United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Anchorage Field Office
4700 BLM Road
Anchorage, Alaska 99507-2591
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In Reply Refer To:
2880 (AKA010)
AA-92403

CERTIFIED MAIL 7004 1350 0002 0430 5981
RETURN RECEIPT REQUESTED

Don Kuhle
U.S. Army Corps of Engineers
P.O. Box 6898
JBER, AK 99506–0898

Dear Mr. Kuhle:

The Bureau of Land Management (BLM), Anchorage Field Office has reviewed the Corps of Engineers (Corps) request for scoping comments for the Donlin Gold Project Environmental Impact Statement (EIS). The BLM's comments are captured in two enclosures for this letter.

Enclosure 1 is a copy of the BLM's comments to Donlin Gold, Inc. on their July 2012 Natural Gas Pipeline Plan of Development and March 2013 notice of upcoming plan revisions to account for the "Jones Realignment." Our staff has carefully reviewed the July 2012 Plan of Development and has prepared extensive comments on this document. Given that the Plan of Development forms the basis of a major component of the applicant's overall proposed action, many of the comments on the pipeline Plan of Development are directly relevant to the EIS scoping process. As such, we submit these comments for full consideration in your identification of issues for analysis as well as information to be fully disclosed and evaluated in the EIS.

Enclosure 2 is a compilation of scoping comments submitted by our interdisciplinary team of resource specialists on the project overall. These comments are intended to stand independent of the Plan of Development comments listed in Enclosure 1.

If you have questions regarding these comments, please contact Molly Cobbs, Planning and Environmental Coordinator, at the BLM Anchorage District Office at 907-267-1221 or via e-mail at mcobbs@blm.gov.

Sincerely,

Teresa McPherson
for Alan Bittner
Field Manager

Enclosure

cc: (via email)
T. Brelsford, URS

ATTACHMENT 1

Copy of the BLM Anchorage Field Office Comments on the Donlin Gold Natural Gas Pipeline Plan of Development

Donlin Gold Project, Natural Gas Pipeline Plan of Development, July 2012 version w/ Jones Realignment Amendment Notice, March 2013, *BLM Anchorage Field Office Review, April 2013*

Doc. Section	Doc. Page	Figure # / Table #	Comment
n/a			Is there a mine plan included with the plan of operation?
n/a			There is no mention of decommissioning and removal and the effects on the soils and permafrost of those events.
Table of contents	ix.		Replace acronym "NPS" with National Park Service.
Table of contents	general		Add definitions section. Provide definitions for <u>all pipeline and construction industry</u> jargon/terms, including but not limited to "shoofly road," "construction spreads," etc.
1	1-1, para 1		Add to 2nd sentence after "(NEPA)": "*National Historic Preservation Act and other appropriate and/or necessary federal, state, or local regulations.*"
2	2-2, para 2		Add to sentence *"…of X # of megawatts."*
2.0	2-1		Identify the timeframe that the gas supply is needed with the pipeline (e.g. 10 years, 20 years, 30 years, etc.).
2.1	2-1		State what BLM decision would be to authorize (a pipeline (give length of ROW both temp construction & long term), FOC (give length and width of ROW), airstrips (dimensions), construction camps (dimensions), Shoofly road (length total area). Material sources (area needed proposed gravel amount)).
2.4	2-2		One of the expected public benefits of the pipeline is skilled and unskilled employment opportunities for residents of local communities, primarily during construction, with a peak construction labor workforce of about 650. On p. 8-51 it's noted that a "large contingent" is expected to be Alaska hires, but that the precise ration is difficult to estimate. Despite this uncertainty, it would be helpful to have an estimate of at least a range of proportion of local hires along with any associated assumptions. P.9-26 notes that the company would assist with developing training programs for local area residents so that some could be employed during construction and O&M, but the extent and anticipated outcomes of this training are not described. More information on the training and expected results would be helpful in determining the extent to which this public benefit would be achieved. What would a successful outcome look like, from the perspective of local hires?
2.4	2-2		Another expected public benefit is excise tax revenues from pipeline operation. It would be helpful to know the estimated level or range of expected tax revenues and the levels and types of economic benefits that would accrue locally.
2.4	2.3		The EIS should anticipate potential gas uses by nearby mines and communities near the pipleline. Should expand section.

Doc. Section	Doc. Page	Figure # / Table #	Comment
3	3-1, para 5		Sentence 2 and 3: as written is contradictory/confusing to reader; reword to make less confusing.
3	3-4, para 1		Confusing, nearly indecipherable explanation of permitting sequence. Explain details, rather than providing a reference; consider use of footnotes to reference.
3	3-4		Sec. 3.3.1, 3rd para: Confusing, inconsistent language. Does the word "spread" mean the same as "section" in Table 3-2? There is no word "spread" used there.
3	3-4		Sec 3.3.2: Define word "construction spread."
3	3-7	Table 3-4	Identify costs figures in "year" dollars (i.e., 2012 dollars), especially for reclamation. Provide rationale for cost estimates for reclamation (footnote or endnote if necessary).
3	3-9		Sec. 3-8: In general, the expectation of the applicant in requesting and receiving an approval to locate the construction ROW anywhere within a 1,000 wide corridor or more without subsequent or further agency review and approval, given the sensitive nature of the natural and cultural resources at stake, is not appropriate and should not be granted. I recommend language such as *"While tentative approval for an alignment corridor is requested, the applicant understands that final approval of the detailed alignment by the land manager is necessary before the beginning of any land altering activities."*
3	3-10		Sec. 3-9: 3rd sentence, after word "issued", add: "*trails, easements…"*
3	3-11		Bulleted items: These criteria were not equally applied. Either delete all, or group as primary route selection criteria (minimize length, minimize cost), and secondary considerations (everything else). The alternatives considered, with one exception, are minimal, tiny alternatives, and do not constitute substantive alignment alternatives that will actually approach/meet secondary considerations.
3	3-11		First sentence after bulleted section: delete word "major"…these are not major alternatives, with one exception (Goodman).
3	3-27		**Access** paragraph: insert words after "ROW" in first sentence: "north of the Alaska Range." Begin new paragraph at second sentence. Add language: *"Applicant will provide alternative or substitute routes and connections for any trail intersected / interruptions by construction operations, per approval of land management agencies. All trail intersections / interruptions will be inventoried and alternative / substitute routes catalogued in a 'Winter Trail Interruption Temporary Re-Route Plan', approved by land management agency in advance, before implementation of the reroute."*
3	3-30		Section 3.11.4: lacks any discussion about invasive species prevention / management. Reword to include.

Doc. Section	Doc. Page	Figure # / Table #	Comment
3	3-31		Sec 3.11.5, last paragraph, first sentence: The pipeline would be reclaimed? Reword to describe if the applicant means the surface would be reclaimed. Also, define "reclaimed" in a minimum of general terms. Does this mean revegetated? In a number of cases, it is proposed that the gravel work"pad" (aka road) be left in place. How do they intend to reclaim these while leaving the gravel road in place? Especially when they intend to continue to use the construction ROW for access for operations. How will 'reclamation' interface with overland travel for operations? Also in terms of reclamation, does this include pulling all culverts installed during construction??? This plan should include a list of all waterway crossings that will be left in place permanently (is not evident in other sections; this comment may be premature but is still relevant/related). Delete remainder of sentence. How do they know that big game trails across ROW will not be altered? Sentence implies beneficiary access is provided for big game; similar beneficiary access may be provided for predators, with the overall effect of hurting "big game" species. Eliminate use of "big-game" throughout remainder of document; is non-professional slang with a bias to recreation consumptive uses.
3	3-35		List of plans; applicant provide the following: • *"Pre and Post-Construction Google Streetview Photography of Iditarod National Historic Trail Plan(between Pipeline Miles 48-108)" – includes geo-referenced 'streetview' photography from Google camera mounted on the back of snowmachine, before and after construction, in order to document changes to Trail* • *"Pipeline – Trail Crossing Construction Plan and BMP's" – development of standard construction drawings, methods, and BMP's and plan for implementing and monitoring implementation during and after construction.* *'Winter Trail Interruption Temporary Re-Route Plan' - All trail intersections / interruptions will be inventoried and feasible, alternative, substitute routes GPSed, mapped, and catalogued in a 'Winter Trail Interruption Temporary Re-Route Plan', approved by land management agency in advance of land clearing operations.*
3	25	Table 3-2	Typographical error. Should read "Sequence"

Doc. Section	Doc. Page	Figure # / Table #	Comment
3		3.8	Note a current BLM commercial occupancy lease, and associated airstrip, is located approximately one mile south of MP-168 of the proposed pipeline. Lease holder provides BLM approved commercial big game hunting guide-outfitting operations, using ATV and fixed-wing aircraft access, within the surrounding area. Legal description of lease site listed on current MTP is incorrect. Correct location of lease is 027N 027W 26 S (not section 35) (62° 23.806N 154° 13.343W) Note also that lease holder is requesting to move lease site north, away from the Khuchaynik River and closer to the proposed pipeline alignment.
3.0	3-1		First Paragraph. "Additionally, the pipeline portion of the proposed mine project would have limited effects on air quality because it does not include nor address the emissions for producing power at the mine site." A related action. During construction and mine operation all heavy equipment and associated equipment would produce emissions this will need to be addressed and may not have limited effects on air quality as identified here.
3.0	3-2		(LIDAR) data obtained continuous global positioning system (GPS) linked video graphic imagery of the route… Is this data available for BLM and or all partners and the public?
3.0	3-2		Requesting that BLM staff be given access to the following identified data, as it relates to BLM-managed lands only, to better evaluate and define general visual management classes and associated management prescriptions of the area involving the proposed pipeline route: "reconnaissance flight, which took place during the 2008 study, obtained continuous global positioning system (GPS) linked videographic imagery of the route from a low altitude."
3.1	3-2		Within the following statement, please reference what page to see the two locations that the pipeline will not be installed within the subsurface (for Visual Resource Management prescription purposes, etc.): "place within this reference the page number to see reference on The pipeline would be installed as a subsurface line except at two active fault locations."
3.7	3-9		Address somewhere within appropriate section of the POD: Minimizing visual impacts by ensuring the following exposed (above ground) facilities are 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): aboveground sections of the pipeline, appurtenances, ancillary equipment , and associated valves at the 15 remote mainline block valve (MLV) locations (aboveground block valves). Highly recommend working 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.
3.8	3-9		The 1,000-foot study area needs to be narrowed down to a specific ROW location so we can better interpret potential affects to resources. 1,000 feet compared to 100 feet is a fairly large difference in area.

Doc. Section	Doc. Page	Figure # / Table #	Comment
3.8 / 3.9	3-9/3-10		Clarify the 1,000 foot study area. As described Dolin would like to place the 100 foot construction ROW anywhere within the 1,000 feet. We cannot analyze the affects with 900 feet width being unknown as to actual trenching. Section line easements cannot be used for utilities, pipelines or private access on BLM lands and the section line easements are very limited in scope. A ROW FLPMA authorization is needed on BLM lands. RS2477 claims have not been adjudicated on BLM managed lands. What is the intent of identifying Section Line easements and RS2477 claims?
3.10	29 to 44		There are several mentions of unstable soils. *How are these accounted for in the Pipeline design?*
3.10	29 to 44		There are several mentions of ice-rich soils on various parts of the alignment and the alternatives. While the alternatives mention a desire to avoid many of the worst areas there is no indication of how much ice-rich ground remains to be dealt with on the proposed alignment for any of the sections.
3.10.1	3-11		With respect to the following bullet statement of "Minimization of visual impacts," what design features were considered with respect to the proposed linear (straight) alignments of the pipeline, particularly on or near prominent topographic features viewed by overhead aircraft (e.g., Egypt Mountain)? In other words, following natural topography in order to hide the manmade features.
3.11.1	3-11		What's "shoofly access?"
3.11.10	3-34		An Invasive Species Management Plan needs to include all taxa, not just plants. It is imperative that the control measures/best management practices for cleaning heavy equipment/tools/gear is implemented prior to equipment and materials transportation on barges, and prior to being transported to the area, especially prior to being loaded on barges from L48 or other ports in Alaska where invasive species are prevalent. Should non-native invasive species be inadvertently introduced to these otherwise pristine areas – it will be the greatest irreversible adverse impact to subsistence resources and the supporting ecosystems. It is also very important to employ a continual monitoring plan for NNIS for the life of the project – operations and maintenance activities are vectors for NNIS.
3.11.10	3-34, 3-35		This section references a number of plans that would be developed to protect subsistence resources and uses, and to meet associated objectives. It would be helpful to provide additional information about how and when (and with whom) these plans would be developed, especially the Public Outreach Plan, Subsistence Users Plan of Cooperation, and Commercial Lodges Plan of Cooperation.

Doc. Section	Doc. Page	Figure # / Table #	Comment
3.11.11	3-36		These areas of human development are also likely areas of non-native invasive species occurrence. Preventive measures need to be taken to insure NNIS are not spread to the Donlin activity areas via aircraft wheels, aircraft floats, ATV, boats, etc… from the lodging, airstrips, and other logistical support areas. These modes of transportation are vectors for NNIS introduction into otherwise weed free locations. An invasive species survey should be done at all of these areas prior to utilization, and if found, should be properly treated with herbicides/pesticides or other means of control to best prevent the spread. For example: Elodea Canadensis (an aquatic invasive plant that is plaguing many lakes/ponds/rivers across Alaska) may occur at Finger Lake or Rainy Pass Lodge water bodies and could be inadvertently spread to other pristine areas/hydrological features. An invasive species survey at these water bodies, airstrips and lodges will help determine if aircraft and other gear needs to be inspected and cleaned prior to mobilizing from these transportation sites.
3.11.11	3-35		When would the plan on cooperation be submitted for review? What is BLM's role? Same for wildlife Avoidance and human encounters/interaction plan, when would it be submitted what is BLM's role?
3.11.2	3-27		It's expected that there would be demand for use of the right-of-way for public access during pipeline operation. It appears that this use would be allowed unless it jeopardized the integrity of the pipeline system. Given the route's proximity to the Iditarod trail, other trails, and lodges, as well as subsistence uses, the possible effects of increased access warrants more attention, along with the potential for coordination with relevant agencies.
3.11.2	3-28		In addition to consultation with communities, include communications with annual permitted events operating annually under permit along the Iditarod Trail: Irondog Snowmachine Race, Iditarod Trail Sled Dog Race, and the Iditarod Trail Invitational.
3.11.3	3-30		The discussion of "During Construction … Operation and Maintenance" – Construction would be "monitored" to avoid impacts…. Etc…. but it does not indicate what "regularly" means – there needs to be a frequency/schedule developed that lets us know how often monitoring will take place, and discussion on what the "trained personnel" will be monitoring for, what kind of corrective action/direction will be taken in the event that construction/operations/maintenance activities cause adverse impacts that require mitigation. What kind of disturbance is expected, and at what threshold will corrective action be taken? There needs to be a framework for measuring when and what corrective actions/mitigation will be implemented. Furthermore, what is the reporting requirement(s) to the landowner with regards to impacts and corrective action? For example: if there was a fuel spill, or heavy equipment activity in the wrong area, or deviation from construction specifications – what is the threshold of a "reportable incident" and what are the reporting requirements/timeline? At a minimum, this POD should indicate that the impact threshold and reporting requirement frameworks will be developed, reviewed and approved by landowners.

Doc. Section	Doc. Page	Figure # / Table #	Comment
3.11.3	3-19		As noted, we do not recognize RS2477. If trails are encountered, how will alternative access routes be addressed?
3.11.3	3-29		State here or within another appropriate section of the POD that no trail or road shall be blocked or closed to public access.
3.11.4	3-30		Include a statement in this section that address the potential for NIP introduction and how following the Invasive Management plan will reduce introduction.
3.11.4	3-30		**A baseline survey for the presence or absence of non-native invasive species is necessary prior to any permitting or construction activity to establish the current condition of the affected environment along the pipeline route(s).** This can be done by the University of Alaska Natural Heritage Program (AKNHP) or a private environmental consultant. The resulting report is to be provided to the BLM to in order for resource specialists to conduct a succinct environmental analysis. This section also needs to include discussion on the threat of (and critical prevention measures) for non-native invasive species (NNIS) introduction as a major threat to the public and private vegetation and ecological resources along the proposed pipeline route(s). Please include discussion about the invasive species management plan and corresponding hazard analysis critical control point (HACCP) being developed to prevent and minimize the inadvertent introduction of NNIS. Most of the critical prevention measures addressing NNIS need to take place well before construction begins, with the implementation of best management practices of cleaning heavy equipment, tool and materials prior to transportation to the construction site(s). BLM does allow the use of herbicides for treating non-native invasive species – in accordance with our BLM AK Invasive Species Management Policy and our 2007 Programmatic EIS for the use of herbicides. The list of approved herbicides and adjuvants authorized for use on BLM managed land changes annually (the 2012 and most current list was provided to Dick LeFebvre, subcontractor for Donlin Gold). Donlin Gold would be responsible for developing an Integrated Pest Management Plan to address the treatment of non-native invasive species. Should the plan identify the need for herbicide use (this is usually why an IPM plan is done), Donlin Gold would be responsible for developing a pesticide use proposal (PUP), subsequent site specific NEPA for the action, and implement and monitor the treatment. This would all have to be in coordination with the BLM, and as per the guidance in our 2007 Programmatic EIS addressing integrated pest management.

Doc. Section	Doc. Page	Figure # / Table #	Comment
3.11.4	3-30		Recommended consultation about bark beetle threats/causes/infestations/handling of timber can be obtained from: www.fs.usda.gov/detail/r10/forest-grasslandhealth Bark Beetles. Also, I recommend discussion with the invasive species expert at S&PF regarding current bark beetle threats in the area and best management practices to implement. An individual can be reached by calling the AK S&PF 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.
3.11.4	3-30		In addition to prevention and suppression of fires, include the requirement of reporting any wildlife fire within 24 hours. The BLM requires the following condition for authorized permit holders: Report wildland fires in Alaska at *1-800-237-3633*.
3.11.5	3-31		Employees and contractors would be prohibited from hunting, fishing, trapping, shooting, and camping within the right-of-way or using project equipment for these purposes. Are there any comparable company policies regarding these uses outside the right-of-way? It would appear that 300-person construction camps (plus smaller camps) could cause considerable impact on nearby resources.
3.11.6	3-31		Please include discussion that all vegetation restoration activities will incorporate Alaska State Certified Weed Free products – seed mix, reveg plants, mulch products, etc., as well as monitoring and mitigation for non-native invasive species will 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).
3.11.7	3-32		Who is "approving" the Stabilization, Rehabilitation and Reclamation Plan and the Erosion and Sedimentation Control Plan? There are several "plans" being discussed in these two paragraphs. In addition, I also recommend that BMPs relative to invasive species management are incorporated into all of the "plans" that are discussed in this section – non-native invasive species tend to show up at areas of disturbance/erosion. It is critical to implement BMPs for invasive species *before* the project gets to the stage of reclamation (as well as after during operations and maintenance). It is prudent to insure that all sedimentation control devices and materials are certified weed free product – waddles and straw bales are available in Alaska.

Doc. Section	Doc. Page	Figure # / Table #	Comment
3.11.8	3-32		This section should include reference to the landowner-specific policy and regulations regarding Invasive Species. I recommend the BLM Alaska Invasive Species Management Policy guidelines and best management practices be employed for the entire pipeline route as well as at the mine site for the appropriate approach to ecosystem and landscape management as it relates to invasive species management. It would be futile to apply this Policy to only BLM sections of the Donlin Gold project. It is critical for contractors and subcontractors to employ best management practices well *before* taking efforts to select and transport heavy equipment, tools and materials to the construction sites – the prevention measures taken *prior* to equipment transportation will save thousands, perhaps millions of dollars needed for ecosystem repair/restoration should the heavy equipment, tools and materials be infested with invasive plants, bugs or animals. Sometimes there are irreversible ecosystem damages caused by NNIS that cannot be reversed or repaired when prevention measures are not properly implemented. Prevention is critical. NNIS represent one of the biggest threats to the ecological integrity of the resources, including subsistence resources, along the pipeline route and associated communities. NNIS can be best addressed in similar fashion as fuels and chemicals by the development of Hazard Analysis Critical Control Point plans (HACCP). Not only will the prevention measures protect ecological integrity, subsistence resources and thus lifestyles, but it will also provide a very positive public support/reputation/marketing strategy regarding Donlin's concern and regard for protecting the exceptionally pure (weed free, fuel spill free, etc.) Alaska natural resources and ecosystems. This information is very appropriate for inclusion in this section of the POD.
3.11.8	3-32		I suggest this section also include All Employees of Donlin (not just contractors and subs) to be adhering to the Operations Integrity Management System safeguards and stipulations.
3.11.9	3-33/3-34		Various Plans and Programs are articulated - When would these be submitted for review and approval?
4.0	4-1	Appendix B	In appendix B, give the patent number or TA number for State land. For ANCSA lands, give the patent # or Interim conveyance #. On 17b easements, give the EIN number, the applicable patent or IC # as well as the Quadrangle Map showing the easement route. On selected lands (both State and ANCSA) give the selection number.
4.0			General comment: Wording needs to be added that the term ROW as used in the POD refers to the construction ROW and not the land interest / right of access for development of the pipeline, both here and other places in text where this is confusing. Next and related to the land interest, it needs to be stated in multiple appropriate locations (as implied in only one section) that the land interest is "non-exclusive" and will not prohibit the public use and access of the corridor after construction.

Doc. Section	Doc. Page	Figure # / Table #	Comment
4.1	4-1		This section introduces the legal description of the proposed pipeline right- of- way (ROW). Appendix A illustrates maps of the ROW showing land status and other features and Appendix B lists the legal description by quarter-section. We have received a plan modification called the Jones Realignment. The information we received included updated maps numbered 8 thru 11 which shows the modified realignment, however the legal descriptions in Appendix B do not appear to have been updated.
4.2	57		There is mention of site-specific engineering required for certain types of sites. In order to identify these site and their conditions, it would be desirable to have a First Order Soil survey completed for the entire alignment at least ¼ mile wide on each side of the proposed pipeline. This should accompany the geotechnical information when it is provided.
4.2	57		Special design consideration are mentioned but not detailed for areas or Permafrost. Might some of the pipeline be set above ground in these areas and have a different impact?
4.4	4-3		Give documentation on acres calculation for Ancillary Facilities.
5.0		Table 5-2	Right column / 'rock trench': Does this mean a "rock-filled" trench? Please clarify.
5.2	5-2		Methane is on the TSCA inventory, therefore is toxic. Current text indicates it is not. Methane is a Simple Asphyxiant and a severe fire and explosion hazard, forms explosive mixture with air (5-15% by volume).
5.4	5-3		Identify the fault above ground area in Exhibit A. What are the support structures on the above ground section?
5.5	5-3		Explain the reason or purpose for having to clear the proposed permanent ROW of shrubs at approximately every 10 years or as required. If not necessary, avoid removing vegetation in order to support minimizing visual impacts, as stated in section 3.10.1.
5.6	5-4		Need more detail on any area outside the 100' construction footprint. Appendix A does not give enough detail.
5.6	5-4		Define "temporary clearing." One year, two year, three year?
6.0			See comment for Chapter 4 above.
6.0			Sections to be added after 6.10: Please add discussion of linear interval and placement on ROW of Pipeline Markers, Aerial Mileage Markers, and Cathodic Protection Test Station. Will they be placed in the middle, or on either side?
6.0	6-7		Proposed fencing and sliding gates to be the same color of the natural landscape (e.g brown or green plastic coated chain link). Visual impact mitigation.
6.10	6-7	Ex. A	I did not see the block valves in appendix A sheets?
6.6	6-4		Will the FOC just serve the pipeline or will it be available at the mine site for outside communication? What is the relationship between the carrier (GCI) and Donlin Gold?

Doc. Section	Doc. Page	Figure # / Table #	Comment
6.7	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 needs to be analyzed in this 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?
7.1	7-2	7-2	I would add a couple tribes to this table. You're talking about the pipeline route only, but seem to be casting a broad net for suggested tribal consultation, which is good. But if you go up the Yukon River to Grayling you should include Shageluk as well, and since you're casting this wide net, I would include Aniak, Chuathbaluk, and Napaimute as well. I assume these tribes are on the list in the mine POD as well? Also, I would delete Louden – I cannot find reference to the "Louden Tribal Council" mentioned here – that is not the name of the federally recognized tribe for Galena, as indicated in the table, and I would think Galena would be too far away to be included here in the pipeline area.
7.1	72		It would be desirable to have the NRCS involved with the project to map the soils and provide engineering suitability input.
7.2	7-2	7-2	The table of Federally Recognized Tribes in the project area includes incorrect names for some of the tribes. According to BIA's most recent Federal Register listing (8/10/2012), the official tribal names are: • Village of Crooked Creek • Village of Red Devil • Village of Sleetmute • Village of Stony River • McGrath Native Village • Shageluk Native Village • Galena Village (aka Louden Village) • Organized Village of Grayling (aka Holikachuk) Names of other tribes in Table 7-2 are shown correctly.
7.2.2	7-2		This section names COE as lead agency and BLM as coordinating agency, but should it also include EPA, FWS and PHMSA as cooperating agencies?
7.2.2	7-2		Donlin will need to seek specific authorizations with agencies other than BLM. BLM normally does not coordinate this activity.

Doc. Section	Doc. Page	Figure # / Table #	Comment
7.3.1	7-7	7-3	I don't understand most of what is included under "Archaeological" in this table. Numbers 18 and 19 are particularly confusing. First of all, section 106 is **NOT** "required under NEPA," it is its own separate law, that is often complied with concurrently/parallel with NEPA, but it is absolutely not a part of the NEPA process. Second, I don't understand why section 106 is separated into two sections (18 and 19). Section 106 is one law, Army Corps is the lead federal agency that ensures compliance with this law in the case of Donlin, but as a part of that process, it *also* requires consultation with other agencies, tribes, the SHPO, and the ACHP (Advisory Council on Historic Preservation). Please combine 18 and 19 into one and amend this section.
8	8-34		The civil work at campsites, water wells, and underground utilities must be installed early during S0.5 (installation of sewage or septic systems also or what will be required by DEC)?
8	8-40	Table 8-9	Table 8-9 identifies potential water sources and use during construction. What is the estimated use at each of the sites? There will be a need to identify the minimum required flow needed to maintain fish habitat.

Doc. Section	Doc. Page	Figure # / Table #	Comment
8	8-1 to 8-4		Section on "Construction Planning Considerations, 8.1.2, Iditarod Trail": The majority of this section (with the exception of the first two paragraphs) is riddled with factual errors, unsupported suppositions, and significant misconceptions regarding the history of the Iditarod Trail, legal status of the trail, applicable federal and state regulations, and management requirements as to make minor revisions or comments for this paragraph impractical. As written the section proposes eliminating from any further consideration segments of the Iditarod Trail that have existing legal status, along with attempting to trivialize the impacts that would occur to the trail as proposed in the POD (for example see Table 8-1). Impacts to the Iditarod Trail will be "significant" under NEPA and will constitute an "adverse effect" under Section 106 of the National Historic Preservation Act. As proposed, the project would likely result in disqualification of 58 miles of the trail currently eligible for listing under the National Register of Historic Places. The following is a preliminary summary of the proposed actions located on or immediately adjacent the Iditarod Trail. Note that all would occur within an otherwise, uninhabited, unmodified forest, subalpine, or tundra setting: • 58 miles of pipeline co-located on, paralleling and intersecting the Iditarod Trail system. A 100 foot 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 pipeline ROW would intersect the Iditarod Trail 25 times. • 15 miles of the Trail would be physically obliterated 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 Iditarod Trail, and a third existing airstrip upgraded. (Fuel for almost all construction activities will be provided by air shipment.) Contrary to the statement in the POD, the airfields will likely remain after construction (the State of AK is unlikely to require the proponent to decommission the airfields) and would therefore provide access for summer OHV use in areas and along the Iditarod Trail currently not used by OHV's. • 3 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. • 8 gravel/material sites totaling 57 acres will be excavated and moved overland to needed construction areas. • 13 pipe storage yards ranging in size from 1 to 2.5 acres. • The operating 50 foot wide operating ROW would be cleared every 10 years, and a trail route established on the ROW for maintenance checks by the pipeline operator. At intervals of

Doc. Section	Doc. Page	Figure # / Table #	Comment
8.10	8-89		Regarding 2nd paragraph, 3rd sentence: By policy, BLM will not consider establishing landfill(s) ("permitted disposal pits") on BLM managed or administered land. All non-combustible solid waste must be properly disposed or recycled off-site.
8.10	8-89		ADEC standards?
8.13	8-50		Fueling should be done at least 100 ft (30 m) from water bodies. Backup and contingency plans should be made available. SPCCP plans must be made available for our review.
8.1.1	8-1		With respect to scattered homesites and homesteads, include a statement to communicate the fact that there's a number of state and federal authorized temporary base and spike camps operated by guide-outfitter camps located in the vicinity of the proposed pipeline route, which may change annually.
8.2	8-7		Donlin, as the applicant, is ultimately responsible for compliance with ROW grant stipulations, environmental and engineering compliance, and all things on the bulleted list on this page.
8.2	8-6		8.2 In addition, there would be construction of the electric transmission line from Beluga to the compressor station and the fiber optic cable. Specific description of all river and wetland crossings with the power transmission line are they included if not we need a new plan of development.
8.2	8-7		Paragraph states that the majority of facilities components would be prefabricated offsite and then shipped to the work site as modules and set in place. How would these be shipped (overland, helicopter, barge??)
8.1.2	8-4		"Mitigation Measures" section. Suggested mitigation is fine, and some of these suggestions may be used for mitigation for *recreation impacts*, but this section should clarify that any mitigation measures to impacts to the Iditarod National Historic Trail will be agreed to as a part of the section 106 compliance process and outlined in a Programmatic Agreement Document.
8.2.1	8-10		Why are only 8 of the 42 major crossing considered as HDD crossings? Is it more expensive? Is the equipment harder to relocate? This method clearly provides the least amount of disturbance to the stream bed, banks, water quality, and fish habitat.
8.2.1	8-7		Description of types of ROW construction (p.8-8) do not correspond exactly to similar figures given in other sections (ie., p. 8-56). As a result it is difficult to ascertain potential range, magnitude, timing, etc. of actions, and differentiate between proposed construction types.

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8.2.10	8-52		This section needs to describe vehicle traffic #'s by types of vehicles, where they would be staged, and better describe how used in support of work sequences. Use of jargon should be eliminated (e.g., "lowboys). Will bus loads of workers be moved back and forth from construction camps to work sites and back again daily? What type of vehicles will be used for commuting? And what type of vehicles will be used on construction sites (i.e., numbers, types, etc.) The applicant obviously has developed this information in order to make fuel calculations and illustrate the different type of equipment in Appendix G, ROW Typicals, but this information is not pulled together in one comprehensive description/table, etc. in the POD. This is the section to make such changes.
8.2.12	8-54		Issue of 1,000 corridor and construction ROW of 100 feet within that 1,000' also the identification of uses outside the 100' construction ROW and 51 foot long term ROW. There is not enough detail of the needs outside of the construction ROW and 51 foot long term ROW.
8.2.12	8-54		The construction ROW would generally comprise a 35-foot-wide spoil side and a 65-footwide (11 x 20 m) working side (using pipe centerline as the dividing line). The spoil side must be wide because the trench spoil must be kept low and wide to prevent it from causing snow to drift on the ROW or into the trench. When would spoils reclamation take place?
8.2.13	8-54		Before initiating clearing, the ROW would be staked and flagged. Would flagging occur during summer to identify any wetlands etc. and not during winter when covered with snow?
8.2.15	8-55		Identify roads to be built with felled timber in Exhibit A (or similar graphic).
8.2.15	8-55		First paragraph: Chipped brush and limbs will not "impede future access along the ROW" and it's effectiveness to provide wildlife habitat is questionable. It does have the ability to provide temporary, limited ROW 'armoring' (although not as effective as gravel), and is marginal in terms of ability to provide erosion control as compared to 'waddle' or straw bales, coir logs, etc. Both sheet flow or channelized flows of water can strip chips from land surface. Additionally, large piles of chips material, in hot and dry climates, are subject to internal combustion and fire. Rather than chip brush, tree limbs, etc. it would be advantageous to gather the materials 'as-is' and re-scatter along the ROW after the completion of project. This would better serve the needs of wildlife habitat, erosion control, and impeding OHV travel along the ROW. Also recommend that an adequate number of large cut tree trunks unused in the construction effort also be used for the same purpose, in particular being spread perpendicular to the pipeline ROW at frequent intervals (e.g., every 50 feet). Last paragraph: Applicant should depict length of all proposed double bench construction locations on strip maps in Appendix A.
8.2.16	8-56		Identify pad types as described in Exhibit A (or similar graphic).

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8.2.16	8-56		In general, the terminology used to describe the methodology of building the travel surface for construction is confusing in some cases and inaccurate in others. The applicant refers the development of other winter roads (i.e., 45 mile winter access road from Oilwell Road, p.8-38) in a straightforward manner, but otherwise almost universally avoids the word 'road' in discussion of travel surface construction methods for the entire POD. The POD should identify the intention to build a travel surface, access road or construction road, and the construction method used to that end, on which native surface or seasonal surface. Recommend applicant develop table to depict which native or seasonal surfaces are given which construction treatment. The applicant should replace the word "Workpad": The word "pad" is inaccurately used in the POD, as the applicant is discussing continuous improvements to the ground surface, creating a travel surface for the passage of vehicles. As discussed in the POD, the "workpad" will be used for multiple passes by heavy and light vehicles during the course of construction. We recommend rewording this concept to "road," travelway," "access route," etc. to reflect the continuous linear nature of construction (or, if lesser improvements are made to the treadway, as a "trail"). Total mileage for each bulleted "pad" or graded ROW should be provided immediately after the naming of such technique, possibly in a table, and in each section/narrative. Each construction method name should be used consistently throughout the document (currently it is not).
8.2.16	8-57		All construction methods / segment should be depicted on Appendix A Sheet Maps (consistent w/ description in paragraph 3). Para. 4: Example of inconsistent terminology; use of term 'granular' rather than 'gravel' impedes understanding. Replace word 'granular' with 'gravel' throughout document. Para 4: Identify mileage of "granular workpads" aka GRAVEL ROADS that would be built on wetlands. Why is any gravel emplacement on wetlands proposed for travel surfaces? Recommend such method be prohibited.
8.2.17	8-57		Identify snow pads and fences as described in Exhibit A (or similar graphic).
8.2.17	8-59		Identify snow pack areas as described in Exhibit A (or similar graphic).

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8.2.17	8-59		Water withdrawal from local standing water sources is expected to be limited to the traditional 15% 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.
8.2.17	8-59		Ice roads and pads would minimize post-construction impacts on the tundra or vegetative surface used for rubber-tired equipment, but ice or snow pads would not eliminate the potential for post-construction impacts caused by tracked equipment. Some minor impacts would be caused by gradual accumulation of material on the ice roadbed over the course of construction because of the presence of windblown dust from trenching and backfill work.
8.2.18	8-59		Identify frost packing areas as described in Exhibit A (or similar graphic).
8.2.18	8-59		"…organic soils or in "hot bogs" that create heat from organic decomposition and take longer to freeze." This may change the organic decomposition rate in the future.
8.1.3	8-4		Major faults in area described. Denali-Nixon Fork fault trace crosses alluvial material indicating recent movement. True hazard here.
8.2.2	8-12		MP 205 to MP 188 no mention is made of how they might deal with the massive ice lenses they note are a potential issue in this section. Either for the construction equipment or for the pipe placement.
8.2.2	8-12		The last two paragraphs indicate the detailed design will address the grading, mitigation and rehabilitation of the permafrost areas. Is this sufficiently addressed at this point in the planning process?
8.2.2	8-11		8.2.2 Spread 1 paragraph 2. The kettle lakes are potential water sources. Have these lakes been surveyed for fish?

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8.2.2	8-11 and 8-12		Document does not appear to describe any contingencies for dealing with prevention of and response to creation of new "glacier" seeps from graded ROW's, road cuts, etc. exposing previously underground water flows to surface (not sure what the official term for "glaciation" is; "aufweis" pertains to waterways only). The creation of such seeps have the potential necessitate major rerouting of the entire pipeline corridor, result in significant construction delays, and/or result in the need to clear significantly more acreage than currently estimated. (For an example of the significant impact of winter glacial seeps on winter road operations, contact Denali National Park and Preserve to learn about their annual challenges in managing seeps on the Denali Park Road.) The area of the pipeline proposed to overlay the Iditarod Trail between MP 89 and 95 is an area of notorious seeps, and will be significantly worsened by pipeline ROW construction. Applicant should be required to provide a plan detailing method of avoiding seep exposure and responding to seeps that minimizes need for development of alternative alignments (beyond describing that they will dump gravel on a 'glacier'."
8.2.20	8-60		First sentence: explain "normal pipeline graded ROW construction techniques."
8.3.1	8-62		Need to expand citations for transport of explosives. Explosives will likely be brought to Alaska by sea-going barge and then barged up the Kuskokwim River, or brought to an airstrip by commercial aircraft. Need to include Marine and Aircraft transport citations. Certain carriers will only transport using International (United Nations) rules, therefore need to include International Air (IATA/ICAO) and International Marine (IMDG) transport regulations as well as US DOT 49 CFR 49.
8.2.21	8-62		Change section name to "Gravel Workroad". Identify any gravel workroads Also, is there any other mileage of gravel workroad (aka granular workpad) proposed?
8.2.22	8-61		First full paragraph: *Provide pre-construction drawings of the alignment and all associated features.* Identify "Graded ROW" segments on all sheet maps (Appendix A).
8.3.12	8-69		Any excavated materials or materials unfit for backfill would be spread on the non-traffic side of the ROW. Would large rocks be placed in this area? May change the landscape or impair animal travel. Or future human travel.
8.2.23	8-61		"Temporary slope breakers" as depicted in Appendix E (Engineering Typicals) are commonly referred to in erosion control, trail building, and forestry practices as "rolling grade dips" or "waterbars."

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8.3.13	8-69		Stabilization of the backfilled trench may be a multi-year process in some areas, this may be a continual process for the pipeline as permafrost melts in areas that are not adequately addressed. Bonding for the pipeline should include the monitoring and repair of this stabilization process and backfilled trench pipeline into perpetuity especially from the increased environmental changes created by the process to hydrology and permafrost.
8.3.13	8-69		The techniques that would be used to stabilize rivers and streambanks at pipeline crossings would be determined on a site-specific basis Due to the natural process of stream movement the repair or remediation of crossing will be needed. Again this will need to be factored into the bond for reclamation when the pipeline is deactivated and left in place or whatever happens to it. Bonding would need to include this type of potential habitat damage after the mine and pipeline has closed. In some of these instances HDD burial may be less expensive in the long run then future maintenance requirements.
8.3.13	8-69		3rd paragraph: Change wording that multi-year stabilization efforts of backfill will be necessary.
8.3.15	8-69		*Waterbodies are any natural or artificial drainage, stream, or river with perceptible flow at the time of crossing construction* What is this? Have these areas been surveyed for any resources (fish). These areas need to be considered and treated as wetland crossings?
8.3.15	8-69		Discuss "glaciation" issues here?
8.3.16	--		There are a number of stream crossing techniques that may be utilized in the proposed project. The HDD appears to be the least intrusive to the stream channel but least used. The other methods listed include: Damming and pumping; damming and fluming; and creek diversion. These methods really expose the structure of the stream and bed and open up water quality issues when it comes to turbidity and sediment loads. I don't think there is enough information on how this will be mitigated. I'm also unclear why elevated pipe above the stream was not an option for this project.
8.3.16	8-70		There are a significant amount of streams on BLM land that are wider than 20 feet, all of which are on the western half of the proposed pipeline. Three of these crossings, which are on the far west end of pipeline, are proposed to be crossed using HDD methods. Since the HDD method appears to be the least intrusive to the stream and habitat, why not use the HDD method for more of the crossings.
8.3.16	8-71		Under the Open-cut method of water crossing I would question the assumption that a large river like the "Big River" would be frozen solid in February. More than likely there will be sub ice flow and streambed flows even in February that will have to be managed/diverted during pipe installation. The assumption that streams will be frozen solid needs to be substantiated.
8.3.16	8-70		Drainage crossing lengths would tend to be long because of the broad, braided floodplains where scour potential exists across the entire floodplain. Again due to the fact that will be crossing these braided floodplains where scour potential exists across the entire floodplain. A bond for restoration of these areas long after and during the pipeline will be needed.

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8.3.16	8-70		*All the other streams are planned as open-cut crossings*. Anadromous streams or fish with resident populations should all use HDD crossing methods to avoid habitat damage to spawning or rearing habitat of fish.
8.3.16	8-70		*Silt mitigation techniques around fish streams* NTU for streams may not exceed the state water quality standard of 5 NTU above background.
8.3.16	8-70		*Diverting streams to dewater crossing sites* Habitat Damage from Dewatering and possible fish loss.
8.3.16	8-70		*Surveying for fish overwintering areas and avoidance of these locations* With the request of the 1000 ft. right of way it might be possible to locate the crossing at better locations that would have less habitat damage identifying these as soon as possible. To avoid construction there winter surveys several years in advance may need to be conducted. Make crossing at a stable location.
8.3.16	8-71		HDD Note: Installation of the fiber optic cable in relation to pipe installation would be determined during final design and engineering. What does this mean another channel would be constructed? Place in same location to reduce any impacts to the fisheries resource.
8.3.16	8-71		Frozen rivers or streams in winter that have no surface flow. A large number of streams that would be crossed in winter will fit this category. Even a river as large as the Big River may be frozen solid in February Prior surveys to construction again to identify the best crossing site.
8.3.16	8-72		For wide, braided rivers, backhoe operators would have to execute some channel diversion to give themselves places to work. Bond dollars required must be adequate to assure the potential for future maintenance of pipe left after mine closes as braided rivers are braided for a reason may expose pipe in the future.
8.3.16	8-72		The stream must have important fishery resources. How is this defined? All fish streams are important fishery resources. Again use HDD in fish-bearing streams.
8.3.16	8-72		The stream must have important fishery resources for this method to be used because of the high cost. Cost is not an issue in the NEPA process. Protection of the resource is.
8.3.16	8-72		"…discharged onto an energy-dissipation device where required to prevent scouring of the streambed." Should be required at all location to prevent habitat damage and increased turbidity due to pump discharge.
8.3.16	8-72		***Flume Method*** Dewatering 40-60 feet of river may lead to isolating fish and killing them. Crossing Sensitive areas may require the use of HDD
8.3.16	8-72		Tatlawiksuk River Check on fish presence if anadromous recommend HDD
8.3.16	8-72		***Channel Diversion*** Fish streams dewatered may lead to fish kills in dewatered areas and loss of habitat for macro-invertebrates in all water bodies. HDD type crossing may cause less habitat damage and fish kills. Bond funds for all crossing would need to be monitored for future maintenance or damage to habitat.

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8.3.17	8-73		It was stated that, "There are no current plans to perform summer crossing of wetlands over permafrost soils." How have the soil types been determined for such a statement to be made? Have the soils been inventoried and mapped, especially in critical areas such as steep slopes, permafrost, highly erosive areas?
8.3.17	8-73		Wetland Crossings and other factors. What are these other factors?
8.3.17	8-74		"…with minimal impact to wetlands." Define/explain.
8.3.17	8-73		Fueling would be done at least 100 ft (30 m) from wetlands. No fueling in riparian areas or within 500 feet of active floodplain of any fish bearing stream.
8.3.17	8-74		A permanent slope breaker and trench breaker would be installed at the boundary to the wetland. Trench breakers would also be used to prevent the pipeline trench from draining a wetland and as necessary to maintain the original wetland hydrology. Bonds to ensure the continued wetland as necessary to maintain the original wetland hydrology as described above will be needed to included bonding costs. At each wetland and site that this is used.
8.3.18	8-74		Waterbody Approaches. Due to the nature of stream dynamics reclamation of riparian areas may require a long term monitoring of these areas and ability to repair them with heavy equipment in the future. All bonding will need to take this type of maintenance into consideration.
8.3.19	8-75		Want clarification on the equipment crossings, especially in the summer (culverts, bridges). Are these all temporary in nature and will they all be removed and taken out once the pipeline construction contract is complete? Will there be cases where crossing structures on the pipeline route will be left in place and maintained?
8.3.19	8-75		It would also be important to avoid creating aufeis Creating aufeis would create riparian damage down river this may be unavoidable in some crossings and will again need to be taken into the bonding and damage assessment of these areas.
8.3.19	8-75		If fish are present in the stream, then the culvert would be sloped properly to allow fish passage. Sized properly also. Bridges with abutments at the 100 year flood may be required to reduce the impact to habitat at fish bearing streams.
8.1.4	8-5	Table 9-1	This section gives reference to a Table 9-1 which supposedly provides wetlands relative abundances. Did not find this table.
8.2.3	8-12		**Beluga Tie-In to BPL.** The Donlin Gold proposed pipeline would tie into the BPL portion of natural gas distribution system as the source for the natural gas. Associated action would require the building of a LNG facility or identify where the gas will be coming from for the required amount of gas needed as there is no mention of this a new Plan of Development may be needed.

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8.3.20	8-76		This section should also have some language regarding historic cabins. Something like: "A survey of the built environment will be conducted as a part of the section 106 process to determine whether any remote cabins are historic, and whether the proposed pipeline could potentially have a visual impact that needs to be analyzed.
8.3.20	8-76		**Residential Areas (primarily remote cabins)** Subsistence residents live and use a lot of these areas. Significant impacts will affect their lifestyle from the construction and installation of the pipeline. The impacts will affect their life style into the future, even after the closing of the mine 30 years after construction.. This may affect subsistence life styles into perpetuity.
8.4.1	8-85		Define HSE, Not all readers will know.
8.4.1	8-86		Add CFR 1910
8.4.1	8-86		Important to outline or explain that your Safety Plan will address the specific risks associated with each component of the project and describe the specific mitigation measures activated to remedy those identified risks.
8.5	8-87		Please add "Best Management Practices" to the first sentence and other appropriate discussion areas in this section of the document – the inspections need to be conducted to insure compliance with best management practices (as well as the other requirements listed in this section). This section states: "compliance with environmental requirements would be documented". What happens with this documentation? Is it shared with the land owner? Chief of Operations? Or is it just documented and filed with no follow up? This section should thoroughly describe what the inspector will do with the "documentation", which should also include all remedial actions and to what extent the contractor cooperated with the inspector's direction. Land owners should be made aware of any and all inspection outcomes, both positive and negative, on a recurring basis, not just when something goes wrong. During construction, this should be at a minimum on a monthly basis, or more frequent, if it is required by law – i.e. fuel spills of significant size. The frequency of inspections and reporting to land owners during the different stages should be clearly displayed in this section. This section mentions that Donlin Gold will establish procedures for reporting protocols, but there is no detail in what these protocols are, frequency, and who the report(s) will go to. This should be clearly outlined. Pipeline monitoring reports should be shared with land owners on a recurring basis including positive and negative findings, and corrective actions.
8.5	8-87		Identify relationship with BLM/STATE compliance and adherence to permit stipulations.
8.3.21	8-76		Add: "Potential direct and indirect impacts to the Iditarod National Historic Trail will be addressed as a part of the compliance process for section 106 of the National Historic Preservation Act."

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8.3.22	8-76		Potential exists for horizontal movement along fault crossings. TAPS Z-model will be used for crossings. This model has stayed intact during major earthquakes along TAPS in previous years.
8.3.23	8-79		Have avalanche hazard analysis done by avalanche consultant along route through the Alaska Range. Need to bury pipe in these areas. Donlin Gold is aware of this issue.
8.3.24	8-79		The statement, "There are few locations in the project area with slope stability issues." How was this determination made? The study area is 300+miles long with a 1,000ft width. This is a very large area with multiple soil types and slopes so it's hard for me to believe there are few locations that present stability issues especially since there will be multiple heavy equipment travel resulting in vegetation removal/trampling and soil compaction and erosion issues.
8.3.24	160		I am not sure the HDD proposed for the unsuitable soil area would be of sufficient depth to mitigate the situation. I would be interested in the detailed design and soil profiles across the area (1/2 mile wide) to see how they fit together with the geotechnical survey.
8.3.25	8-79		Again, how are the determinations made regarding soil types and permafrost? Is there a certain amount of heat generated from the movement of the gas through the pipeline and if there is will there be heat venting engineered into the pipeline in permafrost areas? Has there been any analysis of heat transfer from the pipeline to the environment where the pipeline will be buried?
8.3.25	160		There is no mention of thermokarst or subsidence of either the pipeline or the back fill in these areas. Loss of permafrost could significantly alter the site. It might even affect the construction pads after construction is completed.
8.3.25	8-80		Permafrost Restoration Describe this? The success of it. Bonding will need to include damage to permafrost of this 100 mile identified section during construction, mine operation and post mine.
8.3.26	8-80		See previous related comment at Document Page 6-7 relating to visual impact mitigation of chain link fences at valve sites.
8.3.26	8-80		"…geotechnical, or operational concerns." Fault lines?
8.3.27	8-82		Describe in detail the specifics of cathodic protection test stations; provide drawing or photo of typical station. Will they be installed in conjunction with mileage markers (recommended, not as a stand-alone feature)? This section needs to be expanded or new section needs to be inserted here that describes "Operation ROW Above Ground Features" or something to this effect: explaining size and interval of installation major block valves, explaining construction specifics and installation frequency of pipeline location markers (appendix E, TY2) and same for typical aerial marker (TY9). Will the latter be installed at one mile intervals? What about the former?

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8.3.28	8-82		Reclamation should be done as soon as possible following construction. Clean up and Reclamation may need to occur on more than just one season/year after the construction – to address chronic erosion or other stability issues that may arise; not just immediately after the construction or just one season or year after, but ongoing to monitor, assess and mitigate as an ongoing O&M practice.
8.3.28	8-83		Clarify if new constructed airstrips will also be reclaimed. If not, document potential impacts to subsistence, wildlife, and various other resources as a result of by providing additional fly-in areas to the remote lands within the foreseeable future.
8.3.28	8-82		The final cleanup, erosion control, and reclamation work would be done by two different crews. This would need to be an annual monitoring conducted to assure as identified no erosion is occurring or melting of permafrost on the ROW. A bond will need to be developed to assure all restoration work is completed and upon closure of the mine.
8.3.28	8-83		There would be no significant permafrost issues. I'm not sure this is a legitimate statement. Projected permafrost melting trends (over the life of the pipeline) must be incorporated into the design.
8.3.29	8-84		The movement of 2 man crews along 5-mile stretches along the length of the ROW using helicopters could produce significantly more noise pollution. What measure will be taken to ensure wildlife, subsistence, and recreation are not impacted by this increase in transportation during this period?
8.3.29	8-84		A detailed Pressure Test Plan would be developed during final design. May need this finished prior construction to make comment on for proper design.
8.1.5	8-5		8.1.5 Paragraph two. Pipeline crossings of watercourses would be achieved by buried methods. The method selected would depend on the season of crossing, terrain, and geotechnical and environmental conditions and based upon the presence of fish resources and engineering needs. Recommend all fish resource streams as identified be evaluated for spawning and if spawning gravels identified then HDD methods be used to reduce impacts to spawning habitat for anadromous and resident fish species.
8.1.5	8-5		Evaluation Criteria for type of crossing. # 5. Is this a river that has significant fish runs and or/other environmental considerations that would mandate evaluating the use of HDD What is significant fish runs and or other environmental considerations?
8.1.5	8-5		8.1.5 Last paragraph Water withdrawal from lakes and streams for ice road construction or for hydrostatic testing would be planned and executed in accordance with the requirements of the appropriate permits and authorizations. See Section 8.2.8 for information regarding water uses and potential sources. Minimum water requirements for anadromous waters mush be maintained to prohibit spawning locations being de watered. All fish resource streams anadromous and resident fish should have minimum flows established to prevent winter freeze out that water would be withdrawn from or that may affect adjacent stream water tables. Look at requirements from North Slope.

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8.1.5	8-5		Construction equipment in stream and river crossings will be a significant potential vector of invasive species into otherwise weed free / intact areas – if the equipment is not thoroughly cleaned off-site prior to the activities - because the in stream work will essentially cause the equipment to be "washed" in the process of work, distributing mud and debris carrying possible invasive species propagules: thus the importance of thorough cleaning prior to transport and mobilization to the work site. Drilling rigs are included in the equipment that must be cleaned.
8.1.5	8-5		The method of pipe burial needs to be specified for each water body. All techniques present different impacts depending on several factors such as stream size, gradient, bed and bank material, time of year of install, etc. Specifically, identify what type of stream crossing technique and at what time of year the pipe will be installed on each stream crossing. Since there is a wide variety of techniques (HDD, Damming and Pumping, Damming and Flumes, Diverting Stream Channel) there will be a variety of impacts associated with each technique. Some techniques have been specified for the larger streams but most have not been specified.
8.1.5	8-5		Section on Waterbodies: POD needs to identify the range of stream crossings and specifically where they would be used and, and how installation and use of crossings is monitored.
8.1.6	8-5	N/A	This section mentions how Donlin Gold will coordinate access needs with construction activities. ADF&G has indicated that it may limit access along the ROW located within the Susitna Flats Game Refuge. Based on comments from rural subsistence users regarding increased access by non-rural hunters into rural areas, the BLM will consult with local tribes and other affected rural communities and stakeholders regarding public access along the ROW within federal public lands.
8.1.6	8-5		Recommend that the applicant develop a "Winter Temporary Trail Reroute Management Plan" (see comment in Section 3-35).
8.1.7	8-6	N/A	The Susitna Flats Game Refuge is managed by the State of Alaska. As such, considerations for limiting public access along the portion of the ROW within the SFSGR are in the State's discretion. However, the BLM retains discretion on access to the portion of the ROW within federal public lands. This point needs to be elucidated and discussed, especially in the context of impacts of public access to subsistence uses and needs.
8.2.7	8-19		From the description, the FOC will be used for pipeline ROW operations only please confirm.
8.2.8	8-22		***Pipe storage yards/material stockpiling sites.*** Staging areas would be cleared and graded before use. On completion, the site would be reclaimed. Stock pile overburden for spreading on the reclaimed areas to improve soil and facilitate natural vegetation production.

Doc. Section	Doc. Page	Figure # / Table #	Comment
8.2.8	8-19 through 8-34		This whole section needs to be expanded - most of these "ancillary facilities" discussions need way more detail. The proposed impact areas for the new airstrips and borrow sites, in particular, need to be taken into account when discussing the impact areas and the total disturbance areas for the pipeline; these and worker camps all should be shown on more detailed maps. These are all connected actions and need to be included here so they can be analyzed in the EIS. Because of the remote locations particularly, this infrastructure could have a very large potential impact/footprint, and that needs to be laid out here. And these facilities all need to be discussed in the reclamation section as well. The "and others" needs to be taken out when referring to port facilities – they ALL need to be listed here so the impacts of the proposed action can be properly analyzed.
8.2.8	8-37		Is there more detail on these facilities in the mine POD? The barge landings and the Bethel port expansion need a lot more detail, but maybe they're addressed in the mine POD? If so, say so here.
8.2.8	8-40		The "water use and potential sources" needs far more detail. Besides analyzing the impacts of using water from various sources, this section briefly mentions piping or trucking water – if water pipelines or access roads need to be built, we need to know what this will involve so we can know the footprint of this project and the potential resource impacts.
8.2.8	8-33		Sewage and gray water generated by each camp would be treated as required and disposed of in accordance with regulations and requirements. DEC regulations? Confirm that this is this a septic system and not a mixing zone in the river?
8.2.8	8-21	Appendix A	It is very difficult to find some of the proposed airstrips on map so these need to be identified by proximity to pipeline mile post. (Similar to table 8-4 for pipe storage). Should these air strips be maintained through the life of the pipeline for maintenance and emergency access?
8.2.8	8-21		Rough idea of length and width of new runways and gravel needs? How will access be controlled? Types of aircraft and need for freight.
8.2.8	8-21		Will all the pipe storage be able to fit within the 100' construction area?
8.2.8	8-31		Disposal plan for waste? On site or off construction site? Gray water disposal area outside of figure 8-3?
8.2.8	8-38		Identify on exhibit A the ice roads versus gravel roads.
8.2.8	8-33		Sewage and gray water generated by each camp would be treated as required and disposed of in accordance with "what" regulations and requirements? ADEC?
8.2.8	8-33		Clarify what "type(s)" of waste would be handled and again according to "what" applicable regulations? In other words, explain exactly how trash and litter would be managed, if not already identified somewhere else in the POD.

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8.2.8	8-40		Regarding the statement of "water withdrawal from lakes and streams would be planned," it is noted the BLM will begin a Wild & Scenic River Eligibility/Suitability Inventory and Determination study during summer 2013, in conjunction with the Bering Sea Western Interior Resource Management Plan. This study will include waterways located on BLM lands near proposed pipeline route. Any Outstandingly Remarkable Values (ORVs) identified from the study will have guidelines established for future management in order to protect river values. If a decision on the Donlin pipeline occurs after the completion of the Bering Sea Western Interior Resource Management Plan Record of Decision, the proposed pipeline may be subject to these guidelines.
8.2.8	8-21		Airstrips: Applicant shall provide detailed justification for non-use of existing Skwetna Airport. Regarding proposed airstrip at MP 106-107, this airstrip duplicates the existing public airstrip at Puntilla Lake (a 1,900 foot airstrip that has a recent history of large aircraft use in support of large mining exploration camps). The MP 106 airfield will significantly impact the Iditarod Trail in both upper Happy River and through Rainy Pass, and given that a nearby alternate site exists, should be eliminated. General comment: names of proposed airfields in unnamed table on p. 8-21 should be used in maps shown in Appendix A.
8.2.8	8-21		Pipe storage yards: Recommend alternative to gravel; use non-permanent 'porous pavement panels' (e.g., trade name Geoblock or equivalent) for use as travel surface and bedding area for pipe storage, rather than gravel pads.
8.2.8	8-22		Last paragraph: This paragraph largely does not make sense…"gravel pad would be left in place and the site reclaimed upon completion"…what does this mean? That the gravel pad will be used throughout operation of the pipeline? If so, it should be stated as such. If not, the applicant shall require all gravel from pads, and better yet, minimize use of gravel in PSY to begin with.
8.2.8	8-26		Last paragraph: It appears to me 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.
8.2.8	8-31		Construction camps: "Recommend the use of non-permanent 'porous pavement panels' (e.g., trade name Geoblock or equivalent) for use as travel surface around construction camps, rather than gravel pads.
8.2.8	8-38		Oilwell Road: Provide detailed map of 45 mile winter access road from Oilwell Road, and describe necessary modifications, land clearing, for use of Oilwell Road and Petersville Road. Identify # of anticipated trips on Petersville Road/Oilwell Road by vehicle type and weight.

Doc. Section	Doc. Page	Figure # / Table #	Comment
8.3.7	147		In separation of soils they mention separating organic matter from mineral soils but I would like to encourage additional separation of the A and B horizons from the underlying parent material. Soil development is a very slow process in this climate and any efforts we can make to separate the upper soils from the parent materials would be beneficial.
8.3.7	8-66		Identify mileage estimate for trenching with a backhoe.
8.3.9	8-67		First sentence: Example of industry jargon to be replaced: "holiday."
8.2.9	8-51		**Transportation of Equipment and Materials** What is the estimated number of wildlife hit or killed by road traffic? Would be good to put in as an estimated number.
8.9.2	8-88		Alan Bittner, Field Manager, Anchorage Field Office 4700 BLM Road Anchorage Alaska 99507 907-267-1285 fax 907-267-1268 email abittner@blm.gov
8.2.17 and 8.2.18	8-58 and 8-59		The lack of delineated locations for the application of each of these methods makes it difficult to determine the feasibility of each method. For instance, it is hard to determine if the proposal for ice pads (aka ice roads) is intended for use south of the AK Range. If so, I am skeptical about the use of this option, due to insufficient temperatures south of the AK Range for construction of ice roads.
9	All Ch. 9		The term "mitigation" is consistently mis-used in this chapter. In the POD the applicant is intermingling the terms "avoidance," "prevention" and "minimization" with the term "mitigation" when in most regulatory settings each has a distinct and separate meaning. Recommend deleting this term and using term such as "Best Management Practices" or similar.
9.1	9-1		Location…. Subsistence use of this area will be affected and may alter the subsistence resources. Users of the region need to be notified if this life style is altered.
9.1	9-2		Air construction and operational phase. Need to account for all the heavy equipment and localized conditions that may trap air in valleys especially in the winter when inversions are prevalent. Heavy equipment will be left running during the winter to keep warm and prevent freeze up in the -60 F temps. Air quality in camps may be degraded. Remote residents and camps may also be affected by low air quality.
9.2.1	171		"The nearest Class I airshed is the Denali National Park and Preserve. No stationary source of emissions would be located within 6.2 miles (10 km) of the boundary of the Park and Preserve." There is another Class I area near the Beluga Gas Field, the Tuxedni Wilderness Area. Proximity to this Class I area should be discussed. Should also address if there exists any management designation of a "sensitive class 2" areas for federal lands near the construction corridor.

Doc. Section	Doc. Page	Figure # / Table #	Comment
9.2.1	171		"Fugitive dust emissions would be managed as a safety issue when necessary for construction personnel traveling on the ROW." Fugitive dust does not only affect personnel. Fugitive dust should be limited as much as possible to not impact the environment surrounding the pipeline corridor. The NAAQS secondary standard addresses welfare aspect. An estimate of number of vehicles and number of vehicle miles travelled might be helpful.
9.2.1	172		"Using construction camp incinerators to dispose of only those materials that the incinerator is designed and permitted to burn". Should include statement that incinerator will be used in accordance with the BMP for these incinerators and according to the standard operating procedures to minimize emissions during incineration.
9.2.10	9-18		Fisheries Resources 26 streams designated as anadromous waters in the anadromous water catalog. And an additional 27 documented not catalogued. HDD these to reduce impacts.
9.2.10	9-18		This information would be provided to ADF&G for inclusion into the anadromous waters catalog. This information should be given to ADF&G.
9.2.10	9-18		*The proposed development could result in temporary displacement of fish in some streams during construction, but a long-term effect on fish populations during operations is not expected.* Impacts due to erosion of riparian areas may affect a fishery into the future. Erosion and turbidity input from the pipeline may affect future spawning areas and would need to be monitored till the pipeline is decomposed. Bonding for this need to be included in bonding costs estimates. No mention of Barge traffic effects on fish and subsistence fishers. This needs to be included in the Plan of Development. This may have a significant effect on this resource. If Chinook salmon are listed due to continuing declines barge traffic maybe prohibited contingency planning should be included in this potential scenario.
9.2.10	9-19 9-20		*The placement of buried pipeline across specific fish-bearing streams is likely to have the greatest potential effect on fishery resources of the project area. Each belowground stream crossing would be conducted in a manner and during a time period that prevents or minimizes fishery impacts.* As identified in the Mitigation using HDD technology to cross anadromous and other fish-bearing streams should be employed at all these type of crossings as you have identified in this mitigation measure.
9.2.10	9-20		Maintaining refueling activity, fuel, and related liquid storage at least 100 feet from the bank of fish streams

Doc. Section	Doc. Page	Figure # / Table #	Comment
9.2.13	9-24		Remove the entire statement regarding to VRM category IV, this is incorrect. No VRM inventories have been completed on BLM lands within the proposed pipeline area. Formal VRM Inventories are scheduled to begin by BLM in summer 2013.
9.2.13	9-24		The following statement is misleading due to the fact that overhead aircraft would certainly view the visual impacts associated with the linear ROW and vegetation clearing: "The pipeline corridor would be located in remote areas difficult to access, reducing public contact, which would further minimize visual effects." This statement needs rewording for accuracy. Note also the mitigation measures we're stated in a prior comment about involving the above ground features.
9.2.13	9-25		Add another mitigation bullet involving the visual impact measures for the above ground structures previously identified above, within Document Page 3-9.
9.2.13	9-24		On a long-term basis, disturbance caused by construction would be visible for varying lengths of time, Estimates of this would be helpful. Identifying the areas where long term disturbance is such as in wetlands and permafrost areas. What defines long term 100 years to 1000 years. Iditarod trail scars are evident in areas 100 years after use.

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9.2.13	9-24		3rd paragraph, only sentence: add wording "…and to daily commercial passenger air flights and charter aircraft flights for hunting, fishing, flightseeing, and media and spectators following overland events on the Iditarod Trail." The following two paragraphs are in need of significant rewrite as the applicant neglected to discuss winter viewscape impacts. In general, this section trivializes what will ultimately be the largest human-made intrusion on the viewscape between Anchorage, Rainy Pass, and west to the Kuskokwim River and it needs to be rewritten in a more balanced form. Recommend that a more balanced description be substituted. Congress wrote at the time of the designation of the Iditarod National Historic Trail: "…it is the isolated, primitive quality of this historical environment that makes the Iditarod Trail…unique. Nowhere in the National Trail System is there such an extensive landscape…this trail offers a rich diversity of climate, terrain, scenery…in a environment largely unchanged since the days of the stampeders." [1] The INHT Resource Inventory (1982) broke the Trail in geographic subunits and rated each according to criteria for scenic quality. Four units were identified that would be effected by the pipline 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. This proposal will seriously degrade the visual experience for at least the operational phase of the pipeline, due to ROW clearing every 10 years and (underestimated by the applicant) summer OHV use. After decommissioning another one to two decades will be necessary for alder to revegetate the operational ROW, which will then be visible for the remainder of the 21st century (Alder-choked corridors were created by the US Army during overland military maneuvers in Chugach Mt. subalpine ecosystems. The vegetation in these military operating areas are very similar to the route of the proposed pipeline, and the travelways of the heavy equipment are still very evident today, 50 years after they were created. Of note, the US Army has done extensive modeling on the durability of Alaskan soil series so as to plan contemporary maneuver areas. Such data should be researched and applied to this project as appropriate.

[1] (from text establishing the National Historic Iditarod Trail, Senate Report 95-1034, p.12: "National Historic Trails", by Senate Committee on Energy and Natural Resources, May 17, 1978)

Doc. Section	Doc. Page	Figure # / Table #	Comment
9.2.14	9-25		The number of communities located near the pipeline project area is small enough that additional information could be provided to provide a better characterization of the area population and economic conditions.
9.2.15	9-26	N/A	This section needs more work. Please list the affected communities in the vicinity of the proposed pipeline corridor. Provide a brief description of the communities. Describe the subsistence harvest patterns of these villages. Then describe the seasonal round of subsistence uses in the villages that use the subsistence resources along the proposed pipeline corridor. Provide charts and maps, as appropriate.
9.2.15	9-26		More information is available about subsistence use patterns in nearby communities, such as the Brown et al. 2012 ADFG Tech. Paper No. 365, which was funded by Donlin Creek LLC.
9.2.15	9-26		Subsistence. Barge Traffic needs to be identified and included in Plan of Development. Barge Traffic may be restricted during subsistence fishing as a vessel engaged in fish has priority. This could close down the river at times.
9.2.15	9-27		*recognizing that if it cannot be accomplished the duration of the construction period for the pipeline is short-term.* Construction is short term but ROW and impacts of the pipeline will last long term and may affect subsistence species and activities.
9.2.17	9-27		Statement about recreational users not being on the ROW or private air strips built by Donlin would clarify statement about no new public access.
9.2.17	9-27		Address the potential affects to Recreation activities and opportunities "if" the proposed new airstrips are not reclaimed, which again may increase public access to remote areas.
9.2.17	9-27		Some combination of barge traffic delivering pipe and other heavy construction materials to the Port of Anchorage would temporarily increase traffic. Other barge traffic including LNG or construction of a LNG facility. Identifying where the feasibility of Natural Gas will be coming from.
9.2.17	9-27		Distribution of construction supplies would be by barge traffic up the Kuskokwim River or along the ROW. Fuel shipping up the Kuskokwim River should be included in this. Has there been a use study conducted on the Kuskokwim and the impacts of fuel barge traffic.
9.2.17	9-28		Mitigation In areas where preconstruction and construction activities would impact existing access routes Donlin Gold would provide alternate access or allow for controlled access within or across the construction area.

Doc. Section	Doc. Page	Figure # / Table #	Comment
9.2.17	9-27		This section should initially mention that because the ROW proposed for the pipeline does not create an exclusive right of surface use for the applicant, that OHV access after construction will not be prohibited. Sentence: "No new public vehicular access is expected." Strenously disagree; when the CAA/FAA built the Farewell Airstrip (two 5,000 foot runways near Farewell Lake) this facility became the nexus for fly-in OHV access on the north side of Rainy Pass, and the multitude of overland OHV trails radiating from that facility demonstrate the impacts that will occur after new 5,000 airfields are constructed along the Iditarod Trail (and the entire pipeline corridor). At least 15 miles in approximately a half dozen segments of the Iditarod Trail will be physically obliterated by the pipeline corridor. The POD does not provide any details on how these segments will be replaced. Included with physical obliteration of the Iditarod Trail, the pipeline will cross the Iditarod Trail in approximately 25 locations. The POD states in other sections that the applicant will be using overland access after the first season of construction to finalize construction and reclaim the ROW, and then use snowmachines and OHV's in winter and summer respectively to access the ROW for maintenance purposes. Given the significant changes to overland access 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 will migrate from the currently used alignments to the pipeline corridor. In other words, one potential impact is that the current alignment of the Iditarod Trail between Old Skwetna and Puntilla Lake is abandoned on some segments, and obliterated by the pipeline ROW on others. Also, given that overland summer use in Alaska typically follows winter use patterns, it is likely that summer OHV use of the route will be established where none existed, with recreationists using river and airstrips to access the pipeline ROW.
9.2.18	9-28		Are the temporary construction towers for the FOC? Where are these located in the ROW?

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9.2.18	9-28		There are no designated Wilderness areas on BLM lands, however, much of the proposed pipeline route likely travels through Lands with Wilderness Characteristics (LWC) values. Formal BLM LWC inventories are scheduled to begin in summer 2013, which include the proposed pipeline area.
9.2.2	9-4		Mitigation - Whenever possible implement a policy to avoid generating loud noise level that may impact local residents and /or wildlife.
9.2.2	9-4		Mitigation - Whenever possible implement a policy to avoid overflights of seasonal hunting and subsistence use areas to avoid disturbing game.
9.2.2	9-2		Noise Increased noise from equipment during construction, aircraft flights, and maintenance during the life of the pipeline will affect subsistence, recreational, and resident users along the corridor.
9.2.2	9-2		Potential Effects: Animals may be displaced which may affect guiding operations and other hunting activities near the ROW. As described this may also affect subsistence hunting and subsistence lifestyle. .
9.2.3	9-4		Potential Effects Seismicity, faulting, and ground shaking. Seismically induced ground shaking can also result in a number of collateral geologic hazardous such as liquefaction, seismically induced settlement and slope instability, and pipe flotation. As the pipeline is to be abandoned in place. Future seismic activity may expose it. This will be a potential for maintenance and management of the abandoned pipeline into perpetuity. Bonds will need to incorporate the future expense for maintenance.
9.2.4	9-5		Impacts to placer mining on state and federal land should be addressed. Many placer operators must move their equipment overland during winter months, will the ROW/pipeline impact that ability?
9.2.4	9-5		Report mentions Kiska Minerals project which is property with most potential and closest to pipeline route.
9.2.5	9-6		There paleontological resources including graptolites in the vicinity of the pipeline route. However the pipeline will be buried in alluvia/fluvial material in these areas and not affecting bedrock.
9.2.6	9-6		"The area of potential effect (APE) was defined as a 300-foot-wide (91 m) study area. Donlin Gold has expanded the area of potential effect to 1,000 ft (305 m) on all lands and any proposed use that would encroach in an area not already studied in accordance with State of Alaska Historical and Preservation Office (SHPO) standards would be surveyed before used." Change the above section to: "The cultural resources study area was defined as a 300-foot-wide (91 m) area. Donlin Gold has expanded the area of potential effect to 1,000 ft (305 m) on all lands. The Area of Potential Effect (APE) for cultural resources will be determined as a part of the section 106 process in consultation with the SHPO, Army Corps of Engineers, affected tribes, and cooperating agencies."

Doc. Section	Doc. Page	Figure # / Table #	Comment
9.2.6	9-7		Change first "Mitigation bullet" to: "Identifying cultural resources, in accordance with the National Historic Preservation Act, Alaska Historic Preservation Act (AS 31.35) and contact appropriate agency personnel if new resources are found" Change the last bullet to: "Mitigate adverse effects accordance with Section 106 of the NHPA and in accordance with the Programmatic Agreement document for cultural resources, developed in coordination with the SHPO, Army Corps of Engineers, affected tribes, and cooperating agencies."
9.2.6	9-7		"Such historic sites however represent actual physical locations on the ground as opposed to the purely map depiction of the INHT." Delete this sentence. An appropriate sentence to replace the above might be "The Iditarod NHT and the historic resources associated with it will be integrated into the Programmatic Agreement that is developed regarding the process for complying with section 106 of the National Historic Preservation Act."
9.2.7	181		I would like to see a First Order soil survey for at least ¼ mile each side of the proposed centerline for the entire pipeline included in this discussion and an appendix.
9.2.7	183		In other areas it has been noted that wind deposits fine soils a substantial distance from the original site (168 ft. from the Dalton highway) which can alter snow, soils and vegetation adjacent to the corridor. How will the address wind erosion?
9.2.7	9-13		*Water erosion, stormwater runoff, thaw settlement, and thermal erosion in ice-rich permafrost soils are the most common processes that could result in adverse impacts in the ROW and surrounding environment*. This erosion could impact fisheries resources degrading spawning areas in streams. Increase turbidity in rivers. Effects from the ROW could affect the environment negatively for hundreds of years after the pipeline has been abandoned in place beyond conventional thought bonding will need to take this into account.
9.2.7	9-13		**Soil Erosion** *If vegetative cover is disturbed* Compaction of vegetation with heavy equipment or even ATV's may affect the Erosion potential of these areas. Mitigation measures will need to be in place to prevent this during construction and when maintenance is needed.
9.2.7	9-13		***Mitigation*** Sedimentation Control Plan and SWPPP for the proposed pipeline project would be developed during final design and implemented during construction and operation: Recommend having the SWPPP finalized with the Plan of Development to be able to make comments on. Need to include this in the rewrite of the Plan of Development.

Doc. Section	Doc. Page	Figure # / Table #	Comment
9.2.7	9-13		*Continued ground surveillance and corrective erosion control and vegetation maintenance would be employed throughout construction of the project.* Monitoring of the ground surveillance and corrective erosion control of vegetation maintenance would need to be employed long after the construction has ended and would be needed for the life of the pipeline and thereafter.
9.7.2	182		It is noted that the permafrost is only slightly below freezing. What would the effect of a warmer climate be if the permafrost all melted? How would this affect the pipeline?
9.2.8	9-14		A statement should be included that states that the requirements of the SWPPP will be followed to ensure impacts to water resources are limited.
9.2.8	9-14		Almost all BLM affected lands are on the western portion of the proposed pipeline. Much of the construction on the BLM will be during the summer months when the ground is exposed, banks are soft, and stream flows are higher. Utilizing the open cut method during the summer season creates more potential for water management problems, exposes the stream channel, and threatens the water quality much more than it would if construction took place during the winter, especially on bigger streams with higher gradient and higher discharge. These impacts are not really described well. I'm wondering if all stream related construction crossings and pipeline installation should be made during the winter when there is less flow and water quality potential issues and the ground/bank is frozen and stable.
9.2.8	9-14		**Water Resources** *Potential impacts on groundwater and surface water that might result from construction and operation of the pipeline are expected to be minimal and limited to a short period during construction.* Potential impacts may be long term due to construction activities destruction of riparian habitat by clearing of riparian habitat along the ROW. Pipe abandoned in place may cause future erosion beyond the life of the mine. Maintenance of this will need to be identified in future planning and control of mitigation measures.
9.2.8	9-14		*HDD technology due to logistical issues such as very large or incised rivers or sensitive habitat for fish. In all cases, pipe would be buried to a depth that is below the scour potential of that particular river or stream, and long-term effect to the river or stream at the location should be negligible.* This technology is available to reduce impacts to fish bearing streams and as identified above to keep impact negligible recommend HDD technology for all fish bearing stream crossings.
9.2.8	9-14		*Groundwater drainage patterns should reestablish immediately after site reclamation has been completed*. Identify a monitoring protocol to assure this is occurring.
9.2.8	9-15		Mitigation Restoring banks at stream crossing sites - Keeping the riparian vegetation intact will aid in the restoration significantly. Use an excavator to grab entire riparian vegetation for stockpiling keeping it in tact as much as possible and use it again in the same area to restore these areas will significantly improve the restoration process and time needed to repair these riparian areas.

Doc. Section	Doc. Page	Figure # / Table #	Comment
9.2.8	9-15		*Implementing dewatering practices that prevent adverse impacts on vegetation and on existing quality of surface waters* And aquatic resources including fish and macro-invertebrates.
9.2.8	9-15		Mitigation Locating fuel storage, equipment refueling, and equipment maintenance operations at least 100 ft (30 m) from surface waters.
9.2.9	9-16		The option of using "large surface area/low impact tires" should be considered to help reduce the impacts of equipment operating on or near wetlands.
9.2.9	9-17		A statement should be included that identifies how vegetation will be stockpiled so that erosion loss to growth medium/soils is reduced.
9.2.9	9-15		Wetlands Direct and indirect effects on wetlands. Wetland loss from draining and filling for roadways. Has the amount of miles of this been documented? Don't see a table listed for this. What is the mitigation cost or bonding required for this mitigation?
9.2.9	9-17		*Restoration of existing wetland habitat may be used as a type of compensatory mitigation credit if these sites can be restored to provide beneficial fish and wildlife habitat.* Potential restoration mitigation could focus on Chinook salmon in the Kuskokwim River System as these stocks are currently severely distressed.
10	10.1		A Stabilization, Rehabilitation and Reclamation Plan would be developed during final project design Plan should be developed for review as is this plan of development.
10	10.1		*Soil Removal and replacement.* Estimate of contaminated soil to be removed with the estimated amount of fuel used as there is the potential of a fuel spill at some point.
10	10.1		A Non-native Invasive Plant Prevention Plan Should also include all aquatic plants, aquatic fish or terrestrial species.
10	10-6		**10.4 Reclamation Crew Functions** Should be annual function with detailed description of work performed each year.
10.0	10-1		The term "natural revegetation" should be used instead of "natural reinvasion", as the term invasion is often associated with non-native invasive species. All disturbed sites and exposed soil should be promptly reclaimed using the native sod and top soil that was removed with supplemental seeding if necessary. This will provide the best opportunity for soil stability as well as the re-establishment of native species.
10.0	10-1		The aforementioned Plan in the last paragraph should be appropriately titled: "Invasive Species Management Plan", and it should include BMPs that address all non-native taxa (both flora and fauna) because the precautions are essentially the same for both flora and fauna, and we do not want to overlook the potential for introduction and spread of non-native fauna.

Doc. Section	Doc. Page	Figure # / Table #	Comment
10.0	10-1 and 10-2		This last paragraph on 10-1 addresses the vectors for introduction and spread of invasive species. The Plan should be very strong on addressing what and how equipment and materials will be cleaned *before* transport to the airstrips, material sites, and temporary use areas. Prevention is the key. Prevention occurs *before* the equipment, gear and materials are loaded onto barges, aircraft, transport vehicles, etc. This also does not mean that monitoring at these sites and along the corridor can be avoided, but rather it provides the best opportunity to prevent the introduction and spread, minimizing the corrective actions needed should non-native invasive species become introduced and spread due to the pipeline construction and operations activities.
10.0	10.1		Final stabilization, rehabilitation and reclamation at termination. Future reclamation may be needed in the future beyond termination.
10.0	10-1		POD needs to detail when and where culverts and bridges will be installed permanently, or removed after construction. Current document does not give any indication in text that culverts and bridges will be removed. (In section on waterway crossings, little discussion is given to use of culverts, yet 'Engineering Drawings' in Appendix show them as a water crossing device. In general use of culverts and placement of fill activities in flowing waterways should be avoided.
10.12	10-8		Please replace all occurrences of "reinvasion" with "revegetation" throughout the document.
10.18	10-8		This section should briefly describe what system will be utilized to track revegetation success and explain how those data will be carried forward, year-to-year, for monitoring and maintenance of trouble areas.
10.18	10-8 And 10-9		An inspection and monitoring schedule should be developed and avoid the use of "periodically" and "as soon as feasible". Define the schedule with minimum frequency of site inspections/monitoring to a greater degree than once per year.
10.18	10-8		**Inspection and Monitoring** Desired results monitoring will need to be conducted annually and beyond the life of the mine. As permafrost melts from pipeline related impacts it may need monitoring for life of the project. Bonding to cover this work.
10.19	10-9		The inspection and monitoring program should be described in the context of occurring for the life of the project.
10.19	10-9		*Donlin Gold would provide the BLM and the DNR an unconditional guaranty* This includes a financial guaranty or Surety or Bond as described on the form.

Doc. Section	Doc. Page	Figure # / Table #	Comment
10.1.1	10-2		Natural revegetation along the corridor (and the material sites, pipe storage yards, barge landing areas, airstrips, campsites, and temporary access roads, as well as permanent facilities). Our BLM Alaska Invasive Species Management Policy states that BLM Project Leads will "Revegetate disturbed soil. Use native species". Re-establishing the vegetation mat as soon as possible using native seed or plants, is the best and preferred prevention measure to start with, reducing the potential for subsequent introduction and spread of non-native invasive species. By getting involved with the BLM Alaska Seeds of Success program, Donlin Gold can ensure availability of appropriate seed and seed mixes to use in reclamation activities, as soon as possible after construction. This is the best way to prevent non-native invasive species introduction and spread. Taking these precautionary measures will save thousands and possibly millions of dollars and resources in eradication efforts otherwise. Every effort to utilize the existing vegetation mat and soil (natural revegetation) is encouraged.
10.1.1	200		Any scarification should normally be very shallow to avoid bringing parent material up to the surface.
10.2	10-3		Please define the timeframe or parameters identifying "winter" vs. "summer" construction seasons?
10.2	10-2		The type of control measures used should also take into account future uses of the ROW, if any. The pipeline installation will open a long developed trail, especially for winter users with snow machine users, basically from Anchorage/Wasilla directly to the Donlin mine area.
10.2.1	10-3 And 10-4		In wetland areas where the native vegetated mat is side-cast during ditch excavation, a temporary platform/holding structure may need to be constructed/employed and used as a holding containment device to ensure the material can be recovered and put back into place on top of the trench (the preferred method of natural revegetation). In areas where the native vegetated mat is not available, the area should be immediately reclaimed/replanted with native species. All disturbed areas need to be reclaimed as soon as possible after construction by utilizing the native vegetation/mat in combination with planting indigenous native plants/seed mix.
10.1.3	10-8		Plans defined for reclamation of material sites. Is hard to say where they will be located at this point. Donlin will probably have a contractor locate sites in the right locations and containing the materials that fit specifications for the pipeline.

Doc. Section	Doc. Page	Figure # / Table #	Comment
10.4	10-6		The Permits and Environmental Compliance Program should include a check and balance system for signing off on the reclamation crew work/contractor, and land managers should be notified whether or not the work was done according to specifications. If revegetation and stabilization efforts fail, who is liable to remediate the deficiency? There should be a waiting period of time – a couple years – to determine whether or not the reclamation efforts were effective in achieving the objectives before relieving/signing off the contractor of their job. For example: If the erosion control devices fail in the next year after the reclamation work is completed, due to poor workmanship, or if the revegetation efforts fail to re-establish ground cover due to poor seed quality and/or lack of organic matter replaced over the disturbed areas, Donlin needs to notify land managers and take corrective action to ensure that the required conditions are met if they have already relieved the reclamation contractor after the final summer's work. What is the threshold for revegetation/reclamation that is used to determine whether or not the objective(s) were met? There is mention of 100% compliance, what does this mean? Can you give examples of what will be measured to achieve the 100% compliance?
10.4	10-6		LGP carriers walking is not a bad option to prevent more damage to the ROW
10.4	10-6		*The pipeline contractor would no longer be responsible for reclamation in that particular section.* Who would be responsible? A bond to assure this is completed will be needed.
10.2.3	10-4		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 discharge and the collected sediment could be used in the reclamation of the ROW.
10.2.3	10-4		*If there is a potential for significant bank erosion, the disturbed banks would be stabilized with rock riprap or other means.* Continued monitoring and maintenance may be needed at these locations.
10.2.3	10-5		*This would require frequent monitoring and cleanup of melted material within the sediment barriers Monitoring long into the future will be needed.* Initial design should avoid these areas and maintain permafrost to prevent erosion. Keeping the vegetative mat in tack to cover up the areas and prevent melting should be incorporated into BMPs. Access a cost of loss of permafrost per foot and the cost of damage associated with it.

Doc. Section	Doc. Page	Figure # / Table #	Comment
10.5	10-6		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. Sites with replaced topsoil often revegetate well without further assistance. (This is direction from the referenced document below) The Native Plant Revegetation Manual for Denali National Park and Preserve should be used as a revegetation reference as well. The guidance in it fits the project very well, is easy to understand, and the ecosystems addressed are very similar to those along the Donlin pipeline – traversing the Alaska Range similar to Denali NP. This is Information and Technology Report USGS/BRD/ITR-2000-0006. I provided an electronic copy of this to the Donlin subcontractor, Dick LeFebvre, with whom I visited with to discuss the Invasive Plant Management Plan and reclamation issues – Feb 25, 2013.
10.7	10-7		This section should be appropriately titled: "Invasive Species Management" and should cover all taxa, not just plants. I recommend a Hazard Analysis Critical Control Point (HACCP) plan be developed to efficiently and effectively prevent the introduction and spread of non-native invasive species (NNIS), a structured and credible method of implementing best management practices. Examples and guidelines for HACCP plans were shared with subcontractor Dick LeFebvre. This POD needs to recognize and address invasive species prevention well *before* the stabilization, rehabilitation and reclamation activities, as discussed in aforementioned sections of this commentary. Requiring all equipment and materials be *cleaned prior to transport* to the logistical transportation points, staging areas, and construction sites is the first and foremost important step in effective invasive species management. This critical step/best management practice will best prevent introductions of new non-native invasive species in the project area. This is the most cost effective and logical approach to invasive species management. Again, it is also critical to perform a baseline survey to determine the presence or absence of existing non-native invasive species in the project area. If this is not done, we will have to assume there are none present, thus instituting a gross liability on Donlin Gold for the subsequent introduction and management of NNIS in the project area.

Doc. Section	Doc. Page	Figure # / Table #	Comment
10.8	10-7		The tone and scope of this discussion reflects applicants underestimation of future OHV use of completed pipeline ROW. Traffic will only be marginally limited by "remote nature of pipeline route". Applicant also mischaracterizes potential impacts, in that OHV users will use pipeline ROW to get access previously unused trails that may not be able to support summer mechanized use, and as a result damage these trails and displace users, creating "trail braiding". Berms will not effectively impede OHV users from passing from the pipeline route onto existing trails intersected by the pipeline. Per previous comments, applicant shall develop plan for management of intersections with existing trails. Language in current POD is inadequate.
11.0	11-1		The O&M plan and schedule should incorporate early detection rapid response (EDRR) for non-native invasive species. I recommend this approach also be taken with the mine site O&M for the best integrated pest management program success.
11.10	11-6		The very last sentence in this section should read "Because the liquid would be either water…..along with the mine waste oil" ?
11.20	11-11		**Industrial waste and Toxic Substances.** Waste associated with fuel spills into soil and oil spills on soil need to be addressed.
11.10.2	11-5		**11.10.2 Smart Pigging Inspections** Is this the minimum required amount of inspection?
11.9.1	11-3		This section should describe what the desired future condition of pipeline cover would be. Shouldn't the minimum cover include some discussion on vegetation and/or organic soil? At a "minimum" the cover should include the objective to replace the organic layer and vegetation (low growth) to provide for continuous habitat and ecological function. There shouldn't be an expectation here (as this table indicates) that we will see just rock and rock trench coverage. This section should better explain what "cover" is being addressed.
11.9.2	11-3		The list of what will be observed in monitoring activities should include non-native invasive species (NNIS). The observations noted should be used for the early detection rapid response of finding any infestations of NNIS. The NNIS activity can only be done during the summer growing season and should be conducted by a botanist at least once per year for the life of the project (after construction).
11.9.2	11-3		*Pipeline inspection would occur at intervals not exceeding 9 months but at least twice each calendar year (ideal inspection times are after breakup and before deep snowfall) to inspect surface conditions on or adjacent to the pipeline* Additional inspections may be needed after heavy rain fall or rain events.
11.9.2	11-3		"…flames coming from the ground or from valves along a pipeline." Sounds like a definite watch-out situation

Doc. Section	Doc. Page	Figure # / Table #	Comment
11.9.4	11-4		ROW maintenance clearing is often a vector/source for the introduction and spread of NNIS – as NNIS propagules are often lodged in the nooks and crannies of the equipment used, and consequently distributed to the new work areas. The ROW clearing contracts must include clauses to ensure equipment is thoroughly cleaned prior to transport and utilization on the project, as well as cleaned after being used in an already infested area.
12.0	12-1		1st bullet: "Reinvasion of gravel pads" will not work. Gravel pads resemble glacial outwash materials, and therefore will 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.
12.1	12-1		Again, what's the long-range plan involving the proposed new airstrips?
12.1	12.1		would be designed to minimize impacts to public and private property Impacts to public property from the abandoned pipeline may not be evident at time of termination and would need to be accounted for in the long term reclamation for the ROW with adequate bonding.
12.2	12.1		**Status of Pipe Abandoned pipe** What is the ½ life? Pipe at stream and river crossing might become exposed and cause habitat loss requiring maintenance over time.
12.3	12.2		Metering station would be cut off at grade if wooden poles are placed directly in the Ground. Recommend cutting off 12 inches below grade as the H piles are to prevent potential impact from snowmachine or travelers on this route in the future.
12.8	12-3		If this POD does not anticipate retention of any of the new airstrips constructed for pipeline construction purposes, will they be reclaimed?
12.9	12-3		Identify what, if any, excess materials, equipment, fuel, etc. may be transferred (given or sold) to any homesites, homesteads, or lodges located along the proposed pipeline route.

Doc. Section	Doc. Page	Figure # / Table #	Comment
Appendix A			For all strip maps, applicant shall: • delineate the locations of the various types of construction for the entire pipeline per the types of workpad construction described on page 8-56 and in Appendix G (ie., ice/snow pad on flat terrain, graded summer ROW, etc.). Categories shall differentiate between winter and summer, and identify any planned granular workpads, distinguishing between summer and winter. Segment lengths shall be depicted, rather than providing point data. • delineate and depict the locations of all above ground segments • delineate and depict all segments with a greater sideslope than 6% • delineate and depict all segments requiring double bench construction • depict the location of all proposed field camp locations (they do not appear to be depicted on the current sectionals) • depict the locations of all mainline block valves A separate strip map shall be provided that depicts and delineates the route of proposed 40+ mile winter haul road from the end of Oilwell Road (west of Talkeetna) to pipeline corridor.
Appendix C	511 to 539		The geotechnical Survey data indicates the location where ice-rich or permafrost conditions were encountered and indicate a substantial number of sites with high frost potential in addition to the ice-rich areas. I would suggest addressing the effects of the ice on the pipeline construction and placement in one of the other sections in the report.
Appendix E		TY 01	Applicant shall provide side elevation (profile) drawing of all components of a typical MLV facility, both parallel to the path of the pipeline, and perpendicular to the path of the pipeline. Applicant shall describe typical installation interval (approx. 20 miles).
Appendix E		TY 02	Applicant shall depict whether current view is from perspective of parallel to direction of pipeline or perpendicular side elevation drawing (e.g., indicate direction of pipeline travel). Applicant shall also note color of piping/cap and reflective tape, and describe typical installation interval (is not described in text, as far as I can find).

Doc. Section	Doc. Page	Figure # / Table #	Comment
Appendix E		TY-24, 25, and 26	Terminology used by applicant, while perhaps reflecting pipeline construction terminology, has a long history of testing, use, installation and maintenance in the public lands management arena, particularly in trail and logging road management. The typical term is "water bar" (TY 25) or "rolling grade dip" (TY 24 and 26). Applicant shall use these term in these drawings. Numerous standard drawings of water bars and rolling grade dips are found in reference sources for recreational trail design and construction. The following is one example that the applicant should refer to in the modification of their current design in order to divert water off the ROW http://www.fs.fed.us/.ftproot/pub/acad/dev/trails/trails.htm There are a number of aspects of the "slope breakers" shown that suggest these features will not adequately divert water running down a right of way 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. First, the typical spacing recommended is not adequate, and should be decreased by a factor of at least 5 (so 5-15% grade would have intervals of 60 feet, 15-30% every 40 feet, and over 30% these are not recommended and permanent, perpendicular, armored drainage ditches should be installed. Next, the chevron style slope breakers as shown in TY 24 is not a design found in any standard references for water bars or rolling grade dips, and is likely subject to failure at the point of the chevron. Therefore, recommend delete this type of structure for the single angle water bars/grade dips. In TY 25, the angle at which the "slope breaker" is shown laying across the ROW is insufficient (too low). It should be approx. 45 to 60 degrees; see suggested references for additional guidance. In TY 25, the length of the slope breakers should extend at least two feet beyond the edge of the disturbed ROW. If not, there is a high likelihood the diverted waters will divert back onto the ROW and contribute to the failure of next downslope structure and ultimately significant erosion. In TY 25, total height of slope breaker/water bar above bottom of grade shall be 24" mimimum (instead of 18" as shown). In TY 26, silt fencing is not an adequate "energy dissipater". Staked hay bales have a limited working life. Recommend rock dissipaters in situations with significant flow.

Doc. Section	Doc. Page	Figure # / Table #	Comment
Appendix E	605 to 649		There is no typical design for permafrost of Ice-rich areas shown in this section. There are also no drawings of the above ground pipeline configuration.

ATTACHMENT 2

BLM Anchorage Field Office's EIS Scoping Comments on the Donlin Gold Project

GENERAL

1. The BLM echoes the public's concerns about barge traffic and the need for thorough analysis of impacts to bank stability, bank erosion, fisheries, subsistence practices, etc.
2. Hunting/fishing impacts to local wildlife populations in/around the mine as a result of mine workers recreational or subsistence uses. How will this be addressed? Consider a project design feature that prohibits mine workers from engaging in recreation hunting/fishing during duty shifts during construction, operation, and remediation phases of the pipeline, mine site and other support sites.

BARGE TRAFFIC

1. Scoping showed that barge transportation on the Kuskokwim would involve a total of 122 barge tows of cargo and fuel annually ranging in weight from 550 tons (cargo) to 605 tons (fuel) each. Each barge tow would involve a raft of 4 barges. This involves 488 barge loads over an estimated 110 day ice-free season. I question the technical feasibility of getting a raft of 4 barges with more than 4.8 million pounds of fuel and cargo up the Kuskokwim River in a single barge tow, especially in low water periods of the summer and fall. Realistically, low water would require at least 488 single barge trips, resulting in 8 to 9 barge passes per day, provided water levels are enough to allow barge traffic for 110 days. The EIS should verify the number of estimated barge trips as well as the technical feasibility of these landings in different water-level scenarios.
2. The current barge traffic to transport fuel and freight to the Kuskokwim Villages is completely dependent on water levels, and barges regularly run aground and cannot pass until water levels increase, depending on annual precipitation levels (Anchorage Daily News, June 28, 2010). This suggests that if Donlin Gold must depend on barges to get fuel and cargo to the mine, the Kuskokwim River may need to be dredged periodically. The impacts and consequences of this scenario need to be addressed.
3. Impacts from barge traffic of this magnitude and intensity need to be addressed:
    a. bank erosion and stability and resulting sedimentation of the river;
    b. conflicts between barges and boat traffic on the river from local villages;
    c. impacts to spawning salmon and habitats and resident fish important to local subsistence;
    d. disruption/destruction of subsistence fishing nets on the river;
    e. alternate fuel and cargo transportation scenarios if barges could not get through; and
    f. dredging of the Kuskokwim River to facilitate barge traffic, and resulting impacts.
4. Additional details on barge landings on the Kuskokwim are needed. Where are they? What kind of ground disturbance is involved? Are they permanent? Are there roads connected to them- how long and how many?
5. The EIS should analyze future effects on barge traffic on the Kuskokwim River: for example, habitat loss, increased erosion rates, dredging potential and changes to the flow dynamics of the Kuskokwim River, fisheries impacts, etc. should be disclosed fully in the EIS. Effects as to shipping traffic as related to existing vessel traffic and subsistence life

style changes. Alternative fuel transportation methods should be developed if river flow low, closed due to subsistence fishing, listing of Chinook salmon, barge grounding these are just a few of the likely scenario's . There are a multitude of scenarios that could limit barge fuel traffic and deliveries affecting mining impacts and feasibility. A complete study identifying possible impacts should be completed.

6. EIS should evaluate impacts of Kuskokwim River fuel spills For example, identify the associated response equipment needed on standby; at what distance intervals equipment should be staged; time of response needed; and the type of response, containment vessels, and crews needed in the event of a spill.

CLIMATE CHANGE

1. The BLM concurs with all comments submitted by the USFWS on this topic. Not only should the EIS evaluate the project's contribution to greenhouse gas emissions in the short- and long-term, but the EIS should also identify how the project's design can be manipulated in the event major climatic changes occur during the life of the project. For example, maybe one action alternative could look at alternative water management strategies, alternative operations/maintenance strategies, etc. Given the life of the mine, the EIS must attempt to anticipate what changes may occur based on current climate trends and account for those changes in one or more of the alternatives. If in the future, Donlin Gold needs to make a major operational change in response to climate changes, hopefully this EIS could be used, to some extent, to fulfill the requirements of NEPA.
2. Significant amounts of natural gas and diesel fuel would be burned during the construction of the mine and pipeline and over the life of the mine. What is the carbon footprint of the mine and its further contribution to global greenhouse gases, and its effects on climate change in a worldwide environment that is experiencing ever increasing atmospheric carbon emissions and resulting climate change, and an urgent need to reduce carbon emissions.
3. If this operation takes 40 million gallons of diesel fuel annually to operate, and significant quantities of natural gas to generate 150 megawatts of power, is a carbon foot print being evaluated?

CULTURAL RESOURCES

1. Ensure that all effects to cultural resources, including direct, indirect, and visual, and all effects from the entire affected environment, are analyzed in the EIS. All agencies should be able to review and comment on the preliminary Draft EIS, DEIS, and FEIS to ensure the scope and affected environment are appropriate.
2. Ensure that the EIS analyzes the potential impacts to the Iditarod National Historic Trail (INHT), including visual impacts, along the proposed pipeline route.

EIS PROCESS/PROCEDURAL

1. What will be the Corps' process for determining which issues are carried forward for analysis and which issues are eliminated from further consideration? How can the Cooperating Agencies participate in this process? Ensure that the BLM, and all cooperating agencies, are involved in the development of a reasonable range of alternatives for analysis in the EIS.

2. Ensure that NEPA/NHPA consultation and scoping is coordinated where possible to save resources.
3. Ensure that the Programmatic Agreement for NHPA Section 106 compliance is completed in parallel with the EIS and that the agreement is signed before the Records of Decision are signed.

GEOLOGIC / NATURAL HAZARDS

1. Include an avalanche hazard analysis prepared by avalanche/snow science consultant along the route through the Alaska Range. Above-ground pipeline features may need to be buried, armored, or otherwise protected in these areas. Donlin Gold is aware of this issue (re: Section 8.3.23 of the Pipeline Plan of Development)

IDITAROD NATIONAL HISTORIC TRAIL

(Comments regarding the Iditarod National Historic Trail are presented at the end of this attachment.)

LANDS WITH WILDERNESS CHARACTERISTICS

1. There are no designated Wilderness areas on BLM lands, however, much of the proposed pipeline route likely travels through Lands with Wilderness Characteristics (LWC) values. Formal LWC inventories are scheduled to begin in summer 2013, which includes the proposed pipeline area.
2. Will any excess materials, equipment, fuel, etc. be transferred (given or sold) to any home sites, homesteads, or lodges located along the proposed pipeline route?

MINE OPERATIONS

1. The EIS should analyze the effects and impacts related to future impacts related to all mine operations.
2. What is the need for limestone to buffer acidification and cyanide detoxification process for treatment of tailings? This process will likely take significant amounts of lime, and would suggests a local source of limestone is required. Is mining in the Holitna watershed for limestone to be used in the mine, and if not, what will be used for this processing requirement and where will it come from? If limestone mining is required, the need for another entire limestone mine and its impacts has not been mentioned or indicated, but the need for lime in the milling process has.
3. How much cyanide is required annually and over the life of the mine? How will it be transported to the mine, and what are the spill contingencies and potential impacts if cyanide were released on land or into the Kuskokwim River?
4. How will cyanide for use during the milling process be transported to the site?
    a. What alternatives can we consider on this point – barge vs. air vs. other?
    b. The transport of cyanide to/from the mine site should be accounted for in the spill contingency plan.

NON-NATIVE INVASIVE SPECIES

The following non-native invasive species concerns and/or management concepts were not addressed in Donlin's Pipeline Plan of Development (POD). These concerns and/or management concepts should be fully addressed in the EIS and incorporated into the final development plans:

1. To best prevent the introduction and spread of non-native invasive species (NNIS), Donlin Gold needs to be more proactive in the development of a structured mitigation plan that best meets the objective of **prevention**. This is done through the development of a Hazard Analysis Critical Control Point (HACCP) plan. A HACCP plan is the best way to logically and credibly implement best management practices that are effective mitigation measures. In the POD and other documents, there is very little discussion of how Donlin proposes to make sure the equipment and materials used in this project are clean to begin with – like requiring equipment to be thoroughly cleaned **prior to being loaded onto barges, or transportation units** at their source of origin, and subsequently cleaned after use in any areas where they could possibly pick up NNIS propagules. This is done well before the Stabilization and Remediation efforts, and will minimize remedial actions necessary to eradicate any new infestations resulting from the construction and maintenance activities. While continual early detection rapid response (EDRR) activities are used during the operations and maintenance phase of the project, the need for treatment and thus costly ecosystem restoration efforts can be greatly diminished if NNIS are prevented from being introduced in the first place. This is exceptionally important because the pipeline goes through some of the wildest land in Alaska, completely free from NNIS. The introduction of NNIS along this route(s) has the long-term potential to adversely affect subsistence resources, tourism, and basic ecosystem function that many rural Alaska communities depend upon for income, lifestyle, culture and tradition.
2. There needs to be a **baseline survey** for the presence and/or absence of NNIS along the final pipeline route and associated access areas. This will provide the basis for developing the Invasive Species Management Plan, addressing where actions need to occur to control and mitigate any known infestations, as well as displaying the true Affected Environment (Chapter 3) of the EIS. Without this baseline survey, we cannot effectively conduct an environmental analysis for the proposal.
3. There is also a need to incorporate a structure/schedule for **monitoring and conducting EDRR** activities for invasive species into the operations and maintenance plan. This can be done during structural monitoring of the integrity of the pipeline itself, and a botanist is the appropriate person to conduct such surveys. This may be a good opportunity to develop a working partnership with the University to conduct annual surveys while mentoring young adults, developing our future workforce.
4. Lastly, while the mine site itself is not on BLM-managed land, it is connected via the pipeline and thus activities will be connected – like monitoring for the structural integrity of the pipeline will certainly start at the mine site (from that side of the Alaska Range). The mine site and the pipeline are a system, and the introduction and spread of NNIS will behave accordingly as a system due to the connectivity of construction, O&M activities, and thus should be managed as a system. The mine site and associated facilities, barge landings, transportation sites, etc. should all be incorporated into the Invasive Species Management Plan for Donlin Gold, not just the pipeline, as that is the most effective way

to manage the problem. Thus, coming full circle the first comment listed above: the need for the development of a HACCP plan that will identify the specific points, places, vectors, and media where specific control and prevention measures can be the most effective and economically efficient. We emphasize again that prevention is the least expensive approach to managing NNIS, and will be the most environmentally friendly, economic, and responsible approach to protecting the pristine, intact ecosystems in the Donlin Gold project area(s).

PIPELINE

1. The EIS should disclose the direct and indirect effects of increased gas consumption and related requirements (i.e., ship traffic in Cook Inlet, increased gas consumption for mine at Beluga Point means the more extraction at the source(s) etc.).
2. The EIS should describe the effects this much demand for power is having on the availability of natural gas in the state, particularly natural gas in Cook Inlet.
3. Access to/along pipeline – The Pipeline Plan of Development acknowledges that, "regardless of the efforts by Donlin Gold there would still be use of the ROW as a route for ATVs, snowmobiles, and others," (Section 10.8, p. 10-7, July 2012 POD submittal to BLM). The indirect effects of increased or "improved" access must be accounted for the DEIS.
4. Where is the source of the natural gas to fill the pipeline coming from? There is currently a projected shortage of natural gas in Cook Inlet. What are the impacts of the enormous increase in demand for gas to south central Alaska? If gas is shipped into Cook Inlet, how will the gas be transported to the pipeline? Will shipped gas involve the construction of a port facility near the beginning of the pipeline? There is no mention of any this in scoping presentations or in the pipeline POD. What are the impacts involved with this infrastructure, and the increased shipping in Cook Inlet?
5. The EIS should disclose the source the natural gas. Natural gas production from Cook Inlet wells is declining as gas fields age. Compression and some new wells have helped, but are not sufficient to ensure that production keeps pace with demand. A shortfall is expected by the winter of 2014-2015 (Chugach Power Outlook December 2012 Number 293). This already identified demand does not take into account the additional use required by the Donlin Gold Mine.
6. The effects of natural gas-related shipping and infrastructure for the additional Donlin mine gas should be evaluated; impacts to the marine environment of Cook Inlet must be disclosed.
7. If shipping is needed and a port developed on the west side of Cook Inlet, it will involve critical habitats of the listing **Cook Inlet Beluga Whale**. What are the impacts to Cook Inlet Belugas?
8. There is mention in the POD that other mine operations along the route (Kiska Metals Corporation Whistler Mine) may use gas from the proposed pipeline. The impacts of the pipeline facilitating further mining projects and increased human development along its route needs to be addressed.
9. The pipeline corridor will provide a transportation corridor for ATV and snow machine use, creating land access to previously inaccessible areas. What are the effects on wildlife populations, particularly those important to subsistence due to increased traffic and hunting pressures?

10. This pipeline and its associated development (gravel pits, pipe storage areas, airstrips, additional access roads, barge landing sites, industrial ports) would bring industrial development into pristine environments, remove vast areas of natural vegetation and have numerous crossing of fish bearing and anadromous streams. What are the effects to soils, erosion, river sedimentation, permafrost thawing?
11. EIS should analyze effects and impacts to pipeline development to aquatic resources. Impacts should be minimized to resources by using the best technology available such as HDD installation to reduce the impacts to aquatic habitats and stream crossings.
12. There may be other viable pipeline routes that the applicant has not considered that would have lesser impacts than the current proposal. The EIS must evaluate all viable pipeline routes regardless of monetary costs to construct.
13. Please consider incorporating the following measures as best management practices, design features, mitigation measures or ideas for alternative development relative to any pipeline crossings (on- or off-of Federally managed lands) of the Iditarod National Historic Trail.
    a. A subsurface crossing of the INHT should be investigated to maintain native vegetation buffer. For the INHT, choose a pipeline ROW that intersects the Trail in an area where tall, thick native vegetation currently exists. Maintain an undisturbed trailside vegetation buffer the width of the existing State management corridor for the Trail (500 feet on each side of the Trail centerline), and use directional drilling methods to insert the pipeline below the undisturbed trail corridor (such as is used to cross under rivers).
    b. Similar directionally drilled and inserted crossings of other regionally significant trails with undisturbed vegetation buffers should be undertaken in locations where unauthorized vehicle/ATV access cannot be prevented.
    c. Vehicle barriers could be installed in a manner that effectively prevent unauthorized vehicle access but allow for continued use of existing trails for winter users. Any permanent service or maintenance roads that are developed for the project, including the actual physical path of the pipeline, should include barriers or structures that effectively prevent unauthorized vehicle entry.
    d. If the only practical solution for pipeline crossings at other non-INHT trails requires ROW clearing, the width of the clear zone should be significantly minimized on both sides of pipeline approaches to the trail from the proposed construction ROW width of 100 feet.
14. The effects of just the pipeline construction, operation, maintenance, and abandon in place procedures will require future maintenance as related to stream crossing, permafrost melting, and erosion well into the future beyond mine closure. Future maintenance for bonding or a Surety deposit should include maintenance of the pipeline into perpetuity as it does with the mine waste.
15. EIS should analyze effects on soil and permafrost identifying the impacts to these with alternative looking at the least impacts to the resource using the best technology available.
16. What the potential long-term impact to stream and fisheries resources from pipe shifts after abandonment?

POST-PROJECT MONITORING

1. "Monitoring into perpetuity" – The EIS should provide details on and analysis of how this will be achieved including, but not limited to the permanent power/gas requirements to accomplish monitoring into perpetuity, etc.
2. The mine reclamation and closure plan calls for all contact water from the entire abandoned mine to be pumped back into the pit lake, with long-term treatment of the water. This is neither technically feasible nor realistic. The impacts of acid drainage and heavy-metal runoff into Crooked Creek and the Kuskokwim River from the proposed mine must be addressed, during the life of the mine and especially "into perpetuity."
3. How will mercury and other heavy metals 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 will be treated or pumped into the pit into perpetuity. Runoff will be acidic and toxic to fish and down river inhabitants. How will it be kept out of the Kuskokwim River, and what are the impacts if it is not?

PROJECT COSTS, LIABILITIES, ETC.

1. Specific to Section 2.4 of the pipeline Plan of Development (p. 2-2), an accompanying section on "Expected Public Impacts/Costs" should be developed in the EIS, describing significant impacts anticipated to public access and subsistence from south central to west central AK, accompanying significant land and waterway degradation from new public mechanized access, adverse impacts to National Register of Historic Places sites and areas, including obliteration and abandonment of currently intact historic trail resources, degradation and reduction of recruitment of currently unaltered anadromous fisheries rearing and habitat areas for both Cook Inlet and the Kuskokwim Basin, and significant greenhouse gas emissions.
2. Since Donlin gold is a limited liability corporation, is the corporation exempt from liability for impacts and possible litigation likely to be caused by the pipeline, barging on the Kuskokwim River, and the mine itself? If Donlin Gold LLC sold the mine before the life of the mine is complete, what is the liability of Barrick Gold and Nova Gold for mitigating future impacts caused by the mine and all the infrastructure? What is to prevent Donlin Gold LLC from forfeiting the bond because it is profitable to do so, even if it is a significantly large amount, and not being liable for all mitigation and impacts of this proposed pipeline and mine during mining and after?
3. Funding for the pipeline and road, disclosure of funding sources – Will this pipeline or any of its ancillary facilities be funded by local, state, Federal, or other public entities?
4. Who will pay for the pipeline? Will public funds be used in any way to build or maintain it in the future? If it is built it will bring energy to villages along the route- all further impacts of this further use and demand for gas have not been addressed, both environmental and socio economically.
5. Does the proposed pipeline have capacity for carrying gas for purposes other than the mine? The EIS should clearly state whether this is a common-carrier pipeline. The EIS should clearly state all assumptions about future requests for village taplines into the pipeline. In the spirit of full disclosure, state whether it is or isn't part of this

proposed project; if it isn't a part of this project, briefly describe how future requests would be addressed, reviewed, and evaluated.

RECREATION

1. Recreation is managed to maintain a diversity of recreational opportunities. The following resource management goals must be accounted for in the EIS and planning for the proposed mine development:
    a. Camping in the area that is associated with construction activities is prohibited without authorization from the BLM (Lands/Realty).
    b. Are there any BLM Special Recreation Permits authorized in this area? If so, have they been informed of Donlin's proposal? Do they anticipate effects to their business, transporters who serve them, lodge owners who house them, villages from which they fly clients from?
    c. Analyze economic effects to transporters, lodges, hunting & fishing guides in the area.

2. Access to BLM and other federally-owned lands would be maintained throughout pipeline construction and operation. The following resource management goals must be accounted for in the EIS and planning for the proposed mine development:
    a. Ensure protection of natural and cultural resources from OHV impacts.
    b. Provide OHV access consistent with the provisions of ANILCA section 811, which allows for "appropriate use for subsistence purposes of snowmobiles, motorboats, and other means of surface transportation traditionally employed for such purposes by local residents, subject to reasonable regulation."
3. Note a current BLM commercial occupancy lease, and associated airstrip, is located approximately one mile south of MP-168 of the proposed pipeline. The lease holder provides BLM-approved commercial big game hunting guide-outfitting operations, with ATV and fixed-wing aircraft access, within the surrounding area. Legal description of lease site listed on current MTP is incorrect. Correct location of lease site is 027N 027W 26 Seward Meridian (62° 23.806N 154° 13.343W), not section 35. Note also that lease holder is requesting to move the lease site north, away from the Khuchaynik River and closer to the proposed pipeline alignment.
4. In addition to consultation with communities, include communications with annual permitted events operating annually under permit along the Iditarod Trail: Irondog Snowmachine Race, Iditarod Trail Sled Dog Race, and the Iditarod Trail Invitational. The BLM will provide Donlin LLC of current contact information, including email addresses, of permit holders.
5. Any requests to close or block public access (short-term or long-term) of any road or trail on BLM-managed lands due to public health or safety must be submitted in advance and approved by the BLM manager.
6. In addition to scattered home sites and homesteads, explain how Donlin LLC will communicate with 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.
7. Clarify if new constructed airstrips will also be reclaimed. If not, document potential impacts to subsistence, wildlife, and various other resources as a result of Donlin LLC

providing additional fly-in areas to the remote lands within the foreseeable future. In other words, address the potential effects to Recreation activities and opportunities if the proposed new airstrips are not reclaimed, which again may increase public access to remote areas.

SOCIOECONOMICS

1. 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, the people employed at the mine move to Fairbanks, Anchorage and Wasilla, and commute to the mine site, with air transportation provided by the mining company. These jobs are likely to cause people to leave the area to live in areas they can now afford, and is one cause of the attrition to larger communities, and take the economic benefits to rural communities with them to the larger cities when they move.

SUBSISTENCE RESOURCES

1. The EIS should analyze effects and impacts on subsistence fishing or associated vessel traffic on the river to any subsistence activity. The EIS should analyze effects of damage to subsistence user's life, livelihood, property, vessels, nets, camps, or other equipment used for subsistence activities. A Surety bond or similar bonding should include assessment of potential impacts to the existing subsistence users and impacts to their livelihood.
2. Ensure that EIS and ANILCA §810 Subsistence hearings are coordinated whenever possible for travel to the affected communities. Advanced notice is typically requested by village councils in order to have elders and other significant community members participate in ANILCA §810 hearings.
3. Ensure that a thorough examination of subsistence practices take place for the Affected Environment section of the EIS.
4. Ensure that the direct and indirect effects of the proposed action and the alternatives as well as other relevant connected actions are adequately analyzed for effects to subsistence uses and needs.
5. Where BLM is involved in writing the ANILCA §810 analysis for the EIS, ensure that adequate time and involvement is given for the BLM subsistence coordinator to conduct the hearings in the different affected communities, and to write the PDEIS and FDEIS versions of the ANILCA §810 analysis.

VEGETATION

1. In addition to prevention and suppression of fires by Donlin LLC operations, include the requirement of reporting any wildlife fire within 24 hours. The BLM currently requires the following condition for various authorized permit holders: Report wildland fires in Alaska at 1-800-237-3633.
2. Clearly explain the reason or purpose for having to clear the proposed permanent ROW of shrubs at approximately every 10 years, or as required. If not necessary, avoid removing vegetation in order to support minimizing visual impacts, as stated in section 3.10.1 of the POD.

VISUAL RESOURCES

1. This new proposed pipeline would need to be analyzed for impacts on visual resources utilizing 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 developments would meet VRM Inventory Class management objectives assigned for the area, or whether design adjustments would be required.
2. A visual inventory and interim management class designation must be completed, and GIS layers created, for all other BLM lands within the the Donlin Pipeline Proposed Project Area, to guide analysis of the proposed action.
3. Environmental factors must be listed and discussed as they relate to the the Donlin Pipeline Proposed Project Area in order to guide the planning and design phases of the proposed action. Environmental factors to be considered for the eventual the Donlin Pipeline Proposed Project Area VRM classes include, but are not limited to: 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. These factors would enhance future design techniques, minimize impacts upon visual resources, and help to meet VRM class objectives.
4. Visual Resource Best Management Practices. 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 meet VRM class objectives. BMPs to be considered for the eventual Bering Sea-Western Interior Resource Management Plan VRM classes include, but are not limited to, the following:
    a. To the extent practicable, all permanent facilities will be located away from roadsides, rivers, or trails, thereby using distance to reduce the facility's visual impact.
    b. To the extent practicable, access roads and permanent facilities will be designed minimize vegetation clearing and use landforms to screen roads and facilities.
    c. To the extent practicable, permanent facilities would be designed to be screened behind trees or landforms if feasible so they will blend with the natural surroundings.
    d. To the extent practicable, modification or disturbance of landforms and vegetative cover will be minimized.
    e. To the extent practicable, permanent facilities will be designed so their shapes, sizes, and colors harmonize with the scale and character of the surrounding landscape.
    f. To the extent practicable, in open, exposed landscapes, development will be located in the opposite direction from the primary scenic views, if feasible.

5. Earthwork BMPs
    g. 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.

6. Vegetation Manipulation BMPs
    h. 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.

7. Structure BMPs
    i. 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.

8. Color BMPs
    j. 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.

9. Locating Linear Alignments (new roads, trails, utility corridors, etc.) BMPs
    k. Identify all possible alternative alignments first, select the most feasible for the proposed project, use topography to hide manmade changes, analyze soil stability, determine revegetation plan, evaluate hydrologic condition and erosion potential, use curvilinear landscape route selection, avoid fall-line cuts and bisection ridge tops, avoid valley bottoms, and hug vegetation lines

10. Reclamation / Restoration BMPs
    l. Require reclamation and restoration as part of all proposed action design packages, restore all areas of disturbance as closely as possible to previous conditions, mulch cleared areas, furrow slopes, use planting holes on cut/fill slopes to retain water, choose native plant species; fertilize, mulch, and water vegetation; replace soil, brush, rocks, forest debris, etc. over the disturbed area.
11. The BLM requests that staff be given access to the continuous global positioning system (GPS) linked video graphic imagery of the route from a low altitude that's identified within the Plan of Development. This type of established data will help to better evaluate and define general visual management classes and associated management prescriptions of the area involving the proposed pipeline route.
12. Minimize visual impacts by ensuring the following exposed (above ground) facilities are colored with matte-finish (low levels of reflectivity) earth-tone paints that blend into the natural landscape at each of the following two location during the months of June, July, and August (summer colors): above ground sections of the pipeline, appurtenances, ancillary equipment, and associated valves at the 15 remote mainline block valve (MLV) locations (aboveground block valves). BLM highly recommends that Donlin LLC work with contractors and subcontractors early in the planning process in order to communicate preferred finish colors of all above ground facilities, especially when facilities are constructed well in advance and/or off-site of actual construction/installation.

13. With respect to minimizing visual impacts, identify what design features were considered with respect to the proposed linear (straight) alignments of the pipeline, particularly on or near prominent topographic features viewed by overhead aircraft (e.g., Egypt Mountain)? In other words, following natural topography in order to hide the manmade features.
14. To help mitigate visual impacts, any proposed fencing and sliding gates should be the same color of the surrounding natural landscape (e.g., brown or green plastic coated chain link).
15. In conjunction with the Bering Sea Western Interior Resource Management Plan, the BLM will begin formal VRM inventories in summer 2013, which will include the proposed pipeline area. Currently, no BLM visual resource management inventories have been completed for the planning area.
16. 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.
17. 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.
18. Hug vegetation lines when determining proposed pipeline alignments.
19. Require reclamation and restoration as part of all proposed action plans. Restore all areas of disturbance as closely as possible to previous conditions. Mulch cleared areas. Choose native plant species. Replace soil, brush, rocks, forest debris, etc. over the disturbed areas.

WASTES

1. Identify the specific protocols that will be followed with respect to treating and/or disposing of sewage and gray water generated by each proposed workcamp.
2. Provide additional detail about managing litter and trash generated at each proposed campsite (e.g., what items may be incinerated on site and what material will be hauled away and properly disposed of). Identify which certified landfills may be utilized.

WATER RESOURCES

1. In general, the EIS should analyze the pipeline (especially relating to construction) and mill effects/open on water quality/quantity, ground water, and aquatic habitats.
2. There will be 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, etc., will result in erosion and increased sediment loads.
3. There will be both short- and long-term impacts to water quality resulting from the water management of a large mine with water impoundments and open pit mining activities. The use of cyanide, multiple petroleum products, erosion from heavy equipment operation will produce potential impact to water chemistry, quality, and possibly quantity. There is a potential for metal release and potential acid generation from waste rock, tailings, and pit walls. A large open pit and dewatering will have impacts to nearby streams/lakes
4. The EIS should specifically identify what type of stream crossing technique and at what time of year the pipe will be installed on **each** stream crossing. Since there is a wide variety of techniques (HDD, Damming and Pumping, Damming and Flumes, Diverting

Stream Channel) there will be a variety of impacts associated with each technique. Some techniques have been specified for the larger streams but most have not been specified.

5. The EIS should analyze the impacts of the pipeline installation into the streambed. There will clearly be disruption of sub-stream bed flow and continuity once the pipe has been installed in the stream bed.
6. The EIS should analyze the potential impacts to the waterways if a break in the pipeline and a discharge of natural gas into the water body were to occur.
7. The EIS should analyze the impacts to soil resources since we will be introducing industrial activities in a pristine environment.
8. Construction activities will be removing vegetation thereby taking away the insulation barrier, compacting soils using heavy machinery and equipment, and destroying soil structure by excavations and complete removal. The EIS should analyze the impacts from these activities.
9. Is heat generated from the movement of natural gas through the pipeline? If yes, how will this impact soils with permafrost and ice lenses where buried pipeline will be installed?
10. The EIS should analyze the impacts to soils from metal and acid release from mining activities. How will this increase physical weathering and how will it influence the productivity of the soils?

WILD & SCENIC RIVERS

1. Regarding any proposed water withdrawal from lakes and streams, it is noted that the BLM will begin conducting a formal Wild & Scenic River Eligibility/Suitability Inventory and Determination study during summer 2013, which would be in conjunction with the Bering Sea Western Interior Resource Management Plan. This study may include waterways located on BLM lands near proposed pipeline route. Any Outstandingly Remarkable Values (ORVs) identified from this study will have guidelines established for future management in order to protect river values. If a decision on the Donlin pipeline occurs after the completion of the Bering Sea Western Interior Resource Management Plan Record of Decision, the proposed pipeline may be subject to these guidelines.

IDITAROD NATIONAL HISTORIC TRAIL

The Iditarod National Historic Trail (INHT or Trail) is a Congressionally designated unit of the National Trail System. Because of this designation and due to the interdisciplinary nature of the Trail, it should be analyzed under these NEPA proceedings in a separate section that tracks throughout the document as a "Special Designation" or "Congressional Designation."

Since designation of the Trail, BLM has worked with the State of Alaska (State) to manage the Trail to a set of mutally agreed upon goals. After completion of an interagency Comprehensive Management Plan (CMP) for the Trail in 1986, BLM and the State established a Memorandum of Agreement (MOA) to implement the goals of the plan in a cooperative fashion. Both the CMP and the MOA continue to guide and inform management priorities for BLM and other partners including the State, and the Iditarod Historic Trail Alliance, a statewide non-profit formed for the protection and improvement of the Trail.

Documentation of potential impacts to the INHT should measure and describe the effect of the proposed actions on values related to the nature and purpose for which the Trail was established in law. At the time of designation, Congress wrote,

> *…it is the isolated, primitive quality of this historical environment that makes the Iditarod Trail…unique. Nowhere in the National Trail System is there such an extensive landscape…this trail offers a rich diversity of climate, terrain, scenery…in a environment largely unchanged since the days of the stampeders. On the Iditarod, today's adventurer can duplicate the experience and challenge of yesteryear.*[2]

Therefore, Donlin EIS impact descriptions should ultimately support documentation of change to the following:

- The diversity of climate, terrain, scenery, wildlife and recreation, relative to the entire trail system between Seward and Nome, existing currently and post-construction;
- The level of modern human modification to the landscape ("largely unchanged since the days of the stampeders") both natural and historical, existing currently and post-construction;
- The degree of connectivity to modern infrastructure and populations ("isolated primitive quality of this historical environment"), existing currently and post-construction;
- The ability to duplicate the experience and challenge of historic Iditarod Trail users, currently and post-construction.

The EIS's impact analysis and description should also take into account effects on digital and vicarious users, along with impacts to "first-person" users on site (or in the air). The use of the Trail has developed a wide international following among a variety of "vicarious" enthusiasts because a number of digital media highlight the dramatic viewshed and immediate trailside setting for annual long-distance overland winter events that make use of the Trail. Every year the Iditarod Sled Dog Race releases a new video highlighting their race over the terrain co-located with the proposed pipeline and, this year, National Geographic videoed the section of Trail that would be impacted by this project as part of their focus on the 50 states in their "Aerial America" series.

The NEPA process should incorporate the findings, conclusions and resource data included in the 1986 INHT CMP, 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.

The EIS process should identify impacts to listing (or jeopardy of listing) high value Trail segments on the National Register of Historic Places; the findings should be included in the EIS.

The Donlin EIS narrative, maps, and impacts discussion and analysis should account for and recognize that multiple alignments with various legal designations and requirements exist within the project area, and should be appropriately accounted for. In particular, the contemporary

[2] (Excerpted from text establishing the National Historic Iditarod Trail, Senate Report 95-1034, p.12: "National Historic Trails," by Senate Committee on Energy and Natural Resources, May 17, 1978)

route of the Iditarod Trail between Old Skwetna and Happy River (the Steps), which BLM had previously identified as the Iditarod National Historic Trail alignment (based on the input of the a Federal advisory committee, the State and other stakeholders) is closely paralleled by the actual alignment of the historic Iditarod Trail, established by Colonel Goodwin of the Alaska Road Commission (ARC), maintained by the ARC as the Susitna-Rainy Pass route, mapped in detail by the 1914 Alaska Engineering Commission McPherson expedition, and established in law by the State as R.S. 2477 public easement RST 199.

The former, contemporary alignment, was established by users in the late 1970's, with the decision to include it as part of the historic trail system in the 1980's. The designation of the R.S. 2477 route came in the 1990's, although trail planners in the 1970's were aware of the original historic alignment. Currently, there is insufficient evidence to determine why the contemporary route was chosen instead of the historic route. Also note that there has not been a comprehensive historic ground survey of the route between Old Skwetna and the Happy River "Steps."

The feasibility or utility of some proposals seem to be underestimated; for instance, the applicant proposes 8 gravel borrow pits totaling 57 acres along the 58-mile segment of the pipeline co-located with the Trail. Due to confusing or insufficient narrative in the Plan of Development, it is impossible to determine to what degree the applicant intends to depend on "ice-roads" as compared to gravel-access roads.

In another example, the applicant does not describe any contingencies for dealing with prevention of and response to creation of new "glacier" seeps from graded rights-of-way, road cuts, etc. exposing previously underground water flows to the surface and then freezing into large glacial masses. The creation of such seeps have the potential to necessitate major rerouting of the entire pipeline corridor, resulting in significant construction delays, and/or resulting in the need to clear significantly more acreage than currently estimated. (For an example of the significant impact of winter glacial seeps on winter road operations, contact Denali National Park and Preserve to learn about their annual challenges in managing seeps on the Denali Park Road.)

The Plan of Development uses terminology that if used in the NEPA document would be confusing for the general public, and generally obfuscate understanding. For instance, the term "workpad" is used rather than "construction road" or "construction access," or "travelway." We recommend that the EIS use commonly understood terms and, where necessary, provide illustrations, tables, or info-graphics to summarize and communicate terminology.

In general, the current Plan of Development is insufficient for determining with much accuracy the range and scope of impacts due to insufficient description of construction access roads, among others. It is assumed that an improved version of the Plan of Development will remedy these shortcomings.

The following is a preliminary summary of the proposed actions relative to the ITrail, and should be further detailed and documented in the EIS. Note that all of these actions would occur within an uninhabited, unmodified forest, subalpine, or tundra setting:

- 58 miles of pipeline co-located on, paralleling and intersecting the Trail system. A 100-foot construction right-of-way 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 right-of-way would intersect the Trail 25 times.

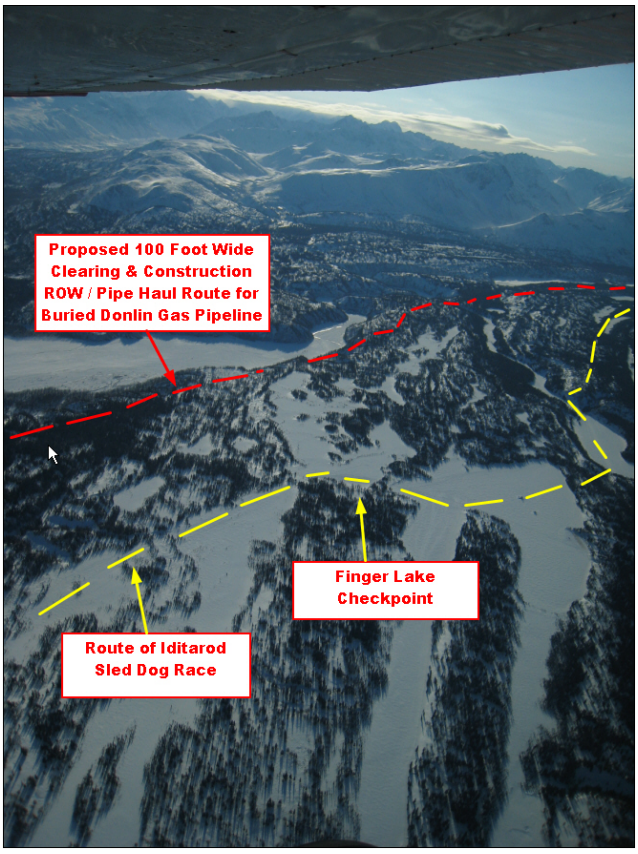
- 15 miles of the Trail would be physically obliterated and overlain with 15 miles pipeline construction and operating right-of-way.

- Two new airfields with 5,000-foot runways each would be constructed on existing segments of the Trail, and a third existing airstrip upgraded.

- 3 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 right-of-way, with each serving 30 persons.

- 8 gravel/material sites totaling 57 acres will 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 right-of-way would be cleared every 10 years, and a trail route established on the right-of-way for maintenance checks by the pipeline operator. At intervals of approximately every mile, a pipe would protrude above ground as part of a corrosion-protection test station. Also 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. Also, three (3) 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 prediction of impacts to resources affecting the Iditarod National Historic Trail can and should be based on examples of impacts to similar resources seen around Alaska. The development practices and experiences from the Alaska Pipeline dramatically demonstrate the effects of a

project of the magnitude of the Donlin pipeline. Military maneuvers with heavy equipment undertaken a half century ago document the effect of such operations on a wide range of landscapes. And, more recently, the U.S. Army has developed a soils suitability classification system for overland maneuvers at Alaska bases, which could be used as a reference to guide pipeline siting, or prediction of impacts to various soils classifications found along the route. And, in general, soil classification information should be used to predict the erosive potential soils on proposed alignments.

Viewshed impacts should include digital photo modeling of impacts to the INHT both from the air and the ground (see photo at left for a crude example). The Anchorage – 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.

According to the Plan of Development, the applicant expects no new public vehicular access. Related to and contributing to this mistaken conclusion should be a statement in the EIS that because the right-of-way proposed for the pipeline does not create an exclusive right of surface use for the applicant, OHV access after construction will not be prohibited by public land managers.

Also, the EIS should take into account the alternative that the State will <u>not</u> require removal of construction access airfields, or that the State may not require removal of other facilities.

Specific to the matter of predicting "no new public vehicular access," when the CAA/FAA built the Farewell Airstrip (two 5,000-foot runways near Farewell Lake) in the 1950's, this facility became the nexus for fly-in OHV access on the north side of Rainy Pass, and the multitude of overland OHV trails radiating from that facility demonstrate the impacts that will occur after new 5,000-foot airstrips are constructed along the Iditarod Trail (and the entire pipeline corridor).

The Plan of Development states that the applicant will use overland access after the first season of construction to finalize construction and reclaim the right-of-way, and then use snowmachines and OHVs in winter and summer respectively to access the right-of-way for maintenance purposes.

At least 15 miles in approximately a half-dozen segments of the Trail will be physically obliterated by the pipeline corridor. The Plan of Development does not provide any details on how these segments will be replaced, but it is assumed the applicant would provide for the Iditarod Trail to be routed on the pipeline right-of-way.

Given the significant changes to overland access created by pipeline construction roads either intersecting or collocated on the Trail, plus the lack of spatial separation between the two linear features over the 58-mile section, and the tendency of winter trail users to choose a "path of least resistance," it is likely that winter use of the Trail will migrate from the currently used alignments to the pipeline corridor. In other words, one potential impact is that the current

alignment of the Trail between Old Skwetna and Puntilla Lake is abandoned on some segments, and obliterated by the pipeline right-of-way on others.

Also, given that overland summer use in Alaska typically follows winter use patterns, it is likely that summer OHV use of the route will be established where none existed, with recreationists using river and airstrips to access the pipeline right-of-way for hunting, recreation cabin access, and general recreation. All of these impacts should be accounted for in the EIS.

Finally, the EIS should include reasonable and meaningful project alternatives, particularly with regards to the routing of the gas pipeline. Public land managers have the authority to accept or reject proposed actions based on the availability of viable alternatives.

In the case of the proposed Donlin natural gas pipeline, at least one feasible alternative exists that would bypass the 58-mile co-location of the pipeline with the INHT. This bypass would be routed northwest at Old Skwetna to the Kichatna River drainage, and then heading west to connect with the 'Jones River alternate' route. Such a route would be five miles shorter than the current route, eliminate the geo-physically challenging crossing of the Happy River 'Steps' area, and cut the number of pipeline crossings of the Iditarod Trail to two, one at Old Skwetna and one near Egypt Mountain on the north side of the Alaska Range. There are numerous other benefits, and challenges to this and other potential, un-assessed alignments, and we are interested in finding out how and when EIS project managers will engage the project applicant to develop these alignments.