwim and Yukon areas. This could allow rural Alaskans to live, work, and prosper without leaving the region. More information on training and education opportunities would be useful to achieve this potential benefit.
SER 6	Commenters raised questions and concerns regarding local hire for the proposed project that should be addressed in the Draft EIS, including: • Concerns about whether local, rural Alaskans would be hired for available jobs at all stages of the proposed project;

Category Code	Description
	• Concerns about the amount of the workforce that would hired from outside of the region; • Since a high percentage of Alaska Natives have criminal records, would they be considered for employment as readily as those without records from other states? • Questions about whether there would be an Alaska Native Hire Agreement; • Concerns that there would be a large amount of local hire at first and then gradually the commitment to local hire would decline, and the workforce would become more non-local; • Local hire can encourage families to stay together without dispersing to look for work; and • Shift work scheduling is hard on family life. Consider alternative work schedules.
SER 7	Residents expressed concern that the project would not benefit rural Alaskans in the region socioeconomically. Some commenters noted that other mine development projects in the state have shown that the creation of jobs in remote economically depressed areas may contribute to people leaving rural communities. With a new income people employed at the mine may move to Fairbanks, Anchorage and Wasilla, and commute to the mine site, with air transportation provided by the mining company. These jobs may lead people to leave the area to live in areas they could then afford. This could cause attrition in the smaller communities and leakage of economic benefits to larger communities. One alternative could be to encourage Donlin Gold to not pay for people to fly to and from large urban cities to work in the mine, but provide flights to village residents to the mine in order to discourage out-migration. Commenters also suggested planning within the villages for housing and sewer and water that would encourage works to stay within the region.
SER 8	Currently the State of Alaska provides a school for a village if it has a minimum of 10 students. The Draft EIS should account for the possibility that hiring local people could reduce the outmigration of residents to urban areas of the state and help maintain sufficient funding for rural schools.
SER 9	The project could potentially bring an influx of people to work at the mine, which could damage the lifestyle of the current residents and the environment. An in-migration of people could cause a strain on subsistence resources as well as bring new ideas that threaten the current way of life.
SER 10	The project could create spin-off businesses that support the operation, such as equipment and repair shops and retail services that may create yet more employment and economic benefits locally and state-wide. There is the potential for increased tax revenue not just from the mining operation, but from all of the spin-off business created to support it.
SER 11	The proposed project could provide infrastructure improvements such as ports, roads, airports, electrical infrastructure, and potentially a natural gas pipeline to the populace of the area. It was questioned whether the fiber optic cable would be available for outside communication. The development of such mine-related infrastructure could help spur the economy and benefit the residents of the remote area. The infrastructure could continue to benefit the people of that area long past the closure of the mine. The impacts could be far reaching and encompass the region, and possibly the state, not solely the immediate area.

Category Code	Description
SER 12	A potential public benefit is excise tax revenues from the proposed pipeline operation. It would be helpful for the Draft EIS to describe the taxing jurisdictions in the project area, and show the estimated range of expected tax revenues and the economic benefits that would accrue locally.
SER 13	The land upon which the mine would potentially be built is owned by Calista Native Corporation and The Kuskokwim Corporation. Royalties paid to these corporations would in part be redistributed to other regional and village corporations, pursuant to ANCSA, Section 7i. Red Dog Mine is an example of how this has provided economic benefit beyond the home region.
SER 14	The Draft EIS should fully discuss the potential that the development of the proposed project could result in lower cost energy for local villages by providing infrastructure like gas pipelines, power plants, and electrical infrastructure. Energy costs are currently a major limiting factor for rural Alaskans to have businesses and participate in subsistence activities, and are an economic strain on household living expenses.
SER 15	Donlin Gold has already positively affected local communities during the exploratory stages by providing employment, showing a strong commitment to local hire, supporting culture, and understanding environmental concerns.
SER 16	Some examples of other mines that the Draft EIS should use to help determine the potential socio-economic and environmental effects of the project include: • Red Dog mine in the NANA Region; • Usibelli Coal mine in the Interior; • The mine near Elko, Nevada; • Fort Knox mine; • Pogo Mine; and • Mines in Wyoming, Utah, Nevada, and other parts of Alaska.
SER 17	The project could have a negative impact on local family-owned lodges and businesses, by affecting the wildlife, viewshed, and the overall quality of experience provided to visitors. A number of guide-outfitter camps could be impacted in the same way. It was suggested that businesses be compensated for loss of tourism during construction if construction was done in the summer. Open communication with local operations regarding the schedule of construction would help the businesses to plan ahead.
SER 18	Barge traffic could affect any commercial and subsistence fishing periods held throughout the upper and lower river sections, and these impacts affect a key component of the regional economy. The construction of the Jungjuk port facility could lead to an increase in barge traffic that is region wide. The EIS should consider that the proposed port could be an economic benefit to the region and other local mines. It could become a regional shipping hub. Both the positive and negative impacts of increased barge traffic as a result of the port construction and operation should be analyzed in the EIS.
SER 19	Questions were raised about where the investment funding for the mine, pipeline, and other project components would come from. Would it come from the State of Alaska, the federal government, Donlin Gold, LLC, Nova Gold, Calista, or any combination of those?

Category Code	Description
SER 20	The Draft EIS should identify what, if any, excess materials, equipment, fuel, etc., may be transferred (given or sold) to any home sites, homesteads, or lodges located along the proposed pipeline route, and what beneficial economic impacts might result.
SER 21	The Draft EIS should fully analyze all of the economic and social impacts of the proposed project on the affected communities. It was recommended that an economics consulting firm with Alaskan experience be contracted to aid in this effort. Such an analysis should include: • The effects of changes in the operations, such as losses of jobs if the price of gold dips. • The positive and negative impacts of multiple operations on affected communities should be assessed. • The positive impacts to date should be informative as to the depth and value of the impacts one can expect in the future, considering the size and scope of the future activity. • What is the payroll from the project and the expected distribution of that money throughout the region? One way to measure this would be to assume a similar distribution of workers to the distribution of workers employed during the exploration phase. At one point there were persons working on the project that lived in 35 of the over 50 villages in the region. • How to secure maximum benefit for Alaska from the project. • The proposed Donlin Gold mine could provide economic benefit across the State of Alaska, and thereby diminish the reliance on oil revenues. • Development-related changes in population or demands for public transportation, education, or health care services. • Possible changes in the cultural, religious, or recreational traditions of affected communities. • The mining operation could potentially bring new or expanded cell phone, internet service, and options for heating and electricity to the area. • The cumulative effects analysis should also evaluate the dynamic of job progression that is created when very skilled, high-quality jobs are created. These include the low skill entry level jobs in service, tourism, etc., as well as totally unskilled positions. For example, when an equipment operator or a plant operator steps up to a high skill job in a mine, it leaves an opening for someone else to improve their life and fill the job that equipment operator left at possibly a construction company or power plant. • The Draft EIS analysis should recognize the challenge of adequately assessing and capturing the complexity of the subsistence economy, including the interrelationship among wages and cost of living at the individual village level combined with the ANCSA-driven economics of the Calista and The Kuskokwim Corporation organizations and their responsibilities to the other ANCSA corporations. These regional factors also need to be combined with broader economic conditions such as the more traditional assessment of increased revenues at the state level. • Economic opportunities would exist in this region if this project does not go forward, and the No Action Alternative is chosen. • Socioeconomic impacts of a new 30-mile road from the proposed mine to the barge landing that would be built on the Kuskokwim River.

SUBSISTENCE (SUB)

Comments related to potential impacts to subsistence resource (harvest, sharing, and traditional use areas). Comments on need to protect subsistence resources and potential impacts to these resources. Perceived contamination and/or avoidance of subsistence resources.

Category Code	Description
SUB 1	The Donlin Gold Project Draft EIS should analyze impacts on subsistence resources and practices from the proposed mine including: • Cumulative effects of historic, current, and proposed mines in the region including the NYAC and Red Devil mines; • Contaminants (mercury) into watershed and air and impacts to subsistence resources; • Wildlife migrations, e.g. caribou migration; • Salmon migration, restrictions for subsistence salmon; • Subsistence gathering, e.g. berry picking, and other edible plants; • Impacts to traditions and culture; • Impact to people will not benefit from this project but who must still rely on food that is available in the area; • Possible loss of habitat for growing food; • Disruption to other subsistence resources; • Historic and traditional and/or customary subsistence hunting, fishing, and trapping areas and traditional land use areas; and • Endangered or threatened species, including potential effects of a federal decision on endangered status to bearded and ring seals.
SUB 2	The Draft EIS should analyze impacts of potential contaminants entering into the air or water and affecting subsistence resources, including: • Effects on subsistence resources of potential accidental spills of mercury, gas, oil, and other toxic materials into the Kuskokwim River; • Fish consumption advisory in effect along the middle Kuskokwim River because of the methyl-mercury content of some species; • Impact of additional mercury loading on the Kuskokwim River; • Accumulation of toxins in duck and goose eggs used for subsistence; and • Effects resulting from contaminants upriver that may affect coastal communities and habitat, critical eel habitat, herring spawning habitat, clams, and mussels used for subsistence foods.
SUB 3	The Draft EIS should analyze the potential impact on subsistence activities of increased barge traffic on the Kuskokwim River including: • Eroding river banks; e.g. in the villages, at fish camps, staging areas, and docks; • Effects of increased barge traffic alongside restrictions and closures already in place for subsistence, and commercial fishing; • The short span of time, 110 days, for barge travel will coincide with subsistence and commercial fishing activities; • Possible project-induced changes in the watershed and hydrology that will affect subsistence harvest practices; • Potential project-related dredging to deepen channels;

Category Code	Description
	• Possible barge grounding and accidental spills; • Risks of spills from hauling toxic or hazardous materials to and from the mine site; • Affects barging may have on hunting on the river as the main source of transportation is by boat; • Emissions from barges that could affect and pollute the air, water, and plants used as food by juvenile fish of all species; • Effects on salmon going upriver to their spawning grounds; • Wildlife being frightened off the river by barge travel and noise; • Potential impact to caribou migratory routes; • Effect on waterfowl that land on the river; • Barge waves that could affect the ability of locals to hunt off the river; • Waves from barge wakes may disrupt fishermen using set nets for subsistence fishing; • Declining of Chinook (king) salmon on the Kuskokwim River used for subsistence; • Impacts to Bering cisco, an important subsistence fish to the Yukon Delta coast and subsequent impacts to their spawning grounds is not yet known; • The destruction of salmon habitat; • Spawning locations of rainbow smelt used for subsistence; • Potential damage to subsistence users' lives, livelihood, property, vessels, nets, camps, or other equipment used for subsistence activities; • Surety bond or similar bonding should include assessment of potential impacts to the existing subsistence users, and impacts to their livelihood; and • Impact on subsistence fishing due to changes in commercial fishing.
SUB 4	The Draft EIS should analyze the potential impact the proposed construction and installation of the natural gas pipeline may have including: • Potential leaks or breaks and the effect it may have on wildlife, people, plants and vegetation, including a potential break due to earthquakes; • Effects of proposed gravel sites used for construction; • Effects to commercial hunting guides and lodges during construction; • Effects to aquatic resources, and subsistence resources and users of the region; • A list of affected communities, descriptions of the communities, their subsistence harvest patterns, and seasonal round of uses using charts and maps as appropriate; • Possible effects to subsistence harvest management, user access, and hunting practices; • Removal of all access corridors and provisions needed for development of the gas pipeline, including large airfields; and • The potential of airfields to attract additional hunters who will be competing for the same resources.

SUB 5	The Draft EIS should analyze impacts to subsistence resources from airborne mercury emissions and other contaminates released into the air or water including: • Potential impacts of mercury emissions to non-fish species, and waterfowl particularly those consumed for subsistence. Waterfowl consumption advisories have been issued in Utah due to elevated mercury concentrations in northern shovelers, cinnamon teal, and common goldeneyes. In addition to mercury, baseline data should be collected for waterfowl in the region for selenium levels, which could increase over time; • Using HIA evaluate the potential health risks to subsistence users associated with increased mercury concentrations in fish populations, and other exposure pathways; and • The potential cultural and health impacts to subsistence users associated with the perception that subsistence resources may contain mercury, and how traditions may change as a result.
SUB 6	The Draft EIS should analyze impacts to subsistence activities in the proposed project region including: • Increase in airfields may bring in more transporters from Anchorage and other areas for recreational hunting; • Increased completion for resources with local residents who harvest moose and other game for winter meat; • Increased presence of trappers arriving by air; • With the potential for many new jobs being created in Bethel (just for the vast port facility alone) that will bring residents from surrounding villages as well as a certain amount of outsiders, concern that Bethel would lose its rural preference status in regards to subsistence hunting and fishing; • Disturbance of subsistence species such as caribou and moose from air, barge, and vehicular traffic, and increased human access; • Increased access along the road, pipeline, and unofficial routes, and increases in human population may also result in increased hunting pressure, both from locals and outsiders; • The Kuskokwim is a roadless river and the nature of the river could be disturbed; • Interruptions of caribou movement from the proposed road and pipeline; and • An influx of thousands of workers from outside the area, some proportion of whom may choose to live locally, the increase in human population will put increased pressure on moose, salmon and other subsistence resources making it that much more difficult for local residents to harvest some of the already dwindling resources.
SUB 7	The Draft EIS should analyze the Pollock fisheries because of the waste of immature king salmon that are needed by subsistence users.
SUB 8	The Draft EIS should clarify an error in the Vessel Operations Oil Discharge Prevention and Contingency Plan in regards to the scenario of a spill occurring in August. The Draft EIS should note that there are still silver salmon commercial and subsistence fisheries occurring in July and August and revise the Vessel Operations Oil Discharge Prevention and Contingency Plan accordingly.

SUB 9	The Draft EIS should analyze the impacts of the acid rock drainage to subsistence resources. Commenters expressed concern during scoping about the release of acid rock mine drainage and metal leaching of pollutants, such as mercury, arsenic, and cyanide into adjacent wetlands and waterbodies could affect traditional cultural practices including hunting; fishing and gathering of subsistence foods and drinking water sources relied upon by the local native communities. The Draft EIS should identify measures to reduce and/or capture runoff of acid rock and metals leaching into adjacent surface and groundwater. One commenter noted concern about the waste tailings pond and the chemicals that it would contain. The pond would be a permanent danger after the mine is closed. If something happened to the waste tailings pond, the entire Kuskokwim River could be affected. Salmon are a major subsistence food source for more than 15,000 residents in the areas and that the risk to salmon would outweigh the economic impact of the proposed mine.
SUB 10	The Draft EIS should analyze potential beneficial impacts to subsistence as cash income earned from jobs created by the proposed mine could in turn contribute to more productive subsistence activities and success rates. Cash income could be available to fund the boats, motors, fuel, and nets necessary to maintain subsistence activities. The Draft EIS should evaluate the potential economic benefits for the region in regards to protecting subsistence lifestyles and resulting improvements to quality of life.
SUB 11	The Draft EIS should evaluate concerns that: • The proposed project may destroy critical habitat that is necessary to sustain local residents' ability to hunt and feed themselves; • The potential to drive away animals and resources that are needed to survive; • Contamination of subsistence resources by airborne mercury; • Access to the region will be easier and competition for resources with outsiders will increase; and • Potential to be detrimental and disruptive to the subsistence lifestyle.
SUB 12	The Draft EIS should analyze potential increased marine traffic along the coast and in the Kuskokwim River. Impacts to marine mammals, waterfowl, and fish that are subsistence resources harvest at coastal villages should be analyzed in the Draft EIS.
SUB 13	The Draft EIS should analyze direct and indirect effects of the proposed action and alternatives. The Draft EIS should also consider other relevant connected actions and ensure they are analyzed in regards to impacts to subsistence.
SUB 14	The Draft EIS should analyze indirect project effects on Yukon Delta National Wildlife Refuge subsistence resources and uses. Subsistence hunters that reside within the Refuge boundary have Customary and Traditional Use Determination status under the Federal hunting regulations for the mining area, so effects in the project area may also affect these subsistence hunters. Berry picking and other plant harvest is also a critical part of subsistence use in this region. A decrease in hunting and gathering opportunities in the proposed project area may result in a compensatory increase in hunting and other subsistence activities within the Refuge.

SUB 15	Commenters noted that Alaska Department of Fish and Game has accumulated a broad range of subsistence-related data that should be used in the subsistence analysis of the Draft EIS. Donlin Gold noted that that during exploration activities that extend back to 1995, they were unaware of conflicts with subsistence uses or users within the proposed mining area and that berry picking, moose hunting, and trapping are known to occur outside the proposed mine area.
SUB 16	The Draft EIS should allow adequate time and involvement for the BLM Subsistence Coordinator to conduct hearings in the affected communities, and to write the Draft EIS and Final EIS versions of the ANILCA §810 analysis.
SUB 17	It was noted during scoping that Donlin Gold has proposed development of a Subsistence Users Plan of Cooperation between Donlin Gold and local subsistence users. This plan should describe subsistence harvest and uses, work schedules, and mitigation measures.

TRADITIONAL CULTURE AND WAY OF LIFE (TWL)

Comments related to potential cultural impacts (and values) or desire to maintain traditional practices. Languages, traditional land use areas (cultural continuity), and Traditional Ecological Knowledge and Wisdom (TEKW).

Category Code	Description
TWL 1	The Donlin Gold Project Draft EIS should fully disclose the potential direct, indirect, and cumulative impacts of project-related activities on local Alaska Native traditional ways of life. Residents expressed concern for their culture and environment, which have already changed from what they were historically, and this may affect the ability to pass values on to future generations. Strong local knowledge of the environment in the area could potentially be lost as well. It is difficult to place a value on such losses. The Draft EIS should analyze how the project could go forward while protecting the environment and tradition. Residents expressed sentiment that the damages to the environment and traditional way of life outweigh any financial benefits the corporation would incur from the mine.
TWL 2	The Draft EIS should identify how the project would limit access to traditional use areas. There should be analysis on those impacts to local communities.
TWL 3	The Draft EIS should identify where the traditional use areas are for subsistence activities, cabins, and camps and discuss how various project components would affect them.
TWL 4	Alaska Native leaders and communities must have adequate notice and time to formulate responses to this proposed project, because it could present a change and challenge a way of life that has already been threatened by outside influences such as the changing climate.
TWL 5	The Draft EIS should consider that the term “conservation” has different meanings among different user groups which cause misunderstanding. For example, mineral development companies may work hard to understand and conduct their work with respect to wild things and wild places, but their view is different from those whose lifestyles and livelihoods are dependent upon gathering, hunting and fishing. Mine development and exploration workers’ education, job responsibility and focus will differ from people whose basis of conservation is “closer to the earth”.
TWL 6	The Draft EIS should provide a big picture (or long-term perspective) of culture change. Who gets to decide whether the views of elders are an element of the project? What if their views are left behind?
TWL 7	TEKW should be studied and incorporated into the Draft EIS. There are over 60 Alaska Native communities who may be affected by this proposed project. Individual tribal members engage in traditional subsistence activities and have knowledge and experience with their land, wildlife, wetlands, fish, birds, plants, and other resources of the region. TEKW, in coordination with empirical scientific data, should be used to develop and evaluate alternatives, assess environmental and human health impacts, and identify mitigation measures. The identification, inclusion, and integration of TEKW into the Draft EIS analysis would result in a more robust agency decision making document. The cooperating agencies, including the EPA, the State of Alaska (Department of Fish and Game, Subsistence Division), the cooperating tribal governments, and the

	Kuskokwim River Watershed Council could potentially provide expertise for developing the TEKW studies. Additionally, through government-to-government consultation, tribes can help design an appropriate study. Recommendations for TEKW studies proposed during scoping included coordinating with the communities in the region to identify: • Special habitat areas; • Migration corridors and seasonal patterns; • Current and historical traditional and cultural uses; • Timelines and schedules for subsistence, hunting, fishing, harvesting, trapping, recreation, etc.; • Local way of life; and • Working with the communities to document and incorporate TEKW into the Draft EIS.

TRANSPORTATION (TRAN)

Impacts to transportation systems, including airports, roads, rivers, and trails, as a result of the project. Impacts to existing barge traffic on the Kuskokwim River. Impacts of project-related barge traffic on other resources are noted under many issue categories, including Cultural Resources (CUL), Hydrology (HYD), Fish (FISH), and Wildlife (WILD).

Category Code	Description
TRAN 1	The proposed width of the path for the pipeline route for construction, operation, and maintenance would create a wide ROW and potentially increase trail traffic in the area. The Donlin Gold Project Draft EIS should evaluate if this new ROW could lead to an increase in ORV traffic (e.g. four-wheelers, Argos, snowmachines) through areas that are currently used for subsistence, recreational hunting, trapping, and guiding.
TRAN 2	The Draft EIS should evaluate and determine the impacts to existing airports. Specifically the Draft EIS should: • Determine the impact of increased air traffic that may occur at Akiak Airport; and • Consider the use of the existing public airstrip at Puntilla Lake instead of constructing the proposed airstrip at MP 106-107 along the proposed pipeline route. The MP 106 airstrip could impact the Iditarod Trail at both Upper Happy River and through Rainy Pass.
TRAN 3	The proposed project use of tug and barge transportation for cargo and fuel on the Kuskokwim River may result in navigation challenges, increased boat traffic, and user conflicts with existing transportation and activities of multiple user groups. Subsistence and commercial fishing activities on the Kuskokwim River includes the use of boats, set and drift gillnets, seines, fish wheels, long lines, and dip nets, which may result in conflicts with tug and barge transportation. The Draft EIS should evaluate the potential impacts resulting from navigational challenges, traffic, and user conflicts on the Kuskokwim River. The Draft EIS should evaluate the reality of the transportation plan; how the increase of barge traffic could disrupt schedules, local access and local boaters.
TRAN 4	The Draft EIS should describe the long range plans for the proposed project airstrips in regards to how they would be maintained as part of the regional transportation infrastructure, particularly for use for emergency access. The Draft EIS should describe reclamation plans of any of the new airstrips constructed for pipeline construction purposes. In addition, the Draft EIS should explain and justify the non-use of existing airports, particularly at Skwentna.
TRAN 5	A marine vessel and transportation plan should be developed to address barge traffic and delivery of materials. The delivery of pipe and other heavy construction materials to the Port of Anchorage would temporarily increase marine traffic at that port during the construction phase of the pipeline.

VEGETATION (VEG)

Comments related to concerns about vegetation and potential for disturbance from project components. Includes concerns about invasive plant species.

Category Code	Description
VEG 1	Commenters expressed concern during scoping about the effect of invasive species on vegetation. Commenters suggest that an invasive non-indigenous plant study be conducted both pre- and post- project construction. The Donlin Gold Project Draft EIS should address: • The risk and potential effect of introducing invasive plants from the barge ballast water, such as bacteria, *Elodea.sp* that chokes up rivers, algae that causes red tide, snails and crabs that eat salmon eggs, and didymo (*Didymosphenia geminata*) that sticks on the bottom of the rivers and prevents salmon from laying their eggs on it. The Draft EIS should describe how the ballast water in the barges would be regulated. • How the potential risk of invasive species would be managed with an invasive species management plan. The plan should be explained and evaluated. The remaining potential effects on vegetation should be described.
VEG 2	Commenters are concerned about the effect of removing vegetation primarily during construction. The Draft EIS should address: • The type of equipment that would be used to build the pipeline; • The effect of removing vegetation on soil and surrounding vegetation; • The effects of removing woody (spruce) vegetation compared to removing open tundra, describe which would have longer lasting effects; • The estimated timeframe for disturbed vegetation to grow back, and the methods used for that determination, especially with climate change; • The purpose for clearing the proposed permanent ROW of shrubs approximately every 10 years or as required. Commenter recommends avoiding vegetation removal in order to minimize visual impacts; • The definition of what is considered temporary clearing; and • The depth of any planned scarification. Commenter recommends any scarification be very shallow to avoid bringing parent material up to the surface.
VEG 3	The Draft EIS should address how fugitive dust would affect local vegetation. Analyze the effect of windblown dust from trenching and backfill work on the vegetation beneath ice roads and pads. Describe any wind erosion and dust control measures.
VEG 4	The Draft EIS should address the effect on vegetation in the entire project area, not just at the mine site and pipeline corridor, especially impacts to berries located in the prevailing wind path, since they are an important subsistence food.
VEG 5	Commenters expressed concern during scoping and made recommendations about the restoration and reclamation of disturbed areas after project construction and during mine closure activities. The Draft EIS should address the following questions and recommendations: • How the pipeline ROW would be reclaimed; • The approving agency for the Stabilization, Rehabilitation and Reclamation Plan and the Erosion and Sedimentation Control Plan;

Category Code	Description
	• How the pipe storage yards/material stockpiling sites would be reclaimed; • How the banks at stream crossing sites would be reclaimed; • Use native plants and grasses for restoration and reclamation; • All vegetation restoration activities should incorporate Alaska State Certified Weed Free products such as seed mix, revegetation plants, mulch products, etc. Monitoring and mitigation for non-native invasive species should be ongoing for the life of the project. Revegetation should also incorporate seed sources from the BLM Seeds of Success program (contact Eric Geisler at BLM Alaska State Office, egeisler@blm.gov, 271-1985); • Natural revegetation (not re-invasion) is the best option wherever there is not a strong reason for assisted revegetation because it does not interfere with natural processes and plant communities and does not risk altering the gene pool. Two effective ways to promote natural revegetation are to salvage and replace topsoil and to rip compacted sites to a depth of 20-50 cm; • The Native Plant Revegetation Manual for Denali National Park and Preserve should be used as a revegetation reference as well; • BMPs relative to invasive species management should be incorporated into all of the reclamation as non-native invasive species tend to show up at areas of disturbance and erosion; • Stock pile overburden for spreading on the reclaimed areas to improve soil and facilitate natural vegetation production; and • For the streambank restoration, keeping the riparian vegetation intact would aid in the restoration significantly. Using an excavator to grab entire riparian vegetation for stockpiling, keeping it intact as much as possible, and using it again in the same area to restore these areas would significantly improve the restoration process and time needed to repair these riparian areas.
VEG 6	One commenter recommended that the Corps consult with the U.S. Forest Service and the Alaska Region State and Private Forestry Program about bark beetle threats/causes/infestations, and handling of timber. Information can be obtained from: www.fs.usda.gov/detail/r10/forest-grasslandhealth Bark Beetles and by calling the AK S&PF at 907- 743-9455 in Anchorage. Trish Wurtz, 907-451-2799 twurtz@fs.fed.us for Invasive Plants; Lori Winton 743-9460 lmwinton@fs.fed.us Forest Pathologist, and John Lundquist 743-9453 jlundquist@fs.fed.us Forest Entomologist are some key contacts.
VEG 7	The Draft EIS should consider that organic soils or hot bogs create heat from organic decomposition and take longer to freeze may change the organic decomposition rate in the future.

VISUAL RESOURCES (VIS)

Impacts to visual resources from the minesite, along river systems, and in the pipeline corridor from project components and phases.

Category Code	Description
VIS 1	For the project area, including the proposed project mine site and pipeline route, the Donlin Gold Project Draft EIS should evaluate the impacts to visual resources with the potential to diminish the visual experience of visitors and local residents. The project would result in a visible footprint and disrupt the viewshed in a largely undeveloped area. Impacts to visual resources could result from the project features, including the visual presence of an open pit mine site, light pollution from mine infrastructure and facilities, and the cleared ROW path of the pipeline.
VIS 2	The Draft EIS should consider visual impacts and alternatives to the proposed pipeline route, planned airstrips, gravel pit sources, storage areas, and man camps. Alternative sites that could minimize visual impacts to the viewshed, especially near established guide camps, should be examined. The current proposed pipeline route and areas selected for staging and development would be proximate to several camps and could have adverse visual effects on the viewshed for visitors and clients of professional guides. It was reported during the scoping period that the Silvertip Camp, which has operated along Khuchaynik Creek near the Windy Fork of the Kuskokwim River for over thirty years, provides hunting guides with an unspoiled viewshed, visitor services, and is a source of employment to local residents of nearby Nikolai.
VIS 3	The proposed pipeline should be analyzed for impacts on visual resources by using the Visual Contrast Rating System as described in BLM Manual 8431-Visual Resource Contrast Rating. This analysis would determine if the potential visual impacts from the proposed surface-disturbing activities or development would meet Visual Resource Management (VRM) Inventory Class management objectives assigned for the area, or whether design adjustments would be required. Environmental factors to be considered for the proposed pipeline project area VRM classes include: viewing distance, angle of observation, length of time in view, relative size or scale, season of use, light conditions, recovery time, spatial relationships, atmospheric conditions, and motion. This analysis would enhance future design techniques, minimize impacts upon visual resources and help to meet VRM class objectives. In particular viewshed impact analysis should include digital photo modeling of impacts to the INHT both from the air and the ground. Scoping comments noted that the Anchorage to Rainy Pass flight corridor receives frequent daily use both by scheduled commercial air carriers, and special charters for hunters, fishers, flightseers, and Iditarod Trail event followers. Viewshed modeling should include scale modeling of viewsheds during winter months when the linear corridor clearing is especially noticeable, and also take into account localized snowfall patterns that may accentuate or hide the cleared pipeline corridor.

Category Code	Description
VIS 4	VRM Best Management Practices (BMPs) must be disclosed and discussed. BMPs are necessary and appropriate to recommend where future land and resource use and development occurs, in order to prevent unnecessary degradation of visual resources and to meet VRM class objectives. BMPs to be considered for the eventual Bering Sea-Western Interior Resource Management Plan include the following to the extent practicable: • All permanent facilities would be located away from roadsides, rivers, or trails, thereby using distance to reduce the facilities' visual impact; • Access roads and permanent facilities would be designed to minimize vegetation clearing and use landforms to screen roads and facilities; • Permanent facilities would be designed to be screened behind trees or landforms if feasible so they would blend with the natural surroundings; • Modification or disturbance of landforms and vegetative cover would be minimized; • Permanent facilities would be designed so their shapes, sizes, and colors harmonize with the scale and character of the surrounding landscape; and • In open, exposed landscapes, development would be located in the opposite direction from the primary scenic views, if feasible.
VIS 5	The Draft EIS should consider using the following BMPs for earthwork, vegetation, and structures: • Avoid hauling excess earth cut or fill, utilize curvilinear or topographical sloping, retain existing rock and vegetation formations whenever possible, irregular rock cut techniques, and prohibit dumping or sloughing of material downslope. • Retain as much existing vegetation as possible, use vegetation to screen development from view, scalloped and irregular edging versus straight lines, and feather and thin edges of cleared areas. • Repeat line, form, color, and texture. Minimize the number of structures, use earth-tone colors, use self-weathering materials, use natural stone, bury all or part of the structure, use paint finishes with low reflectivity, employ native building materials, and use naturally-appearing forms to complement landscape character. • Avoid colors that cause the most contrast, choose colors two to three shades darker than background colors, achieve best blending with surrounding landscape in all seasons, galvanized steel on utility structures should be darkened to prevent glare, and color (hue) is most effective within 1,000 feet.
VIS 6	Comments received from BLM during the scoping period indicated that in conjunction with the Bering Sea Western Interior Resource Management Plan, BLM will begin formal VRM inventories in summer 2013, which would include the proposed pipeline area. The agency noted that currently, no BLM visual resource management inventories have been completed for the planning area. Specifically in regard to the proposed project BLM requested that BLM staff be given access to the GPS- linked videographic imagery of the proposed pipeline route from a low altitude that is identified within the current Plan of Development. This data would help to better evaluate and define general visual management classes and associated management prescriptions of the area involving the proposed pipeline route.

Category Code	Description
VIS 7	BLM suggests minimizing visual impacts by incorporating through mitigation in the Draft EIS the following: Exposed (above ground) facilities should be colored with matte-finish (low levels of reflectivity) earth-tone paints that blend into the natural landscape at each location during the months of June, July, and August (summer colors); and at the aboveground sections of the pipeline, appurtenances, ancillary equipment, and associated valves at the 15 remote mainline block valve locations (aboveground block valves). BLM recommends that Donlin Gold work with contractors and subcontractors early in the planning process in order to communicate preferred finish colors of all above ground facilities, especially when constructed off-site. BLM also noted that proposed fencing and sliding gates at facilities and valve sites should be the same color of the natural landscape (e.g., brown or green plastic coated chain link).
VIS 8	BLM suggests that the Draft EIS consider that on a long-term basis, disturbance caused by construction would be visible for varying lengths of time. The Draft EIS should provide estimates of this length of time and identify the areas where long-term disturbance is such as in wetlands and permafrost areas. In particular the Draft EIS should define long-term as 100 years to 1000 years in consideration that Iditarod Trail scars are evident in areas 100 years after use. It is likely that the proposed project could degrade the visual experience for at least the operational phase of the pipeline, due to ROW clearing every 10 years and summer ORV use. After decommissioning another one to two decades would be necessary for alder to revegetate the operational ROW, which would then be visible for the remainder of the 21st century as evidenced by alder-choked corridors that were created by the U.S. Army during overland military maneuvers in Chugach Mountain subalpine ecosystems. The vegetation in these military operating areas is very similar to that of the route of the proposed pipeline, and the travel ways of the heavy equipment are still very evident today, even 50 years after they were created.
VIS 9	The Draft EIS should identify all possible alternative alignments first, and then select the most feasible for the proposed project. This could be accomplished by: • Using topography to hide manmade changes; • Analyzing soil stability; • Determining a re-vegetation plan; • Evaluating hydrologic condition and erosion potential; • Using curvilinear landscape route selection; • Avoiding fall-line cuts and bisection ridge tops; avoiding valley bottoms; and • By hugging vegetation lines. Design features should consider following natural topography in order to hide the manmade features. In particular this should happen with respect to the proposed linear (straight) alignments of the pipeline, on or near prominent topographic features viewed by overhead aircraft (e.g., Egypt Mountain).

WATER QUALITY AND QUANTITY (WAQ)

Comments and concerns regarding impacts to water quality and quantity from construction and operation. Pit water and tailing dam management. Water budget for the mine during operations. Erosion, turbidity, temperature changes, barge traffic concerns causing changes in river erosion and turbidity.

Category Code	Description
WAQ 1	The prediction of water quality impacts at mine sites is not an exact science and varies from mine to mine. It has been practiced for over 30 years and yet many methods and models used to predict water quality at hard rock mine sites have their limitations. Concerns were expressed during scoping regarding potential water quality impacts to human health as a consequence of tailings runoff due to unpredicted snowmelt and rain; heap and dump leach material runoff due to unpredicted snowmelt and rain; acid drainage runoff infiltration through soil over time; low grade or stockpiles and waste rock runoff infiltration through time; contaminated surface water discharge; and pit lake runoff.
WAQ 2	The Donlin Gold Project Draft EIS should analyze the potential effects on water quality from project discharges in light of predicted lower levels of water in the Kuskokwim River and the changing water cycles that would occur over the life of the mine. A good share of the discharge into the Kuskokwim River is derived from glacier melt and runoff in the headwaters. There have been low water levels in recent years. Local residents noted during scoping that they believe this is due to glaciers drying-up and that water is percolating through the tundra. Over the life of the project, local residents are concerned that that they may see a big change in glaciers and glacial discharge to the river.
WAQ 3	The mine site water balance should be estimated for each phase of the mine development (e.g., pre-operation/pre-production, construction, operations, closure, reclamation periods, and post-closure). Commenters expressed concern that there is a tendency in mining to underestimate water use and waste during the pre-operation and pre-production phase. The Draft EIS should take into consideration the records of mines in Alaska and perhaps elsewhere on whether proposed mines are underestimating or overestimating what is needed for mine operations in order to get a better estimate of the accuracy of what is proposed during planning and development stages. The mine site water balance should cover a range of hydrological conditions (extreme and average) and potential variations or disruptions in process flow (e.g., temporary suspension of operations as well as closure). The mine site water balance should be described in detail in the Draft EIS, and should: • Identify the location of meteorological stations and water monitoring stations (including rainwater collection), length of monitoring and data collection; • Estimate peak flood flows, precipitation, and duration and intensity of storm events on a seasonal basis; • Characterize all potential water sources (e.g., surface water, groundwater, snow, precipitation, run off). It has been observed that water quantity in the [project] region is already going down [and by comparison the commenter said that:]; about half of the ponds in the Arctic now are not ponds anymore. There should be an understanding of current water levels to better characterize what could occur in the long-term;

Category Code	Description
	• Estimate the amount of water needed from each source; • Specify the volume of water needed for construction and operation of the mine facility; • Estimate changes in water flow patterns for surface drainage modifications, groundwater aquifer dewatering, surface water dewatering, water use, water storage and discharge, and for different seasons; • Provide a detailed water balance evaluation at the proposed mine facilities during the full lifecycle– water flow patterns for surface water, water use, land application and discharge systems, pond storage and discharge, seasonal changes during steady state and peak flow conditions; • Provide a detailed schematic diagram depicting the water balance changes throughout the mine life cycle- construction, start up, operations, closure, reclamation and post-closure and monitoring; and • If water would be recycled, the Draft EIS should evaluate the quantity and determine where the unusable water would be stored.
WAQ 4	Water is essential to the everyday survival of the Athabascan and Yup'ik people. Water provides and sustains life. Water is a valuable resource that can cost more than oil in some places. Local residents drink water from the creeks and use water from the creeks for washing and cleaning. The following are concerns regarding reduced water quantity raised during scoping: • How does the Village of Crooked Creek make sure it has enough water available for its needs? What if there is not enough for Crooked Creek to use? How can we make sure we have enough water for our community? • Supposedly the water is owned by the State of Alaska, not privately owned. Commenters suggested a charge be applied for all water diverted from the river. • Reducing water flow could negatively affect water temperatures throughout various stretches of Crooked Creek (i.e. warmer in summer and colder in winter) which would affect aquatic resources.
WAQ 5	The Draft EIS should address the quantity and impacts of new barge traffic water and sewage dumping. There are three or four barge lines in the river already that dump wastewater and sewage directly into the river. The proposed mining camp should have septic tanks and the barges should transfer waste to proper, land-based facilities. There should be no new discharges into the Kuskokwim River.
WAQ 6	There would be both short- and long-term impacts to water quality resulting from the mine site water impoundments and open pit mining activities. Water chemistry, quality, and possibly quantity would be affected by the use of cyanide, multiple petroleum products, and erosion from heavy equipment operation. There is a potential for metal release and acid generation from waste rock, tailings, and pit walls. A large open pit and dewatering would have impacts to nearby streams and lakes. The proposed project should have a Mine Waste Management Plan, monitored by the federal agencies, that includes changes in groundwater chemistry from dewatering and mining related causes. There should be detailed hydrogeochemical models for managing water quality.

Category Code	Description
WAQ 7	The Draft EIS should examine the potential risks and impacts of the substantial volumes of wastewater produced by the proposed mine. During the rainy season (when fall rains can last an entire month) or high precipitation years (including snow melt), local residents are concerned that the waste tailings pit would fill up. The Draft EIS should address the need for a back-up pit to pump water into. Residents were concerned about the high risk of eventual leaks or overflows into creeks and waterways. Concern was expressed during scoping that this contamination would not stay localized and would migrate and contaminate fish-producing streams and nearby wetlands.
WAQ 8	Residents expressed concern during scoping that they felt that the proposed mine should stop operation if it cannot pass water and air quality standards. Two of the state's large-scale mines have exceeded their EPA water quality standards numerous times and still continued to operate by paying fines.
WAQ 9	The Kuskokwim Region already suffers from degraded water quality due to multiple causes including wastewater removal and the abandoned Red Devil Mine. The Clean Water Act §303(d) requires states to identify water bodies that do not meet water quality standards and to develop water quality restoration plans to meet established water quality criteria and associated beneficial uses. The list of Alaska's impaired waters (2010) can be obtained online at: http://www.dec.state.ak.us/water/wqsar/Docs/2010impairedwaters.pdf. Impaired waterbodies listed in the project area include the Kuskokwim River and the Red Devil Creek (at the confluence of the two rivers), which are both Category 5 and therefore, require the development of a Total Maximum Daily Load. The Kuskokwim River (AK ID No. 30501-002) and the Red Devil Creek (AK ID No. 30501-002) are listed for exceeding water quality standards for antimony, arsenic, and mercury associated with mining activities, including the Red Devil Mine. The Draft EIS should evaluate the direct, indirect, and cumulative impacts on any impaired waterbodies in the project area. Recommendations provided in scoping comments included: • Identify and evaluate impacts to any listed impaired waterbodies in and adjacent to the project area that are on the current EPA approved §303(d) list. Specify the pollutant(s), source(s) and the water quality standard(s) exceeded that was the basis for its listing. Identify whether a water body recovery plan and/or a Total Maximum Daily Load has been developed and/or implemented; • Describe any enhancement efforts for those impaired waters, and how the proposed project would coordinate with on-going protection efforts, if any; • Identify mitigation measures to minimize further degradation of impaired waters in the project area; and • Identify the monitoring efforts to ensure that mitigation measures are effective in achieving water quality standards.

Category Code	Description
WAQ 10	Residents expressed concern during scoping that the remoteness of the Kuskokwim River and the lack of baseline water quality data should not serve as the green light to further impact these communities. The proposed Donlin Gold Project would provide numerous employment opportunities needed in the Kuskokwim, but local residents remarked during scoping that they must ask themselves what cost they are willing to pay for this benefit. The benefits for this project would be felt in the short term but the costs of significantly degraded water quality could be endured for many years to come. Waste water pollution could contribute to ecosystem and wildlife damage and human health impacts. The creation of a natural gas pipeline through the proposed area would cut through the land that these streams cross to feed the Kuskokwim River and could affect drinking water.
WAQ 11	The proposed project may contribute adverse direct, indirect, and cumulative impacts to water quality in the region. Water quality impacts to wetlands, rivers, streams, lakes and other surface waters could result from stormwater discharges from construction, operation, and reclamation and closure of the mine and camp facilities, the access road, the pipeline, and other support facilities. Accidental releases of fuel and chemicals into adjacent waterbodies could also be a source of water quality pollution. The Draft EIS should include a framework for comparing the baseline water quality to the water quality monitored during construction and operations of the proposed project. Recommendations for baseline water quality information include: • Collect baseline water quality information in the project area. Identify the period of record of the collected water quality data. List the water quality parameters for which data has been collected (if certain parameters have been dropped, specify the basis); • Scoping documents categorize surface waters as draining Background 1 (undisturbed, unmineralized), Background 2 (undisturbed, mineralized), or Baseline (disturbed or mineralized) areas. This was noted to be helpful but then provides only averages for water quality parameters. Mineralized and non-mineralized sites are expected to have different water quality, and water quality changes seasonally. The Draft EIS should provide a section or appendix that lists all the surface water and groundwater quality data for every site, by every date for the reader to understand the range of water quality, changes by season, and the number of samples at each site; • Quality Assurance and Quality Controls should be maintained at adequately low detection levels; • Include maps showing the locations and terrain elevation of all past and present data collection stations (explain any that have been dropped or location changed); • Identify and discuss applicable national and state water quality regulations, standards, and guidance; • Identify and discuss required wastewater permits; • Include a plot plan/facility layout showing affected watershed boundaries with location of all discharge points, buildings, structures, north arrow and scale; • Describe proposed water treatment options and alternatives; • Provide estimates of the mine effluent water quality – type of pollutants and quantities, etc.; • A draft Alaska Pollutant Discharge Elimination System permit should be included as an appendix to the Draft EIS. This would be beneficial for the public, local and tribal governments, and agency decision-makers; and • There should be a reference section for the sources of assumptions, information and data.

Category Code	Description
WAQ 12	The proposed project may impact potable drinking water sources and/or their source areas utilized by the communities. Construction of the buried natural gas pipeline would require trenching, excavation, and water withdrawal. Mine construction and operations could result in other impacts to source water areas. The Draft EIS should describe potential direct, indirect, and cumulative impacts to source water protection areas associated with this proposed project. Recommendations for the Draft EIS analysis include: • Identify and map the location of known public drinking water supplies and their sources, surface and groundwater, aquifers, recharge zones, natural springs, etc. within the project area; • Identify the local traditional drinking water sources, which may include rain barrels, melting ice in the winter, etc. Discuss impacts to these sources from dust and other contaminants; • Identify the location of known water supply wells in the project area. The Alaska Department of Natural Resources maintains a well-log tracking system database that provides information on reported sources of drinking water; • Identify project construction and/or operational activities that could potentially impact known source water areas; • Identify potential contaminants that may affect known source waters through infiltration/seepage; • Distinguish the effects that any current or historic activities, including mining activities, have had on source waters of the project area; and • Identify mitigation measures and monitoring activities to protect known source water areas.
WAQ 13	Numerous rivers, streams, lakes, and wetlands would be crossed for the construction of the proposed natural gas pipeline, the gravel access road, and other mine-related facilities. Different types of water body crossing construction methods and techniques would be implemented, including culverting, bridging, and HDD, and should be considered for all waterbody crossings. The Draft EIS should evaluate the impacts associated with these construction methods. Other considerations of waterbody crossings include: • Characterize all proposed the water body crossings, and summarize the information for width, depth, streamflow, presence/absence of fish, fish species, etc.; • For each water body crossing, identify the type of construction methods (e.g. open cut – dry or wet, trenching, HDD) and/or structures (e.g. bridges, culverts) that would be implemented; • Identify mitigation measures, such as maintaining no disturbance buffers, in water timing restrictions for fish migration and spawning, etc.; • Identify monitoring provisions to ensure effectiveness of mitigation measures; • Silt mitigation techniques around fish streams; nephelometric turbidity units for streams may not exceed the state water quality standard of 5 nephelometric turbidity units above background; and • Both short- and long-term impacts to water quality resulting from pipeline installations at water crossings. Trenching banks and stream beds, diverting channels, damming, compacting and disrupting flood plains, would result in erosion and increased sediment loads.

Category Code	Description
	• The Draft EIS should include where culverts and bridges associated with the pipeline would be installed permanently, or removed after construction. In general use of culverts and placement of fill activities in flowing waterways should be avoided.
WAQ 14	The proposed mine facility is located within the two adjacent watersheds – the American and Anaconda creeks. Both creeks provide source water to Crooked Creek, which drains into the Kuskokwim River. The proposed waste rock facility would permanently affect American Creek. The proposed tailing storage facility could permanently affect Anaconda Creek. The Draft EIS should evaluate the direct, indirect, and cumulative impacts to American and Anaconda creeks. The watershed characteristics of both drainages should be evaluated in detail. The Draft EIS should evaluate the effects of surface water discharge, and impacts to adjacent wetlands or stream reaches from mine dewatering activities.
WAQ 15	The proposed water management objectives for the proposed Donlin Gold mine should be no discharge of process water during operations; ensure sufficient supply of water during operations; and minimize the amount of water that has to be treated. The Draft EIS should evaluate plans, contingencies, and options to ensure that these water management objectives are achieved throughout the 27 year mine life, as well as during mine closure, reclamation, and long-term site management.
WAQ 16	The Draft EIS should provide detailed information regarding the proposed mine site water treatment, and long-term treatment and monitoring for the proposed mine facility. An effective water treatment system would ensure that impacts to water quality of the adjacent surface water and groundwater are minimized. The Draft EIS should: • Describe in detail the water treatment systems, type of filtration and removal system – active or passive, type of pollutants to be removed. Evaluate the effectiveness of the waste water treatment measures; • Provide a detailed schematic diagram depicting treatment schemes through mine construction, start up, operations, closure, reclamation, and post-closure and monitoring; • Discuss effectiveness of the water treatment systems during seasonal and high flow events, and during pit dewatering; • Identify back up options, as needed to address water management concerns throughout the mine lifecycle. For example, during high water periods, can the excess water be managed or stored beyond the capacity of the proposed treatment system. In predicting the water treatment capacity needs, does this account for climate change effects; • Provide estimates of the quantities and composition of process solutions, tailings water, runoff waters, mine drainage, and treated effluent at the proposed operation; and • Identify the specific protocols that would be followed with respect to treating and/or disposing of sewage and gray water generated by each proposed work camp.
WAQ 17	The Kuskokwim River has a 50-60 year history of mining and contamination of mercury and acids as noted by one commenter. The Draft EIS should determine whether the Yukon River region would be affected by the proposed mine as the Yukon River has a different mining history.
WAQ 18	Degradation of the water quality in the Kuskokwim River is almost a certainty due to the proposed steady stream of barge traffic carrying millions of gallons of fuel and other

Category Code	Description
	development materials (e.g., mass fuel storage at Jungjuk Creek). Several villages between Lower Kalskag and Bethel get their drinking water directly from the river. The Draft EIS should look decades ahead at what assurances there are for village safe drinking water; actual and perceived safety concerns.
WAQ 19	The Draft EIS should analyze the potential for wastewater to enter Crooked Creek and the Kuskokwim River as well as the preventative measures. Residents expressed their view that anything produced at the proposed mine should not be discharged into fresh water, and contamination by wastewater should be the responsibility of the mine owners and operators.
WAQ 20	As a new source, the proposed Donlin Mine would be prohibited from discharging any process wastewater to navigable waters, i.e., waters of the United States (40 CFR § 440.104(b)(1)). EPA adopted this New Source Performance Standard in 1982 after studying the mining industry nationwide and determining that it was technically and economically feasible to recycle process wastewater completely, with no discharge to water of the U.S. (47 Fed. Reg. 54,598, 54,602 (Dec. 3, 1982). Donlin Gold's application materials assert that the mine intends to comply with this requirement. However, Donlin Gold's Water Resources Management Plan shows that the mine would actually discharge vast quantities of process wastewater into American Creek after mine closure, in violation of the zero-discharge New Source Performance Standard. Under the plan, American Creek – indisputably a water of the U.S. – would flow into the pit after closure, and Donlin would fill it up with waste rock runoff, water emptied from the tailings pond, and seepage that would continue to be collected from the tailing storage facility. Presumably, the pit would also include many wetlands, springs, and seeps that, like American Creek, are also waters of the U.S. The water and seepage from the tailings pond is, of course, process wastewater, and the proposal to dump it untreated into American Creek and other waters of the U.S. within the pit would violate the New Source Performance Standard. Though unexplained in the mining plan, it is possible that Donlin would seek to have American Creek and the other waters within the pit deemed a "waste treatment system" no longer subject to the Clean Water Act (33 CFR § 328.3(a)(8)). Though used elsewhere, this regulatory loophole undermines the Act's goal of stopping polluters from using the nation's waters as disposal sites for industrial wastes. The Draft EIS should analyze the effects of this loophole at the Donlin Mine and encourage the Corps and EPA to revise their regulations to close this loophole. The Draft EIS should fully disclose the precise legal mechanism by which the proposed discharges to the mine pit would occur, so that affected members of the public may comment.
WAQ 21	The Draft EIS should analyze the impacts of the pipeline (especially relating to construction) on water quality, quantity, groundwater, and aquatic habitats. Components of the pipeline project as they relate to water quality include: • The requirements of the Stormwater Pollution Prevention Plan should be followed to ensure impacts to water resources are limited during construction; • Sewage and gray water generated by each camp should be treated as required and disposed of in accordance with Alaska Department of Environmental Conservation regulations; • There should be a gray water disposal plan on- and off-construction sites that complies with regulations and requirements. The Draft EIS should clarify whether there would there be a septic system or a mixing zone in the river; and • When dewatering the trench, the effluent should be discharged into a dewatering filter bag or geotextile bag to collect sediments. The water could be allowed to surface

Category Code	Description
	discharge and the collected sediment could be used in the reclamation of the ROW.
WAQ 22	The Draft EIS should analyze water use through all components of the proposed project and potential water sources for road construction and maintenance, pipeline construction and dust control. If local sources are inadequate, there should be a discussion of piping or trucking water and the footprint involved in this activity in order to determine potential resource impacts. Water withdrawal from local standing water sources is expected to be limited to the traditional 15 percent of the free water if fish are present but would always be subject to specific permit conditions for each site. Water withdrawal from lakes may be authorized on a site-specific basis depending on size, water volume, depth, fish population, and species diversification.
WAQ 23	Water withdrawal from lakes and streams for pipeline construction, including ice road construction and hydrostatic testing should be planned and executed in accordance with the requirements of the appropriate permits and authorizations. Methods of retrieval as well as potential disposal methods and sites should be evaluated. Minimum water requirements for anadromous waters should be maintained to prohibit spawning locations from being dewatered. All fish resource streams (anadromous and resident) should have minimum flows established in order to prevent winter freeze and to prevent withdrawal from or affects to adjacent stream water tables. The Draft EIS could look at requirements from North Slope ice roads, for example and comparison.
WAQ 24	Residents are concerned about contamination levels already present in the river system because they described their dependence on this fragile ecosystem. Baseline data on slimy sculpin taken at the mine site has demonstrated that there are contaminant levels already present in the water system and this is considered unacceptable by local residents. It is assumed these high levels are the residual effect of historic mining in the area. With contaminants already in the system, there is a concern over even a potentially slight increase of contaminants in the watershed.
WAQ 25	Georgetown Tribal Council has been monitoring water quality for the past six years and has developed baseline data for the Georgetown area. It would be important to continue monitoring to ensure and verify the long-term sustainability of our ecosystem health.

WETLANDS & AQUATIC COMMUNITIES (WET)

Filling of wetlands and alternations of wetlands habitat, fragmentation, and loss of wetland habitat as a result of project components.

Category Code	Description
WET 1	Concern was expressed that the proposed project could permanently or temporarily affect wetlands, riparian areas, and aquatic resources during construction, operation, and far into the future. Potential direct, indirect, and cumulative wetland impacts should be quantified and included in the Donlin Gold Project Draft EIS.
WET 2	The Draft EIS should include delineation of all wetlands that could be affected by the proposed project. Wetlands and aquatic resources within the proposed project area should be characterized and quantified on aerial photograph maps. Along the proposed natural gas pipeline, the jurisdictional Waters of the United States should be mapped via aerial photo interpretation within a corridor of at least 1,000 ft (305 m). Field delineation of wetlands should occur within a corridor of at least 300 ft (91 m) along the proposed natural gas pipeline.
WET 3	The function and condition of wetlands, drainages, riparian areas, and aquatic resources within the proposed project area should be evaluated. The Draft EIS should: • Include a functional assessment of wetlands in the proposed project area, particularly in the Anaconda Creek and American Creek watersheds; • Identify the methodology that should be used for condition and functional assessment; and • Provide the results of the condition and functional assessment on a map and include area, habitat, vegetation type, percent cover, and other relevant information.
WET 4	The Draft EIS should include commitments to practical and appropriate measures to avoid and minimize wetlands impacts by the proposed project. Options for avoiding and minimizing wetlands impacts should be considered in the alternatives. To compensate for unavoidable wetlands impacts, the Draft EIS should: • Base compensatory mitigation on the wetlands functional assessment and replacement of those functions lost according to an ecologically appropriate mitigation ratio; • Identify the appropriate type of compensatory mitigation (permittee-responsible mitigation, mitigation banking, or in-lieu fee mitigation); • Evaluate the use of a combination of compensatory mitigation options; and • Consider restoring wetlands to their natural states.
WET 5	To ensure the implementation of mitigation measures, the Draft EIS should develop a plan for monitoring wetlands, riparian areas, and aquatic resources. Corrective measures should also be specified in the plan.

Category Code	Description
WET 6	Concerns were expressed about wetlands along the proposed pipeline corridor. Specific concerns include: • Prior to clearing the proposed pipeline corridor, the ROW should be staked and flagged to identify wetlands during the summer when the ground is free of snow; • Mileage of proposed gravel roads to be built on wetlands should be identified. Proposed gravel roads should not be built on wetlands; • Slope breakers and trench breakers should be installed at wetland boundaries to prevent the pipeline trench from draining the wetland; and • The risk that the pipeline trench (ditch) could intercept overland water flow and erode backfill material and become a canal that carries water with high sediment loads to nearby streams and wetlands. The EIS should address where pipeline trenching would intercept streamflow and changes to wetland cross drainage at areas of continuous and discontinuous permafrost in rolling or mountainous terrain. Concerns where expressed that rehabilitation in areas of ice-rich soils could require repeated trench maintenance and long-term thermal stabilization activities before the habitat would return to its former stability and productivity. It was noted that this could be difficult as there is not an access road currently planned along the proposed pipeline route.

WILDERNESS CHARACTERISTICS (WCR)

Comments related to wilderness characteristics and values. This includes formally designated Wilderness units, BLM-specific Lands with Wilderness Characteristics, and other underdeveloped, wild landscapes.

Category Code	Description
WCR 1	The proposed mine and pipeline corridor would be development in an area that has wilderness characteristics and unique features. The Donlin Gold Project Draft EIS should evaluate the impact of a large mine in a previously undisturbed area with regard to impacts on wildlife and wilderness values of the proposed project area. Scoping commenters noted that the Kuskokwim and Yukon rivers need to be protected from potential project impacts. Specifically, near the areas of Windy Fork, Khuychanik Creek, the Middle Fork, and the Big River Fork, commenters noted that never before in history has mankind proposed to make such a footprint upon these lands. Commenters noted that the Khuchaynik Creek and several smaller streams towards Middle Fork are areas that provide unique wilderness habitat characteristics for a strain of Arctic char. Commenters expressed concern that some ground impacts can still be seen today from construction in the 1960s that negatively affect the wilderness experience.
WCR 2	The Donlin Gold Project Draft EIS should evaluate impacts on the surrounding wilderness areas and values that could be affected as a result of the proposed project, including construction and maintenance of the pipeline, new airstrips, increased use of ORV/ATVs along the pipeline ROW, and emissions of pollutants during operation. There are no designated Wilderness areas on BLM lands, however, much of the proposed pipeline route likely crosses Lands with Wilderness Characteristics. Every effort should be made to protect these lands and their characteristics, and the wildlife that occurs in these areas. BMPs need to be applied to protect wilderness characteristics and values at each component and phase of the proposed project.
WCR 3	The wildlife populations and habitats in the proposed project area provide wilderness characteristics and values that are in turn a benefit to subsistence hunters, recreational hunters, trappers, professional guides, photographers, eco-tourism, and local communities. The Draft EIS should describe how these natural attributes and wilderness characteristics would be protected.

WILDLIFE IMPACTS (WILD)

General comments related to potential impacts to wildlife (mammals). Includes the potential for impacts to threatened and endangered species.

Category Code	Description
WILD 1	The Donlin Gold Project Draft EIS should describe the effect of project-related disturbance on wildlife. Analysis of potential short and long-term effects on fish and wildlife should include all components and phases of the proposed project. In particular comments received during scoping recommended evaluation of the road between the proposed Jungjuk Port and mine site, construction of the Jungjuk Port, expansion plans for the Bethel Port, the mine site and mining operations, impacts from water management, access to the mine site, and closure. Commenters are concerned that the proposed project would adversely affect wildlife including: fish and aquatic biota, waterfowl, Dall sheep, caribou, moose, brown and black bear, wolf, wolverine, small game, furbearers, geese, and ducks. Specifically, the Draft EIS should evaluate: • How the project construction, operation, and closure would change wildlife patterns and behavior; • The EIS should examine the effects of blasting on aquatic and terrestrial biological resources. Blasting during sensitive life stages of wildlife (e.g., Dall sheep lambing, raptor nesting, bear denning) can impact reproduction or survival. Blasting of the pipeline trench in or near streams could cause mortality of adult and juvenile fish as well as developing eggs; • The effect of increased presence of humans and machinery; • Measures planned to ensure that wildlife, subsistence, and recreation are not affected by the increase in noise created by the movement of 2-man crews in helicopters along the pipeline ROW route; • Implementing a policy to avoid generating loud noise level that may affect local residents and/or wildlife, including avoiding overflights of seasonal hunting and subsistence use areas to avoid disturbing game; • The impact of employees, employee housing, equipment shops, fuel transport, storage and risk, large equipment, pipeline storage yards storing fourteen inch steel pipe every five miles, large gravel pits, water extraction activities, risks fuel spills, the overall large scale of work and the recreational activities of these employees on the critical summer and winter wildlife habitats and the wildlife itself; • Hunting and fishing impacts to local resource populations in or around the mine as a result of mine workers' recreational or subsistence uses. Consider a project design alternative that prohibits mine workers from engaging in recreational hunting and fishing during duty shifts during construction, operation, and remediation phases of the pipeline; • Clarify whether, in addition to the current policy of prohibiting employees and contractors from hunting, fishing, trapping, shooting, and camping within the ROW or using project equipment for these purposes, there are any comparable company policies regarding these uses outside the ROW. Describe how impacts on nearby resources from 300-person construction camps (plus smaller camps) would be addressed; • The effect of increased hunting pressure due to presence of airfield; and • The effect of increased human use of the pipeline route for travel by ORV/ATVs and snow machines in previously inaccessible areas.

Category Code	Description
WILD 2	Commenters expressed concern during scoping that wildlife may be hit or killed by traffic on the roads. The Draft EIS should analyze the risk and provide an estimated number of animals that may be affected by collisions with vehicles.
WILD 3	Commenters are concerned about the effect of the proposed project on riverine and marine species. Specifically, the Draft EIS should address: • The effect of increased marine traffic on the Kuskokwim River on migratory marine mammals, waterfowl, and fish that migrate along the coast; and • The potential effect on Pacific walrus and migratory birds (such as buffleheads and common and spectacled eiders) from a fuel spill from the shipping barges going up and down from the Aleutian Islands. The Aleutian Islands host these and other species during the winter.
WILD 4	Commenters expressed concern during scoping about the effect of the proposed project on wildlife resources that are harvested for subsistence. The Draft EIS should address habitat loss in the project area and the potential for contamination of fish, moose, waterfowl, bears, and caribou. The Draft EIS should describe the effect of road construction, increased traffic and hunting pressure along the previously inaccessible pipeline corridor on wildlife populations important to subsistence hunters. Specifically, the Draft EIS should analyze the potential effects of increased disturbance to subsistence resources such as caribou and moose. Analysis in the Draft EIS should include the impacts of project related increases in air, barge, and vehicular traffic, increased human access, and how the physical presence of the road and pipeline could result in both long- and short-term disturbance of the Mulchatna Caribou Herd and interrupting caribou migration patterns. Scoping comments noted that the EIS should evaluate the potential interactions between wildlife and the tailings impoundments at the mine site and include mitigation measures to discourage wildlife interaction in these areas. The EIS should also evaluate the potential for metals leaching to water and the subsequent impacts to wildlife. Waters that are within the proposed mine site could be toxic and an evaluation of mitigation measures to ensure wildlife contact is minimal with these waters should be included in the EIS.
WILD 5	Issues were raised during scoping concerning how the pipeline would affect wildlife, through habitat fragmentation, disturbance from human presence, disruption of wildlife movement and migration patterns, and resultant impacts to subsistence resources. Specifically, the Draft EIS should address: • Placement of the proposed pipeline above-ground and below ground. During construction and pipe installation pipe laying activities could deflect or form a barrier to wildlife movement (moose migration between summer and winter ranges; caribou seasonal migration). An open trench could entrap an animal. • The impacts of the proposed pipeline on fish, wildlife and their habitats including habitat loss and fragmentation at stream crossings, bisected wildlife migratory routes, and disturbance to fish and wildlife from pipeline inspection and maintenance activities. • The impacts of the pipeline down the South Fork of the Kuskokwim River on the Plains bison herd that was introduced near Farewell and is one of only a few free ranging Plains bison herds in the country. One commenter noted observations of multiple small herds with young calves along the South Fork in the spring. The Draft EIS should analyze the impact of increased human presence on the South Fork on the

Category Code	Description
	calving activity. • The Alaska Department of Fish and Game noted in scoping comments that there is a salt lick approximately 2-3 miles west of Egypt Mountain. The coordinates for the center of salt lick are approximately 62.475433333° N, -153.71645° W. They reported that this salt lick is frequently used by bison and most likely other large mammals such as moose, caribou, and sheep. The proposed pipeline route would intersect with this salt lick and it was suggested that consideration should be given to either re-route the pipeline to avoid the salt lick or conduct a study to determine the extent, composition and use of the salt lick to ensure its integrity and continued use by wildlife is maintained. • The effects of transportation corridors on fish, wildlife, and subsistence resources including the potential impacts associated with access roads and potential public use. • Whether the pipeline ROW would be fenced and if so, describe the effect on wildlife migration. • The effect on existing wildlife trails that occur in the area of the proposed pipeline route and expected changes in use patterns after construction.
WILD 6	The Draft EIS should identify and analyze the impacts to endangered, threatened, and candidate species under Endangered Species Act (ESA) or the Marine Mammal Protection Act, as well as BLM and the State of Alaska sensitive species lists within the project area. The Draft EIS should summarize Biological Assessments and describe the outcomes of ESA Section 7 Consultation with the federal agencies. Clarify whether the Cook Inlet beluga whale or this species' designated critical habitat could be affected by a port developed on the west side of Cook Inlet during pipeline construction or by barging throughout Kuskokwim Bay and Kuskokwim River. The Draft EIS should address impacts to threatened or endangered bird species. Potentially affected species include spectacled eiders, Steller's eiders and critical habitat for Steller's eider, and possibly Kittlitz's murrelet. The analysis should consider the following information from the USFWS. A total of 2,830 miles in the Kuskokwim Shoals is designated as critical habitat for the threatened Steller's Eider (http://alaska.fws.gov/fisheries/endangered/spst_ Final Designation.htm). The Kuskokwim Shoals unit includes an area where large concentrations of Steller's eiders and other Alaska-breeding eider species occur. In addition, Kuskokwim Bay is an important fall staging area for king eiders based on birds implanted with satellite transmitters (Oppel et al. 2008). King eiders undergoing wing molt were also located in Kuskokwim Bay (Phillips et al. 2006). The Draft EIS should analyze the effect of increased vessel traffic and fuel or other toxic spills from vessel traffic on staging birds. The central coast of the Yukon-Kuskokwim Delta also serves as a breeding ground for about 80% of the world's population of emperor geese (Eisenhower and Kirkpatrick 1977). In addition, virtually the entire Pacific population of Steller's eiders (i.e., 70- 100-thousand birds) stage on the Kuskokwim Shoals in the spring and low thousands (including an apparently disproportionate number of Alaska breeding birds) molt in the waters just off this shoreline in the fall. Due to their low population size and restricted breeding locations, spectacled eiders, Steller's eiders, and emperor geese are especially vulnerable to catastrophic events, such as oil spills. It is possible that Kittlitz's murrelet, a candidate for listing under the Endangered Species Act, may nest on Nunivak Island.

Category Code	Description
WILD 7	The Draft EIS should fully evaluate the cumulative effects of the proposed project components and phases (construction, operation, and closure) to fish, wildlife, and their habitat in the project area. Cumulative effects include the long-term implications for the 30-year operation life of the mine. The Draft EIS should specifically address: • Potential effects of all aspects of the project on marine mammals, resident and anadromous fish, and other species listed under the ESA, as well as migratory birds protected under the Migratory Bird Treaty Act and bald and golden eagles. • Potential effects to fish and wildlife habitats and populations. • The geographic scope of analysis in the Draft EIS should include all areas of potential contamination, including the Kuskokwim River Delta and the shallow waters of the Bering Sea. • The Draft EIS should describe the potential effects of project related contamination on Kuskokwim River fisheries, Yukon River fisheries, Pacific walrus populations, and all four Pacific waterbird and shorebird flyways. Consider in the analysis the information provided by the commenters regarding the movement of contaminants.

5.0 CONTACTS

5.1 LEAD AGENCY

The U.S. Army Corps of Engineers is the lead federal agency for the EIS.

U.S. Army Corps of Engineers
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JBER, AK 99506-0898
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5.2 COOPERATING AGENCIES AND COOPERATING AGENCY TRIBES

The formal cooperating agencies include the following federal and state agencies and tribal governments:

- U.S. Department of Interior, Bureau of Land Management
- U.S. Environmental Protection Agency
- U.S. Department of Interior, Fish and Wildlife Service
- U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration
- State of Alaska
  - Alaska Department of Natural Resources
  - Alaska Department of Environmental Conservation
  - Alaska Department of Fish and Game
- Native Village of Chuathbaluk
- Village of Crooked Creek
- Knik Tribal Council
- Village of Lower Kalskag
- Kuskokwim River Watershed Council (on behalf of Akiak Native Community)
- Native Village of Napaimute

5.3 PROJECT WEBSITE AND PROJECT EMAIL

Project website address http://www.DonlinGoldEIS.com/
Project email address: comments@DonlinGoldEIS.com